

4TH EDITION OF

GLOBAL CONFERENCE ON
PHYSICAL MEDICINE AND
REHABILITATION
&

4TH EDITION OF

WORLD ORTHOPEDICS
CONFERENCE

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SEPTEMBER 2026

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ABSTRACTS



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Keynote Speakers

Keynote Speakers



Ali Al Kaissi

National Ilizarov Medical Research Center for
Traumatology and Orthopaedics,
Russian Federation



Chris Wainwright

Mater Private Hospital Mackay, Australia



Diana Hodgins

Dynamic Metrics Ltd, United Kingdom



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Joanne Donoghue

New York Institute of Technology College of
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Matthew B Werd

American Academy of Podiatric Sports
Medicine (AAPSM), United States

Keynote Speakers



Ricky Rasschaert
AZ Rivierenland, Belgium



Wagih El Masri
Keele University, United Kingdom



Youssef Masharawi
Tel Aviv University, Israel



Bernd Blobel
University of Regensburg, Germany



David John Wortley
World Lifestyle Medicine Education
Services, United Kingdom



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Kenneth R Pelletier
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Keynote Speakers



Pradeep Deshpande

Hull University Teaching Hospitals,
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Ron Blehm

EEl Physio LLC, United States



Rachid El Khoury

Saint Joseph University, Lebanon



Subramanya Adiga

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Sergey Suchkov

N.D. Zelinskii Institute for Organic Chemistry
of the Russian Academy of Sciences &
InMedStar, Russian Federation



Zhenhuan Liu

Guangzhou University of Chinese Medicine,
China

Welcome Message



Jay Spector

American Academy of Podiatric Sports Medicine
(AAPSM), United States

Dear Delegates,

I am honoured to be speaking at the 4th Edition of Global Conference on Physical Medicine and Rehabilitation (GCPR 2026). Experts from across the globe share knowledge on anatomical topics to help each other improve patient recovery and return to exercise or sport.

My background is in Sports Medicine Podiatry. Believe it or not, I chose my profession after having trained Standardbred race horses growing up and knew that I could help people with their gait issues. I am a 38-time marathoner and have experienced injuries and can relate to my athletes.

I look forward to hearing from the distinguished faculty that will be presenting the next few days. No matter how long or short you may be in your practice, the learning never stops and this is an opportunity to learn from the best!

Welcome Message



Matthew B Werd

American Academy of Podiatric Sports Medicine
(AAPSM), United States

Dear Conference Attendees,

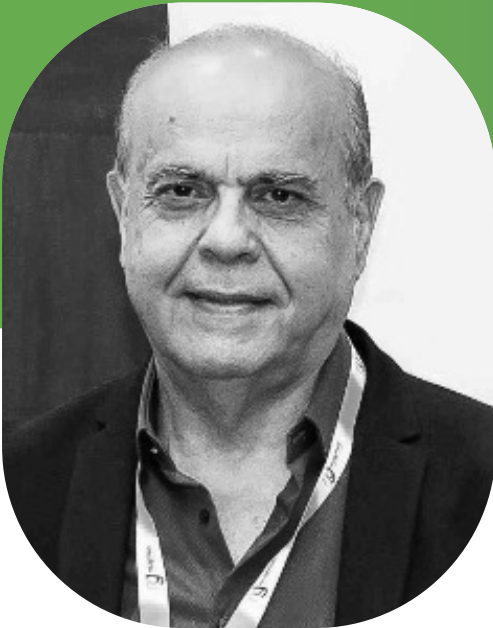
It is an honor and great pleasure to write a few welcome notes for the session entitled Sports medicine care of the foot and ankle: now and into the future.

Lower extremity sports injuries are frequent, yet are often mis-understood on how best to diagnose and treat, and they continue to be a hot topic in athletics amongst both athletes and healthcare providers. Early accurate diagnoses are necessary to formulate a treatment protocol on how best to return an athlete quickly and safely to sport.

A thorough review and discussion of current concepts and pearls should be both relevant and interesting to attendees. A contemporaneous update will be presented, including applicable research and evidence-based studies.

Presentation will include a brief historical discussion, current concepts, and possible future emerging concepts.

Welcome Message



Ali Al Kaissi

National Ilizarov Medical Research Center for
Traumatology and Orthopaedics, Russian Federation

Dear Conference Attendees,

It is a great opportunity to express my enthusiasm with you through writing a brief message of welcome to the session entitled congenital bone disorders. Firstly, as much of my work is centred on one simple rule that every long term skeletal deformity/abnormality must have an underlying causality that needs to be explored and addressed. This stems from the conviction that the vast majority of the skeletal deformities — if not all — do not occur randomly. Secondly, where many physicians fall into the pitfall of deeming a countless number of diseases idiopathic, as no clear connection has been established between the onset of the deformity and other inexplicit abnormal features that the patient or their immediate families or relatives carry, my work focuses on uncovering and emphasizing these connections, and reiterating the fundamental rule that etiological understanding is paramount to successful management and treatment.



Welcome Message

Ron Blehm, PT CEEAA CSFI CFPS

Owner, EEI Physical Wellness Institute, LLC
Minneapolis, MN

At the GCPR 2025, we heard several presentations about knee osteoarthritis but there was one aspect that seems to be consistently overlooked. I have presented a full training on this in the past and am honoured to be invited back to share my research and expertise regarding this common and debilitating diagnosis.

What can rehab do with a process that is degenerative (read as inevitable), likely progressive, and expected to worsen over time? Often patients present feeling hopeless and merely want to wait for the Knee Replacement Surgery because they believe nothing can be done. Can we really impact functional performance for those with a Degenerative Disease?

While there have been many advancements in technology and surgical techniques, we will explore research and practice guidelines for the long-term and successful management of Knee Osteoarthritis without surgery and propose some specific types of exercise that have been shown to be effective for both pain and disability associated with this exceedingly common diagnosis.

Welcome Message



Diana Hodgins

Dynamic Metrics Ltd, United Kingdom

Dear Delegates,

I am delighted to welcome you all to Ortho 2026. With the technology advancements in robotics in orthopaedics and the rapid increase in the use of AI to analyse data and optimise surgical interventions, Ortho 2026 is guaranteed to bring you a wealth of new knowledge. Speakers from around the globe will be sharing their research on forty different scientific topics. These include advances in orthopaedic surgery and implant technology, non-surgical treatment for injuries and sports medicine, rehabilitation methods and clinical studies. This promises to be an excellent event that shouldn't be missed.

Welcome Message



Chris Wainwright

Mater Private Hospital Mackay, Australia

Dear Conference Attendees,

It is my great pleasure to welcome you to attend the session entitled Is My Non-Operative Practice OK?

Currently there are no tools worldwide to evaluate non-operative patient satisfaction as a whole in the surgical sphere. Patients sometimes express dissatisfaction with their care despite a technically perfect operative or non-operative outcome. Our goal with the IMNOPOK (Is My Non-Operative Practice OK?) PROM is to help guide surgical clinicians of all surgical specialties in improving their patient interactions in an outpatient setting by providing them with a validated, reproducible scoring system. We hope that this will allow clinicians to identify areas of need within their practice, and then to perform subsequent, validated audits to ensure that any of the actions undertaken to amend these issues have been effective.



Welcome Message

David John Wortley

World Lifestyle Medicine Education Services,
United Kingdom

Dear Conference Attendees,

Welcome to the 4th Edition of the Global Conference on Physical Medicine and Rehabilitation. It is a great pleasure to join distinguished clinicians, researchers, therapists, educators, and healthcare innovators from around the world for this important gathering in London and online.

This conference provides an outstanding platform to exchange knowledge, explore emerging research, and discuss innovative approaches that are shaping the future of rehabilitation and patient care. Under the inspiring theme, Bridging Science and Care: The Future of Physical Medicine and Rehabilitation, we are reminded of the importance of collaboration, compassion, and scientific advancement in improving quality of life for people across all communities.

I encourage every participant to take full advantage of the keynote sessions, workshops, discussions, and networking opportunities throughout the conference. By sharing ideas and experiences, we can strengthen global partnerships and accelerate progress in rehabilitation medicine.

Wishing you a productive, engaging, and inspiring conference experience.

Welcome Message



Bernd Blobel

University of Regensburg, Germany

Dear Colleagues and Friends,

It is an honor to welcome you on behalf of the Scientific Committee to the 4th Edition of Global Conference on Physical Medicine and Rehabilitation (GCPR 2026), which will be held in hybrid format from September 24-26, 2026, in London, UK, and virtually (Hybrid Event). GCPR 2026 will support bridging science and care, interrelating rehabilitation specialists, physiotherapists, occupational therapists, biomedical engineers, clinicians, researchers, and healthcare policymakers. Thereby, we have to deploy innovative care models, and digital solutions that are transforming patient care and healthcare systems worldwide through new technologies as well as integrative and evidence-based approaches in the context of the ongoing transformation of health and social care ecosystem towards personalized, preventive, predictive, participative precision medicine (P5M). Thereby, we must consider and understand the individual health status, conditions and genetic and genomic dispositions in personal social, occupational, environmental and behavioral context at any level from elementary particles up to society and universe. This requires a multidisciplinary knowledge-driven approach, as defined in ISO 23903 Integration and Interoperability Reference Architecture I have developed. Welcoming you in London, I'm sure that this conference will provide an excellent platform to discuss cutting-edge research, policy updates, and evidence-based practices that are shaping the future of physical medicine and rehabilitation, healthcare technologies and practices, and education. So enjoy a successful event.

Welcome Message



Ricky Rasschaert

Department of Neurosurgery, AZ Rivierenland, Belgium

Dear friends and colleagues,

It is with great pleasure that I welcome you to the 2026 World Orthopedics Conference. Probably somewhat the odd man out being a neurosurgeon, I will present a keynote on another cause of radicular complaints, essential in the differential diagnosis of low back pain and radicular signs in cases of spinal stenosis and herniated discs.

Our research group published several studies on this topic, sometimes raising more questions than answers. I invite you to join me in my presentation of the scientific journey we took from Tarlov cyst to small fiber neuropathy and the difficulty in differentiating coincidental findings from symptomatic cysts. As I read through the other abstracts I can assure you the meeting programme is truly educational and most certainly worthy of your presence. I hope to meet you all in London!

Welcome Message



Sergey Suchkov

N.D. Zelinskii Institute for Organic Chemistry of the Russian Academy of Sciences, Russia

Dear Colleagues, Scientists and Friends,

Advances in systems biology and design-driven clinical applications are beginning to transform the healthcare landscape into multi-dimensional (systems) one. Being a cornerstone of Personalized and Precision Healthcare Services, this physico-chemical medicine conference stands as a premier forum for advancing scientific excellence, fostering collaboration, and inspiring transformative ideas across upgraded medical health science, treatment and rehabilitation, whilst generating global avenues to shape the next era of global healthcare and wellness.

As we gather in this international hub of knowledge and culture, demonstrating the latest advancements in medical science and clinical practice, including breakthroughs in diagnostics, therapeutic innovations, patient-centered care, rehabilitation, disease prophylaxis and prevention, we offer the perfect backdrop for participants to engage in thought-provoking discussions on research innovation among healthcare professionals, researchers, biodesigners and thought leaders to exchange wisdom, unveil breakthroughs, and forge partnerships for a healthier world.

Rehabilitation today, as a time-honored and highly cost-effective therapy for almost all kinds of diseases and post-operational care, belongs to the evidence-based and upgraded recovery process, which integrates the latest innovations in physico-chemical medicine. Our mission is to contribute to high-quality professional education and provide a platform for sharing of experience and research findings in the field of preventive medicine and rehabilitation. The Conference will include workshops, lectures, presentations of research abstracts, and sessions with experts from around the world, representing a unique opportunity to connect, learn, and collaborate with esteemed experts in the fields of physico-chemical medicine and rehabilitation, whilst inspiring innovations, fostering multidisciplinary dialogue, and promoting evidence-based approaches towards rehabilitation of the near future to come. During the sessions, we will explore an efficient system of vetting the ever-

expanding world of Hi-Tech, and how we can better select and use modern design-driven biotechnologies, including genetic manipulation, biologic agents, rehab technology, use of AI as well as better preventive strategies with focus on maintaining good health instead of canonical disease management to improve patient outcomes in rehabilitation.

Personally I am convinced that the international partnership and collaboration would play a crucial promoting role for the jointly set projects from any points of view. I do hope that your interaction with your colleagues from many different countries will stimulate a creative exchange of ideas and will be personally rewarding.

We look forward to welcoming you to the Grand Event, to be held in London, one of the well-known and prestigious cities, the capital of Great Britain, to taste a smell of the deeply rooted science, practice and culture, and to enjoy the interaction with your colleagues from different countries whilst stimulating a creative exchange of ideas!

Welcome Message



Rachid El Khoury

Saint Joseph University, Lebanon

Dear Conference Attendees,

It is my great pleasure to welcome you to the session entitled Why Do Chronic Pain Patients Suffer?

Chronic pain is often misunderstood and treated as if it were acute pain. Yet the underlying biology is very different. In chronic pain, the brain and immune system play a central role — with changes in central sensitization, neuroinflammation, and immune signaling helping to maintain pain long after any initial tissue injury has healed. When we manage chronic pain with an acute-pain mindset, we miss these mechanisms. This can lead to under-recognition of the condition, stigma, and treatment approaches that do not address the true drivers of suffering. This session will explore how the brain and immune system contribute to chronic pain, why it is frequently mischaracterized, and how shifting our understanding can lead to more appropriate, compassionate, and effective management. We look forward to your engagement in this important conversation.

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24-26
SEPTEMBER 2026

KEYNOTE
PRESENTATIONS





Ali Al Kaissi

National Medical Research Center for Traumatology and Orthopedics Ilizarov, Kurgan, Russia

Biography: Ali Al Kaissi, MD, MSc, DSc (Hon). Much of Ali Kaissi's work is centered on one simple rule: that every skeletal deformity/ abnormality must have an underlying causality that needs to be explored and addressed. This stems from the conviction that the vast majority of skeletal deformities — if not all — do not occur randomly. Al Kaissi's clinical experience resulted in more than 220 published papers in peer-reviewed medical journals and five Breakthroughs in Medicine: Al Kaissi Syndrome (OMIM: 617694); Al Kaissi et al, 3MC syndrome (OMIM 257920); Al Kaissi Novel Type of Desbuquois

syndrome (AJMG 2005); and Al Kaissi Novel conception of Wormian Bones (Diagnostics J. Basel, 2023).

The tomographic phenotype and the genotype of Wormian bones

We describe patients who were recognized via conventional radiographs of the skull as manifesting wormian bones. Wormian bones are not a specific diagnostic entity and can be seen in variable forms of syndromic entities. Proper understanding is needed to elicit associated deficits.

Material and Methods: Nine children and three adults (of 10-15 years) were seen in our department. The principal complaints were, ligamentous hyperlaxity, delayed walking, fractures, nystagmus persistent headache and so forth. Via conventional radiographs, wormian bones have been recognized. We performed 3D reconstruction CT scan to further understand the precise etiology and the nature of these wormian bones and the connection with a broad spectrum of HIGH RISK clinical presentations. Our group of patients were consistent with the diagnosis of variable phenotypic and genotypic diagnosis of heritable bone disorders.

Results: 3D reconstruction CT scan showed that these worm- like appearances are in connection with pathological stretching of the cranial sutures. The latter phenomenon was strongly correlated to progressive softening of the sutures (mostly over the lambdoids). Basilar impression/invagination was the mainstay pathology elicited in this group of patients.

Conclusion: We conclude that the term Wormian can signify the etiology understanding in patients with heritable bone disorders. What we encountered via the 3D reconstruction CT

scan in our group of patients totally refutes the common conception of wormian bones as has been published in the literature. Apparently, the worm- like phenomenon is in fact occurring because of overstretching of the soft cranial bones. This softening adversely changes the anatomical and the physiological contour of the skull and gives a dreadful chance to the odontoid to bulge into the brain stem leads to the development of morbid/mortal basilar impression/invagination. Scrutinizing the cranio-cervical junction is the first and of foremost importance in patients with wormian bones regardless the aetiological backgrounds.



Bernd Blobel

University of Regensburg, Medical Faculty, Regensburg, Germany; Charles University Prague, First Medical Faculty, Prague, Czech Republic; Faculty European Campus Rottal-Inn, Deggendorf Institute of Technology, Deggendorf, Germany; University of Genoa, DIBRIS, Genoa, Italy

Biography: Dr. Bernd Blobel studied Mathematics, Technical Cybernetics and Electronics, Bio-Cybernetics, Physics, Medicine and Informatics at the University of Magdeburg and other universities in the former GDR. Blobel received a PhD in Physics with a neurophysiological study, and performed the Habilitation (qualification as university professor) in Medicine and Informatics. Blobel was Head of the Institute for Biometrics and Medical Informatics at the University of Magdeburg, and thereafter Head of the Health Telematics Project Group at the Fraunhofer IIS in Erlangen.

Thereafter, Blobel acted until retirement as Head of the German National eHealth Competence Center at the University of Regensburg as well as Head of the globally unique International Interdisciplinary PhD and PostDoc College. Blobel was and is still leadingly involved in many countries' health digitalization as well as electronic health record strategy, has published more than 600 papers, published/edited many books and supervised a big number of PhD students from all around the world. Blobel was German Representative to many SDOs such as HL7, ISO, CEN, OMG, IEEE, ASTM, SNOMED, etc., also chairing the national mirror groups. Furthermore, Blobel is still engaged in international higher education, is a Fellow of several international academies and has played specific roles in global organizations such as WHO, European Commission, UNESCO, etc.

Challenges and solutions for designing and managing intelligent, ethical, integrable and interoperable transformed health ecosystems

For meeting the financial, quality and safety challenges as well as expectations of the patients, health and social care systems around the globe currently undergo a transformation towards personalized, preventive, predictive, participative precision medicine (5PM), supported by technology. It considers individual health status, conditions, genetic and genomic dispositions in personal social, occupational, environmental and behavioral context, understanding the pathology of diseases and turning health and social care from reactive to proactive. The aforementioned transformation is strongly supported by technologies such as micro- and nanotechnologies, advanced computing, artificial intelligence, autonomous systems and robotics, knowledge representation and management, etc. Beside their opportunities, those advanced technologies also bear risks to be managed, requiring the detailed consideration from a humanistic, moral and ethical perspective. For enabling communication and cooperation between all actors from different disciplines involved, using different methodologies, perspectives, intentions, languages, we shall understand and formally and consistently represent the multidisciplinary, highly complex and dynamic 5PM ecosystem. The outcome is a system-theoretical, architecture-centric, ontology-based,

policy-driven approach for designing and managing intelligent and ethical 5PM ecosystems. The necessary model and framework has been developed by the author and meanwhile standardized as ISO 23903 Interoperability and Integration Reference Architecture. The formal representation of any ecosystem and its development process including examples of practical deployment of the approach are presented in detail. This includes correct systems and standards integration and interoperability solutions.



Chris Wainwright

thebonedoctor.net, Australia

Biography: Chris Wainwright is originally from the north of England and, having attended medical school in Nottingham, returned there to commence general surgical training. Wainwright moved to New Zealand in 2000 and recommenced training as a specialist orthopaedic surgeon, completing the standard training for Australia and New Zealand, sitting the Royal Australasian College of Surgeons exam in Sydney in September 2012, and moving to Australia less than a year later. Twenty years of experience in orthopaedics, across three countries, three healthcare systems and 30 hospitals and with

many surgical colleagues, has afforded Wainwright the knowledge, skills and experience required to work well in regional practice.

Is my non-operative practice ok? – An audit tool for surgical patients

Aims: To develop a surgical audit tool for outpatient clinics to assess patient satisfaction.

Background: Currently there are no tools worldwide to evaluate non-operative patient satisfaction as a whole. The IMNOPOK (Is My Non-Operative Practice OK?) PROM will help guide surgical clinicians of all specialities to improve their patient interactions in an outpatient setting with a validated, reproducible scoring system. This will allow clinicians to identify areas of need within their practice and perform subsequent audit to ensure actions taking place as a result of any audit has been effective.

Significance to orthopaedics: As at least half of new patients seen in an outpatient clinic will be managed non-operatively, a verified, validated audit tool to review patient satisfaction would seem essential.

Plan: We have already performed a systematic review of the literature and based upon this have devised a questionnaire. We are now in the mid stages of data collection. Once the first round has been completed (220 questionnaires), an internal validity process will be performed with statistical analysis. This will ensure that results are reproducible within the questionnaire framework (internal validity). The questionnaire will then be rolled out to a further 220 patients to assess the external validity (i.e. the reproducibility in different groups of patients in the same practice to show that a representative sample of patients (calculated statistically) is all that is required for a formal audit. Our questionnaire addresses core surgical (medical

expertise, judgement and clinical decision making) and non-surgical skills (communication, collaboration and teamwork, cultural competency and professionalism).

Timeline: We aim to have our first round of questionnaires completed by end 2026, internal validity by 1st quarter 2027, and external validity by 3rd quarter 2027.



David John Wortley

World Lifestyle Medicine Education Services (WLMES), East Preston, UK

Biography: David Wortley is a Non-Executive Director of the World Lifestyle Medicine Education Services (WLMES) and a VP of the International Society of Digital Medicine (ISDM). Wortley is a Fellow of the Royal Society of Arts and Commerce and a global thought leader and innovator on enabling technologies for health, education and the environment. Wortley is on the editorial board of the Digital Medicine Journal, is an Associate Member of the Royal Society of Medicine and a Visiting Fellow at the Faculty of Health and Social Sciences at Bournemouth University.

Wearables and health – The Human Machine Manual

The rapid evolution of wearable technologies is transforming the way individuals understand, monitor, and manage their health. From smartwatches and biosensors to AI-enabled health platforms, wearable devices are creating a new paradigm of continuous, personalized, and preventive healthcare. This presentation, Wearables and Health – The Human Machine Manual, explores how wearable technologies can empower individuals to become active participants in their own wellbeing while supporting clinicians with real-time physiological and behavioural data.

Drawing on over a decade of practical experience in gamification, lifestyle medicine, and digital health engagement, the presentation introduces the concept of the Human Machine Manual – a framework that helps people better understand the relationship between behaviour, biology, and technology. The session examines how wearables can support physical rehabilitation, healthy ageing, chronic disease prevention, stress management, sleep optimisation, and physical activity adherence. Particular emphasis is placed on behaviour change, motivation, and the integration of artificial intelligence to convert raw biometric data into meaningful and actionable health insights.

The presentation also addresses emerging challenges surrounding data privacy, digital literacy, accuracy, and ethical use of personal health information. By combining advances in wearable technologies with lifestyle medicine principles, healthcare professionals can move towards a more predictive, preventive, personalised, and participatory model of care.

This keynote highlights the growing role of wearable technologies as practical tools for rehabilitation, self-management, and long-term health optimisation in both clinical and community settings.



Diana Hodgins^{1*}, Emma Debbage²

¹Dynamic Metrics Ltd, UK

²Chiltern Hills PCN, UK

Biography: Hodgins obtained a degree in Mechanical Engineering and a PhD in solid state gyroscopes from the University of Hertfordshire (UH). Hodgins has 28 patents granted on solid state sensors and more recently on medical applications relating to the use of these sensors and more than 50 publications. In 2000 Hodgins was awarded an MBE for services to SMEs in the region. Hodgins works with healthcare providers to deliver high quality care for falls prevention and joint replacement rehabilitation. This has led to NICE Guidance in the UK for their product, GaitSmart.

The use of technology to help people improve their mobility by focusing on gait kinematics, with a focus on the older population

Technological advancements can have a huge impact on keeping people mobile. In this paper we will discuss how 'GaitSmart', a sensor based tool, has been used to help 406 people, average age 76.7, improve their mobility.

GaitSmart identifies and quantifies gait kinematic issues that are affecting mobility. This data is presented in a simple to understand report incorporating scoring and RAG coding. This same gait data is used to automatically calculate a personalised set of exercises to address these gait issues. The 12 week intervention programme consists of 4 tests, each 4 weeks apart. The client is motivated to do their exercises at home by seeing the changes in their scores at the next test.

The talk will provide an overview of the system and a description of how it has been integrated in to Chiltern Hills PCN, with a care assistant testing patients and running through their results and exercise plan at each session. Changes in gait speed and joint angle over the 12 week intervention period will be presented for the 406 clients. It will also highlight risk factors that affect the older community, such as total hip or knee replacement and osteoarthritis. Benefits to the clients and to the health service will then be summarised.



Diana Hodgins

Dynamic Metrics Ltd, Codicote, UK

Biography: Diana Hodgins obtained a degree in Mechanical Engineering and a PhD in solid state gyroscopes from the University of Hertfordshire (UH). Hodgins has 28 patents granted on solid state sensors and more recently on medical applications relating to the use of these sensors, and more than 50 publications. In 2000 Hodgins was awarded an MBE for services to SMEs in the region. Hodgins works with healthcare providers to deliver high quality care for falls prevention and joint replacement rehabilitation. This has led to NICE Guidance in the UK for their product, GaitSmart, and adoption in primary and community care.

Why rehabilitation following Total Joint Arthroplasty (TJA) should include a gait kinematic assessment and gait retraining

The prevalence of Osteoarthritis (OA) of the hip or knee is considerable, with 9 million people in the UK and 33 million people in the US diagnosed. Of these, over 200,000 in the UK and 2 million in the US undergo Total Joint Arthroplasty (TJA). The way exercise programmes for OA and perioperative care for TJA patients is delivered has not changed for many years, and technology solutions are scarce. This includes mobility tests offered to OA patients and perioperative care to TJA patients.

Gait kinematic data for OA patients will be presented and hip and knee ranges compared to a healthy reference. The impact of these gait deficiencies in terms of altered forces on the other joints, will be described. Pre and post op data for TJA patients will also be presented, highlighting the continuation of gait kinematic deficiencies post op.

An AI driven solution developed to help OA and TJR patients understand their mobility issues and then to address them through personalised exercises will be described. Inertial Measurement Units (IMUs) are mounted on to the lower limbs and their data used to calculate gait kinematics. This kinematic data is then used to identify muscle weakness and an AI solution provides a personalised exercise plan. The scientific approach, which does not rely on physiotherapy expertise, enables all patients to receive the same level of care. Progress through the rehabilitation programme is monitored, and exercises automatically altered as the gait changes.

Real world data from OA and TJR patients who have followed the rehabilitation programme will be presented. From this data, the short and long term benefits to patients and the health service will be discussed, including a reduced risk of falling, the need for a further TJR and independent living. Case studies will be presented as detailed examples.



Dimitrios Giotikas

PHG Weymouth Street Hospital, London, UK

Biography: Dr Dimitrios Giotikas is the founder and Clinical Director of Giotikas Clinic in London, UK and Athens, Greece. Giotikas' clinical expertise is focused on limb reconstruction (including limb lengthening, the management of bone infections and limb deformities), knee osteotomy surgery for arthritis and complex orthopaedic trauma. Giotikas started a career as medical officer of the Greek Army, and later worked as specialist and consultant in Cambridge and Oxford University hospitals in the UK, specializing in limb reconstruction. Giotikas has a PhD on knee surgery and has

published and presented numerous studies in the fields of this clinical expertise.

How success looks like in distraction osteogenesis for cosmetic stature increase

Distraction osteogenesis for cosmetic stature increase has gained increasing popularity. Despite this fact, there is only scarce published evidence about the outcomes. The truth is that we do not really know how success looks in CLL, especially in the longer term. In this talk we will present our conclusions based on clinical data from more than 600 cases.

Patient selection is of paramount importance. The diagnosis of body dysmorphic disorder and its severity should be thoroughly assessed. Unrealistic expectations are an important parameter of patient compliance and they should be managed pre-operatively. Pain, range of movement, return to pre-operative functional levels and improvement of psychological height dysphoria symptoms are important elements of measurement of outcome and need to be measured and monitored.



Elizabeta Popova Ramova

Faculty for dental medicine, MIT University Skopje, R N
Macedonia

Biography: Doctor of medical sciences Elizabeta Popova Ramova is a specialist of Physical Medicine and Rehabilitation. Ramova works as a professor at College for Medical Cosmetology and Physiotherapy at the moment, with 17 years as an educator for physiotherapists in several universities. Ramova is a member of ISPRM, Cochran Rehabilitation and International Reha Forum, and has published more than 255 publications in PM&Reha, physiotherapy and cosmetology. Research interests: spine deformity, pain management, osteoporosis, alternative medical methods based on science, rehabilitation, exercise, health & wellness

Protocol for treatment of facial palsy with physical therapy modalities and alternative medicine method

Facial paralysis treatment refers to weakness of the facial muscles, which mainly results from temporary or permanent damage to the facial nerve. When the facial nerve is either damaged or non-functional, the muscles in the face do not receive the necessary signals in order to function properly. This results in paralysis of the affected part of the face, which can affect movement of the eyes, mouth, and other areas of the face. The aim of our presentation is to represent protocol for treatment of it with physical therapy and alternative medicine methods.

Material and method: This research is our experience in treatment of facial palsy, follow up with House–Brackmann score.

Results: Treatment is starting in subacute stage, after medicament treatment by neurologist. The physical modalities are following: electro therapy (iontophoresis, interferential current, electro gymnastic current, intracranial electro stimulation) Light therapy (Low level laser therapy, polarised light), massage, aroma massage, electroacupuncture, acupuncture, manual lymph drainage and active exercises by PNF concept. The effect of treatment is analysing with score and EMG.

Discussion: Facial palsy some time when the aetiology is polyneuropathy or virus infection can be difficult for treatment with long time in from 6-12 months. We have good results for short time of 3 months.

Conclusion: Facial palsy can be difficult condition but our protocol give the possibilities to treated patient multidisciplinary with medicament, physical therapy, alternative medicine and exercises. The effect of treatment depends of the level of nerve lesion. Intracranial stimulation is also one possible treatment.

Keywords: Facial Palsy, Physical Therapy Protocol.



Jay E. Spector

American Academy of Podiatric Sports Medicine (AAPSM),
United States

Biography: Dr. Spector studied Economics at McGill University, Montreal, Canada and graduated in 1986. Spector went to the New York College of Podiatric Medicine and graduated in 1992, and completed a surgical residency at the Georgia Podiatric Surgical Residency in Atlanta, GA. Spector is immediate past president of the American Academy of Podiatric Sports Medicine and is the Scientific Director of their yearly Stand Alone Meeting in Sports Medicine. Spector has published several papers and is a frequent lecturer both in the United States and Europe. Dr Spector is in private practice at

Atlanta Sports. Podiatry in Johns Creek, GA, USA.

Treatment of medial tibial stress syndrome (shin splints): What is the evidence-based medical treatment?

To understand the treatment, you first must identify the cause of MTSS in that individual. Iontophoresis, phonophoresis, ice massage, ultrasound therapy, and Extracorporeal Shock Wave Therapy (ESWT) could be effective in treating MTSS when compared with control. Low-energy laser treatment, sports compression stockings, lower leg braces and pulsed electromagnetic fields have not been proven to be effective in treating MTSS.

Learning Objectives:

- They will learn how to use balance testing to identify weaknesses in the gluteus medius that can contribute to MTSS
- Changes in running form can help prevent MTSS
- Orthotics or arch supports can help prevent MTSS
- These changes and treatments can speed up the healing time for patients with MTSS and get them back to sport quicker.



Joanne Donoghue, PhD, CEP-ACSM

New York Institute of Technology College of Osteopathic Medicine,
USA

Biography: Dr. Joanne Donoghue, PhD, is a Professor and Director of Clinical Research at the New York Institute of Technology College of Osteopathic Medicine, where she has led clinical research initiatives for over 28 years. Her work spans exercise physiology, clinical trials, and emerging areas in esports medicine and GLP-1 use. Dr. Donoghue has presented nationally and internationally, including at the European Federation of Sports Medicine Associations (EFSMA). She focuses on integrating artificial intelligence into clinical research workflows to reduce administrative burden, improve study design,

and enhance research productivity for clinicians and trainees.

From question to publication: A live AI workflow for evidence review, study design, and grant matching

Orthopedic clinicians and researchers face increasing demands to produce high-quality research alongside busy clinical responsibilities. Recent advances in Artificial Intelligence (AI), particularly agent-based tools, offer an opportunity to streamline key components of the research process; however, many clinicians remain uncertain about how to integrate these tools effectively and responsibly. This session presents a live, step-by-step demonstration of an AI-enabled research workflow using tools such as Elicit, SciSpace, and Notebook LM. Beginning with a clinically relevant orthopedic research question, attendees will observe how AI agents can be used in real time to identify research gaps, refine study rationale, and develop clear inclusion and exclusion criteria.

The session will further demonstrate how AI tools can generate structured evidence tables, organize manuscript-ready frameworks, and accelerate the progression from concept to abstract and publication. In addition, participants will be introduced to AI-assisted strategies for grant discovery and alignment, enabling more efficient identification of funding opportunities based on study design and research priorities. Emphasis will be placed on responsible AI use, including recognition and mitigation of common pitfalls such as hallucinations, bias, and suboptimal search strategies. Practical approaches to maintaining methodological rigor, transparency, and reproducibility while incorporating AI into research workflows will be highlighted. Attendees will leave with a clear, reproducible framework that can be immediately applied to enhance research productivity, improve study quality, and reduce time-to-publication within orthopedic and clinical research settings.



Kenneth R. Pelletier

Department of Medicine, Department of Family & Community Medicine, Department of Psychiatry, University of California School of Medicine, San Francisco, United States of America

Biography: Kenneth R. Pelletier, PhD, MD is a Clinical Professor of Medicine, Department of Medicine; Department of Family and Community Medicine; and Department of Psychiatry at the University of California School of Medicine, San Francisco (UCSF). At the UCSF School of Medicine, Pelletier is Director of the Corporate Health Improvement Program (CHIP), a research program between CHIP and 15 of the Fortune 500 corporations including Apple, Cisco, American Airlines, IBM, Dow, Prudential, Cummins, Ford, NASA, and Pepsico. Pelletier also serves as a Vice President with American Specialty Health (ASH).

Change your genes – change your life: Epigenetics of longevity

Biology is no longer destiny. Our DNA doesn't determine our health and disease prospects, as geneticists once believed. According to the new science of epigenetics, the vast majority of our genes are fluid and dynamic—and their expression is shaped by what we think and what we do. Our genetic profile may signal an inherited vulnerability to a disease, but our choices and behaviors determine whether these genes will be switched on or off. Each of us can influence our genes to create optimal health and longevity. Dr. Pelletier will discuss the latest epigenetic research, including progress on the \$ 101 Million X Prize, and share timely media coverage including details of the Blue Zone communities around the world and its potential impact on science. He will also cite the cutting-edge technologies that will forever change the landscape of optimal aging and longevity. We encourage you to attend and to engage with Dr. Pelletier in learning how to incorporate these new findings into your own lives.



Marcia J. Scherer

President, Institute for Matching Person & Technology, USA;
Professor of Physical Medicine and Rehabilitation, University
of Rochester School of Medicine & Dentistry, USA

Biography: Dr. Scherer is founding President of the Institute for Matching Person & Technology. Scherer is also Professor of Physical Medicine and Rehabilitation, University of Rochester Medical Center, Editor-in-Chief of the journal *Disability and Rehabilitation: Assistive Technology* and Co-Editor of the CRC Press book series, *Rehabilitation Science in Practice Series*. Dr. Scherer developed the Matching Person and Technology model and assessments that are used globally to guide technology selection and outcomes measurement. Scherer authored a trilogy of books describing the

impact of various categories of technology devices and services on people's life quality, and has authored, edited, or co-edited 13 other books. Scherer and collaborators have published 99 articles on disability and rehabilitation in peer-reviewed scientific journals, 58 published proceedings papers, and 43 book chapters. Scherer served as co-convenor of the World Health Organization's 2017 global assistive technology summit which led to a set of journal articles fundamental in the World Health Organization's General Assembly 2018 resolution to improve global access to assistive technology.

Evolving trends in assistive technology use

Technology is evolving quickly and having a colossal and important impact on rehabilitation. From artificial intelligence summaries of electronic medical records to precision diagnostic tools to therapeutic advances, the daily routine and toolkit of the rehabilitation provider has changed drastically over a very short time. Options presented to the recipients of our rehabilitation services have also greatly expanded and have enabled individuals of all ages with disabilities and chronic conditions to have products and services tailored to their unique situations to enable lives of quality to an extent not possible until recently. In this context, we can be seen as moving from an *Information Age* to include an *Age of Individualization* where ever more abundant technology options can make meeting individual needs and preferences more achievable. However, with choice can come choice overload. And with so many options available, it is crucial to select the option that meets the unique person's needs and preferences while accounting for both constraints and supports in the physical and social environment as well as the available technology characteristics. While this is true for the individuals we serve, it is also true for us as professionals and providers. Individualization within wider collaboration and integrative service delivery will largely determine our success.



Matthew B Werd

American Academy of Podiatric Sports Medicine, Lakeland, Florida, USA

Biography: Dr. Werd has led a distinguished career in sports medicine and surgery of the foot and ankle and he continues to serve his profession with distinction at the highest level in Lakeland, Florida. He is Past-President and Fellow, American Academy of Podiatric Sports Medicine (AAPSM). He serves as a team physician for youth, high school, collegiate, and professional athletes. Former NCAA Division 1 collegiate athlete. He won Robert Barnes Distinguished Service Award Recipient, AAPSM, 2014. Lifetime Achievement Award Recipient, AAPSM, 2024. Lead Author and Editor: Athletic

Footwear and Orthoses in Sports Medicine, Springer, NYC. He earned his Doctor of Podiatric Medicine from Scholl College of Podiatric Medicine, Chicago, in May 1993, graduating Magna Cum Laude with a 3.9 GPA and ranking in the top 7% of his class. He holds an Honors Bachelor of Arts in Biology and a Bachelor of Arts in Chemistry, both awarded in May 1989 from Indiana University, Bloomington. In 1987, he completed a PreMed Biology Summer Session at Harvard College, Cambridge. Since July 1995, he has owned and practiced at Odro, Fazekas, and Werd, PA. Licensed in Florida (PO 2458) since 1994, he is a diplomate of the American Board of Foot and Ankle Surgery, certified in Foot Surgery (1997, recertified through 2027) and Reconstructive Rearfoot, Ankle, and Leg Surgery (1998, recertified through 2028). Dr. Werd has held medical staff privileges at Lakeland Regional Health since 1995, where he was Chief of Podiatric Surgery and a member of the Operating Room Committee from 2000 to 2017. He has also served at Lakeland Surgical and Diagnostic Center since 1998, including on the Medical Advisory Committee from 2007 to 2009. Dr. Werd is a nationally recognized leader in podiatric sports medicine, twice named among the Top 25 Most Influential Podiatrists in America by PMNews (2010, 2017). He received the AAPSM Lifetime Achievement Award in 2024 and the Dr. Robert Barnes Distinguished Service Award in 2014. A Past-President of the American Academy of Podiatric Sports Medicine (2007–2008), he is also a Fellow of the ACSM, ACFAP, and AAPSM. He has served as Team Podiatrist for Florida Southern College since 2000 and has been an active member of the ABFAS Certification Exam Committee and NBPME panel. Dr. Werd is Lead Editor of Athletic Footwear and Orthoses in Sports Medicine (2010, 2017) and serves on the American Medical Athletic Association Clinic Advisory Board. He is a graduate of Leadership Lakeland (Class XX) and Leadership Polk (Class IV). The largest Physical Medicine Conferences in the Asia Pacific region is happening on September 15-17, 2025 at London, UK. It is the meeting place of all international Physiatrists.

Sports medicine care of the foot and ankle: Now and into the future

Lower extremity sports injuries are frequent, yet are often mis-understood on how best to diagnose and treat, and they continue to be a hot topic in athletics amongst both athletes and healthcare providers. Early accurate diagnoses are necessary to formulate a treatment protocol on how best to return an athlete quickly and safely to sport.

A thorough review and discussion of current concepts and pearls should be both relevant and interesting to attendees. A contemporaneous update will be presented, including applicable research and evidence-based studies.

Presentation will include a brief historical discussion, current concepts, and possible future emerging concepts.



Pradeep Deshpande*, Helen Cattermole

Hull University Teaching Hospitals, Hull York Medical School,
Hull, UK

Biography: Deshpande is a consultant in rehabilitation and senior lecturer with special interest in disability management in long term and brain injury rehabilitation in community with integrated approach. Deshpande has published internationally and has collaborated with healthcare development in growing economies, and is a champion of using technology and innovation in improving outcomes for patients with chronic illnesses.

Sustainability and modern healthcare: How to influence global climate change through health initiatives

Environmentally, the healthcare sector contributes around 4.4% of global CO₂ emissions, underscoring the urgency of green transformation. Environmental damage affects many aspects of healthcare, from extreme weather events to evolving population disease. Circular Economy (CE) principles, 9 ways; as follows, Utilising the 'R's of sustainability rethinking, reducing/refusing, reusing/repurposing/reprocessing, repairing, recycling and research we have summarised the opportunities and challenges across medical disciplines. Many opportunities exist across specialities to address the impact of healthcare. By leveraging evidence from ongoing trials and integrating sustainable practices, our healthcare system can remain resilient against environment-driven challenges and evolving healthcare demands while minimising further impacts of environmental destruction. Exposure to green spaces can offer significant respiratory health benefits, particularly in reducing mortality from respiratory diseases. Research in other conditions suggests that the use of green spaces can benefit in-patients, providing opportunities for activity and social interaction, and improving mood and wellbeing.



Rachid El Khoury

Saint Joseph University, Lebanon

Biography: Dr. El Khoury is an Osteopath and a Physical Therapist from Canada and the US with over 35 years of experience. El Khoury completed a post-professional training in structural osteopathy at the Michigan State University College of Osteopathic Medicine, and the University of New England, along with a Fellowship in Advanced Manual and Manipulative Therapy from Canada, and is trained in the management of chronic and psychosomatic pain. El Khoury is a former clinical tutor in osteopathy and advanced manipulative therapy in Canada, with the spine as the main area of

interest. El Khoury currently is a visiting faculty (since 2006) at Saint Joseph University in Beirut, teaching at the undergraduate, Master's, and Doctor of Physical Therapy programs, and, since 2006 as well, holds the position of Rehab Development Manager at Sultan Medical City, Riyadh, KSA.

Why do chronic pain patients suffer?

Chronic pain patients suffer in ways that extend far beyond persistent physical symptoms. Their experience reflects a complex interaction of biological processes, psychological distress, and social disruption—an interplay that modern pain science has increasingly illuminated. Despite major advances over the past 25 years, including clearer insights into brain-driven mechanisms, immune responses, and cognitive-behavioral influences, the question of why chronic pain develops in some individuals and not others remains unresolved.

Much of this suffering stems from the mismatch between what science now understands about pain and how pain is still commonly managed. Although the biopsychosocial model has been recognized for decades, clinical practice in many regions continues to rely heavily on a narrow biomedical approach, often failing to address the broader contributors to the patient's lived experience.

Current evidence shows that nociception alone cannot explain the complexity or persistence of pain. Pain is a conscious, multifaceted experience continuously shaped—and sometimes amplified—by neurobiological systems, environmental stresses, personal beliefs, and emotional states. These interacting influences help clarify why patients may suffer intensely even when no clear tissue damage or biomedical explanation is found.

This talk explores how chronic pain patients truly suffer: through misunderstood symptoms, invalidating clinical encounters, persistent misconceptions, and fragmented care. It will also examine how bridging the knowledge gap between contemporary pain science and everyday practice can meaningfully reduce this burden and improve the lives of those living with chronic pain.



R. Rasschaert^{1*}, M. Hulens²,
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⁵Department Adult Psychiatry, University Psychiatric Center of KU Leuven, Leuven, Belgium

Biography: Dr. Ricky Rasschaert is a neurosurgeon and spine surgeon at the AZ Rivierenland in Antwerp, Belgium. The use of minimally invasive techniques and spinal reconstructive surgery are Rasschaert's main surgical interests. Rasschaert is a member of several Neurosurgical and Spine societies, holds a teaching position and does research involving the treatment of Tarlov cysts, hemostats and several other projects, and recently became reviewer for NASS (North American Spine Society). As the former head of the Neurosurgery Department, member of the OR Committee, member of the Ethics Committee and Research and Training Cell, Rasschaert is also involved in hospital management.

The coincidence between spinal perineural cysts, increased intracranial pressure and the appearance of small fiber neuropathy

Background: Tarlov cysts remain a topic of controversy, from the first publication of Tarlov in 1938 and even now have the tendency to be regarded as incidental findings. These perineural dilations are situated at the Dorsal Root Ganglion (DRG), where sensory and small-fiber neurons are located. With a comprehensive history taking and nerve conduction studies we might be able to distinguish better the symptomatic perineural cysts from the truly incidental findings.

Methods: To explore the prevalence of Small-Fiber Neuropathy (SFN) and the clinical characteristics of patients with Tarlov cysts (PTCs), focusing on symptoms related to SFN and increased cerebrospinal pressure we performed a retrospective study with 126 surveys assessing symptoms in women (30–69 years) with Tarlov cysts (TCs) ≥ 7 mm seeking treatment for chronic back, pelvic or leg pain and skin biopsy results from 75 patients assessing Intra Epidermal Nerve Fiber Density (IENFD).

Results: IENFD < 5th percentile was documented in 80% of PTCs according to the normative reference data of Collongues et al and 72% according to the worldwide dataset of Lauria et al. Questionnaires revealed high incidences of neuropathic pain (80%), allodynia (76%), pain while sitting (93%), anal sphincter (11%) and urinary sphincter (66%) problems, persistent genital arousal (27%), and restless legs (54%). Autonomic dysfunctions included early satiety (41%), bladder (93%) and bowel (88%) dysfunction, increased sweating (51%), and Raynaud's phenomenon (45%). Other symptoms potentially associated with increased Cerebro Spinal Fluid Pressure (CSFP) were headaches (57%), fatigue (86%), cognitive issues (86%), and pulsatile tinnitus (59%).

Conclusions: This study revealed a high prevalence of SFN in PTCs (72–80%). Although the TCs may not cause radicular pain in the corresponding dermatomes directly, individuals with TCs frequently report a range of symptoms that have previously been linked to symptomatic TCs, including bladder, bowel, sphincter, and sexual symptoms, as well as local pain. Additionally, seemingly unrelated symptoms, such as headaches, fatigue, cognitive difficulties, neuropathic pain localized in other parts of the body, and autonomic dysfunctions, are commonly reported. These symptoms may be associated with elevated CSFP within the nerve root sheath. Elevated pulsatile CSFP underlies the formation of TCs at the dorsal root ganglion and may gradually contribute to small-fiber dysfunction by irritating, compressing and damaging small nerve fibers within the dorsal root ganglion.



Ron Blehm

EEI Physical Wellness Institute, LLC, USA

Biography: Ron Blehm has been in clinical practice for over three decades, receiving honours for his clinical instruction. He has presented to professional groups both in the US and Internationally. Mr. Blehm has also been directly involved with research on DJD/OA and is the owner of EEI Physio, LLC. In addition to clinical work: Co-Op Study 470: Persian gulf war unexplained illness PMID: 11384792 & 12636462. Non-pharmacological interventions for the management of fibromyalgia. PMID: 16945248. In-clinic testing and assessments for delaying disability in people with parkinson disease using a sensorimotor agility exercise program PMID: 19228832. Performing alpha and beta patient trials for mini BEST test PMID: 20461334 & PMID: 23547173. Effects of group, individual, and home exercise in persons with parkinson disease: A randomized clinical trial PMID: 26308937.

A forgotten component of knee osteoarthritis

DJD / OA: The term, Degenerative Changes, have been noted by many Chronic Pain Specialists to be associated with worse outcomes, yet the word degeneration is in the diagnosis. What can rehab do with a process that is degenerative (read as inevitable), likely progressive, and expected to worsen over time? This can tend to sound a bit hopeless – is a Knee Replacement Surgery the only option? While there have been many advancements in technology and surgical techniques, we will explore research and practice guidelines for the rehabilitative management of Knee Osteoarthritis and propose some specific types of exercise that are well tolerated for the patient with DJD / OA. Appropriate management may even prolong function and delay the progression of degenerative changes. Could this change our messaging or how we practice? We will view up-to-date research and clinical case studies to highlight alternatives to current rehabilitation models.



Sergey Suchkov^{1-14*}, Hiroyuki Abe^{6,15}, Holland Cheng¹⁶

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¹⁶T College of Biological Sciences, UC Davis, CA, USA

Biography: Sergey Suchkov was born in the City of Astrakhan, Russia, in a family of dynasty medical doctors. In 1980, Suchkov graduated from Astrakhan State Medical University and was awarded an MD. In 1985, Suchkov maintained a PhD as a PhD student of the I.M. Sechenov Moscow Medical Academy and Institute of Medical Enzymology. In 2001, Suchkov maintained a Doctor Degree at the National Institute of Immunology, Russia. From 1989 through 1995, Dr Suchkov was Head of the Lab of Clinical Immunology, Helmholtz Eye Research Institute in Moscow; from 1995 through 2004, Chair of the Dept for Clinical Immunology, Moscow Clinical Research Institute (MONIKI). In 1993–1996, Dr Suchkov was Secretary-in-Chief of the Editorial Board, Biomedical Science, an international journal published jointly by the USSR Academy of Sciences and the Royal Society of Chemistry, UK. At present, Dr Sergey Suchkov, MD, PhD, is Director for the Center of Biodesign of N.D. Zelinskii Institute for Organic Chemistry of the Russian Academy of Sciences (Moscow, Russia), Senior Scientific Advisor of China Hong Kong Innovation International Business Association (Hong Kong), and R&D Director of InMedStar (Russia); and a Member of the Russian Academy of Natural Sciences (Moscow, Russia), New York Academy of Sciences (USA), American Chemical Society (ACS, USA), American Heart Association (AHA, USA), European Association for Medical Education (AMEE, Dundee, UK), EPMA (European Association for Predictive, Preventive and Personalized Medicine, Brussels, EU), ARVO (American Association for Research in Vision and Ophthalmology), ISER (International Society for Eye Research), and Personalized Medicine Coalition (PMC, Washington, DC, USA).

Personalized and Precision Medicine (PPM) as a unique healthcare model through biodesign-inspired & biotech-driven translational applications and upgraded business marketing to secure the human healthcare and biosafety

Traditionally, a disease has been defined by its clinical presentation and observable characteristics, not by the underlying molecular mechanisms, pathways and systems biology-related processes specific to a particular patient (ignoring persons-at-risk). A new systems approach to subclinical and/or diseased states and wellness resulted in a new trend in the healthcare services, namely, Personalized and Precision Medicine (PPM).

Despite breakthroughs in research that have led to an increased understanding of PPM-based human disease, the translation of discoveries into therapies for patients has not kept pace with medical need. It would be extremely useful to integrate data harvesting from different databanks for applications such as prediction and personalization of further treatment to thus provide more tailored measures for the patients and persons-at-risk resulting in improved outcomes and more cost effective use of the latest health care resources including diagnostic (companion ones), preventive and therapeutic (targeted molecular and cellular) etc.

Translational researchers, bio-designers and manufacturers are beginning to realize the promise of PPM, translating to direct benefit to clinical practice. For instance, companion diagnostics tools, theranosticums, molecular imaging and targeted therapies represent important stakes for the Biopharma in terms of market access, of return on investment and of image among the prescribers. So developing the next-generation medicines and diagnostic tools requires changes to traditional clinical trial designs that result in new types of data. Making the best use of those innovations and being ready to demonstrate results for regulatory bodies requires specialized knowledge that many clinical development teams do not have.

Healthcare is undergoing a transformation, and it is imperative to leverage new technologies to support the advent of PPM. And it is urgently needed to discover, to develop and to create new (targeted and/or smart/intelligent) drugs. And with the support of nanotechnology, new targeted therapeutic agents and biomaterials, or aid the development of assays for disease biomarkers and identification of potential biomarker-target-ligand (drug) tandems to be used for the targeting, PPM is making phenomenal steps in the future to come. This is the reason for developing global scientific, clinical, social, and educational projects in the area of PPM and design-driven translational medicine to elicit the content of the new trend. The latter would provide a unique platform for dialogue and collaboration among thought leaders and stakeholders in government, academia, industry, foundations, with an interest in improving the system of healthcare delivery on one hand and drug discovery, development, and translation, on the other one, whilst educating the policy community about issues where biomedical science and policy intersect. So, the Grand Change and Challenge to secure our Health and Wellness are rooted not in Medicine, and not even in Science! Just imagine WHERE?! In the upgraded Hi-Tech Culture!

Keywords: Personalized & Precision Medicine, Biomarkers, Targets, Nanoparticles, Nanocarriers, Nanotheranostics, Nanobiomedicine, Nanotechnologies.



Subramanya Adiga

Middlemore Hospital, Auckland, New Zealand; University of Auckland, New Zealand; IntegRehab MedConsults, New Zealand

Biography: Dr Adiga has studied and worked in India & the UK in Orthopaedics, SCI and rehab medicine, and is currently working as a senior physiatrist & academic in New Zealand. Adiga has developed multiple new concepts in Limb Anatomy, Prosthetic hip dislocation, small joint interventions and peripheral nerve disorders, behaviours & applications, resulting in many presentations and publications in these areas. Practice interests include stroke & neuro-rehab, spasticity & pain interventions, Integrative / Lifestyle medicine, and Concussion rehab; academic activities include teaching, learning, research and scientific publications.

Acute nerve compression syndromes in the retroperitoneum

Author's work in this field over a decade has culminated in the publication of a detailed narrative review covering all aspects of this very under-recognised, but increasingly common serious clinical problem. The paragraph below summarises some aspects of that publication (referenced further down):

With increasing use of anti-platelet & anticoagulant medications, retroperitoneal bleeding into Psoas & Iliacus musculo-fascial compartments is likely on the rise. There is paucity of literature in this field, limited to case reports & a few case series; these often focus on one or 2 select issues of interest only. Many important issues are not understood – for instance, the whole lumbar plexus is located inside Psoas major muscle and any bleed into these tight Musculo-fascial compartment syndrome results in compartment syndrome, with high likelihood of nerve palsy requiring urgent decompression with open fasciotomy wherever possible. Serious risks to the nerve plexus from the insertion & removal of percutaneous drains is not recognised. Imprecise terminology like ilio-psoas and lumbo-sacral radiculo-neuro-plexopathy clouds the scene further, making documentation & communication difficult. When this complication occurs in a stroke patient with pre-existing neurological deficits, it becomes even more difficult to suspect, diagnose & manage appropriately, in a timely manner.

The present work involves literature review with focus on identification, prevention & management of the neurological deficits – medical, surgical & rehab aspects as well as providing practical guidance based on author's experience. Results from this review show that there are only 2 reports identifying this condition as a nerve saving emergency

(compartment syndrome). There is only one report on this happening against the backdrop of a stroke – A case of cerebral venous thrombosis; no other reports associated with more common varieties of ischaemic & haemorrhagic strokes. There is very little coverage of the rehabilitation aspects; only one report of salvage surgery. Our experience with stroke and non-stroke cases will be presented and our views on acute & rehab management is shared.



W S El Masri

Clinical Professor of Spinal Injuries, Keele University, UK;
Emeritus Consultant Surgeon in Spinal Injuries, RJ & AH
Orthopaedic Hospital, Oswestry, Shropshire, UK

Biography: Prof W S El Masri FRCS Ed, FRCP, currently Hon. Clinical Professor of Spinal Injuries (SI), Keele University, trained between 1971 and 1983 in the Oxford group of hospitals, Guys and Stoke Mandeville hospitals and the USA. El Masri obtained the first accreditation in Spinal Injuries and General Surgery in 1982, and was appointed Consultant Surgeon in Spinal Injuries at the Midland Centre for Spinal Injuries in 1983. El Masri personally treated 10,000 patients and published 145 manuscripts. El Masri is the author of the concepts of Physiological Instability of the Spinal Cord, Time related

Biomechanical Instability and Micro-instability of the injured spine, and published the largest series of Bladder cancer in SCI patients. El Masri has repeatedly demonstrated and published on the discrepancy between the radiological and neurological presentation of patients in support of the hypothesis that the initial force of the impact and the quality of the management of both the injured spine and the effects of cord injury are the two major determinants of the initial neurological loss and the neurological outcome. El Masri is Past-President of the International Spinal Cord Society, Past Chairman of the British Association of Spinal Cord Injury Specialists, and has lectured world-wide, winning many National and International awards.

Acute traumatic spinal injuries – outcomes based evidence of the holistic active physiological conservative management of the injury and its neurological effects

Traumatic Spinal Injuries can present with or without neural tissue damage. Both the force and the direction of the impact determine the presence or absence of neurological damage.

The principles of management of the injured spine and of the patients with or without neural tissue damage are very different and are likely to have an impact on the neurological and a range of other outcomes of the management.

Traumatic Spinal Cord (tSCI) or Cauda Equina Injuries (tCEI) are life-changing events with medical, physical, psychological, social, financial, vocational, environmental & matrimonial effects.

The combination of small incidence (10-50/million population), consequent pan-physiological impairment, multi-system malfunction, sensory impairment/loss, multiple disabilities, together with their non-medical effects impose challenges to patients and clinicians alike.

This challenge is magnified during the transitional period between the spinal and autonomic areflexia (shock) and the return of these reflexes. During this period, which lasts a few days to weeks the patient is at a much higher risk of a range of complications than following the return of autonomic and spinal reflex activity.

Fortunately with simultaneous adequate management of the injured spine together with each of the effects of cord damage, by a knowledgeable well-trained and experienced team of clinicians and health care professionals; almost all complications can be prevented or diagnosed and treated before deterioration, morbidity and neurological deterioration occur.

Neurological Recovery is not uncommon following tSCI & tCEI, is predictable and depends on:

The quality of management of the multisystem physiological impairment and malfunction to prevent systemic and iatrogenic complications that cause further non-mechanical damage to neural tissues by destabilising the Physiologically Unstable Injured neural tissue.

The adequacy of the management of the Biomechanical Instability of the injured spine to prevent further mechanical damage of the neural tissue from bony or ligamentous structures.

Early prediction of ambulation is important to patients and family members. Neurological Recovery is not uncommon following tSCI & tCEI, is predictable and depends on the method and quality of management of the multisystem physiological impairment and malfunction as well that of the spinal injury.

In the mid-sixties Frankel and colleagues made an astute observation that with good conservative management of the injured spine and the multisystem malfunctions, patients presenting within 15 days of injury with complete motor paralysis but sensory sparing made spontaneous motor recovery from reactivation of the myotomes adjacent to the functioning dermatomes irrespective of the radiological presentation on X Rays on admission and on discharge. The same observations including observations on the discrepancy between the CT and MRI scans and the neurological presentation have since been repeatedly confirmed by many other international groups.

The prognostic indicators of neurological recovery, its extent and the factors that prevent recovery or cause neurological deterioration as well as the role of CT and MRI will be discussed.

In the last four decades, routine surgical stabilisation and decompression have been carried out on patients with and without traumatic cord damage supported by claims that surgical intervention is necessary to prevent neurological deterioration and enhance recovery.

The rationale and evidence for justifying these claims will be discussed and compared with those of the simultaneous Active Physiological Conservative Management the injury and each of the Multisystem physiological malfunctions caused by the cord damage.



Youssef Masharawi

Physical Therapy Department, The Stanley Steyer School of Health Professions, Spinal Research Laboratory, Gray Faculty of Medical and Health Sciences, Tel Aviv University, Israel

Biography: Professor Youssef Masharawi is an Associate Professor in the Department of Physical Therapy at Tel Aviv University. A licensed physiotherapist, Masharawi specializes in spinal disorders, integrating manual therapy, biomechanics, and rehabilitation science. Masharawi holds a Ph.D. in Anatomy and Anthropology from Tel Aviv University and completed postdoctoral research in Denmark, and leads the Spinal Research Laboratory, focusing on clinical, functional, and epidemiological aspects of spinal health. Professor Masharawi has published extensively, teaches undergraduate and graduate

courses, and mentors research students, also promoting diversity as head of the Arab Integration Committee at Tel Aviv University and remaining active in international spine research societies.

Is pregnancy a major risk factor for musculoskeletal pain? A cross-sectional study

Background: Musculoskeletal pain during pregnancy is commonly considered prevalent, though evidence primarily comes from cross-sectional studies lacking appropriate control groups.

Objective: To examine the prevalence of musculoskeletal pain among pregnant women compared to non-pregnant women as a reference group.

Design: Observational cross-sectional.

Methods: 1651 women (589 pregnant, 1062 non-pregnant) in Israel completed an online survey using the Hebrew Extended Nordic Musculoskeletal Questionnaire and SF-12. Chi-square tests and logistic regression analyses examined associations between pregnancy status and pain prevalence while controlling for confounding factors including age, BMI, education, employment, lifestyle factors, and medical history.

Results: Pregnant women reported higher rates of upper back pain (67.1 % vs. 56.4 %, $p = 0.02$) and lower back pain (73.9 % vs. 64.9 %, $p = 0.004$), while non-pregnant women reported more hip/thigh pain (54.5 % vs. 48.4 %, $p < 0.001$). However, after controlling for confounders in multivariate regression, these associations became non-significant. Pregnant women had significantly lower physical component scores (43.31 ± 9.33 vs. 48.08 ± 8.41 , $p < 0.001$). Physical health status (PCS-12) was the strongest predictor of current low back pain (OR = 0.92, 95 % CI: 0.90–0.94, $p < 0.001$), pregnancy status showed no independent association

(OR = 1.19, 95 % CI: 0.77–1.84, $p = 0.430$). Smoking emerged as a significant risk factor (OR = 2.02, 95 % CI: 1.03–3.96, $p = 0.042$). **Conclusion:** This study challenges the assumption that pregnancy inherently causes higher musculoskeletal pain prevalence. Physical health status plays a more substantial role than pregnancy status per se, highlighting the multifactorial nature of pregnancy-related musculoskeletal pain.



Youssef Masharawi*, Anat Gershon

Physical Therapy Department, The Stanley Steyer School of Health Professions, Spinal Research Laboratory, Gray Faculty of Medical and Health Sciences, Tel Aviv University, Israel

Biography: Professor Youssef Masharawi is an Associate Professor in the Department of Physical Therapy at Tel Aviv University. A licensed physiotherapist, Masharawi specializes in spinal disorders, integrating manual therapy, biomechanics, and rehabilitation science. Masharawi holds a Ph.D. in Anatomy and Anthropology from Tel Aviv University and completed postdoctoral research in Denmark, and leads the Spinal Research Laboratory, focusing on clinical, functional, and epidemiological aspects of spinal health. Professor Masharawi has published extensively, teaches undergraduate and graduate

courses, and mentors research students, also promoting diversity as head of the Arab Integration Committee at Tel Aviv University and remaining active in international spine research societies.

The shape evolution of the human thoracic cage from birth to adulthood: Characterization and acceleration

Background: Despite its clinical importance, the morphological development of the human thoracic cage from infancy through adulthood remains insufficiently documented. This study aims to establish a detailed, quantitative, and qualitative timeline of thoracic cage evolution in males and females using an extensive sample of chest CT scans.

Methods: CT scans of 176 typically developing individuals (116 males, 60 females), aged 0–29 years, were analyzed and categorized into six age groups. Key thoracic parameters—kyphosis, height, width, and depth—were measured. Additionally, geometric morphometric analysis (GMA) was conducted on a subset of 63 cases.

Results: At birth, thoracic height was 45% of its adult value, with marked growth spurts during early childhood and puberty. Notable anatomical changes included significant increases in anteroposterior depth (especially at T7) and width (particularly at T3). Sagittal and frontal shape ratios also evolved, indicating elongation of the thorax. Thoracic kyphosis increased from 24° to 37°, with distinct growth phases. Principal component analysis revealed two developmental stages: rapid shape changes from birth to four years (PC1: 46.2% variance), followed by puberty-related modifications (PC2: 10.5%). Gender differences emerged post-14 years, with males displaying larger dimensions and gender accounting for 14.2% of shape variance.

Conclusions: Thoracic morphology undergoes significant structural and proportional transformations during early life and adolescence. Post-puberty, females exhibit a more elongated thorax with inclined ribs, while males develop a broader, more cylindrical configuration.



Zhenhuan Liu

Nanhai Maternity and Children's Hospital Affiliated to
Guangzhou University of Chinese Medicine, China

Biography: Zhenhuan Liu professor of pediatrics/ Ph.D.tutor• He has been engaged in pediatric clinical and child rehabilitation for 40 years. Led the rehabilitation team to treat more than 40,000cases of children with intellectual disability, cerebral palsy and autism from China and more than 20 countries including France, the US, Japan, U.K, Germany, etc. More than 26800 children's deformity returned to school and society and became self-sufficient.The rehabilitation effect ranks the international advanced level. He is currently serves as a Vice-chairman of Rehabilitation professional committee of

Children with cerebral palsy, World Federation of Chinese Medicine Societies• Vice-chairman of Professional committee of child health World Federation of Chinese Medicine Societies• He has been engaged in pediatric clinical and child rehabilitation for 40 years. Led the rehabilitation team to treat more than 40,000cases of children with intellectual disability, cerebral palsy and autism from China and more than 20 countries including France, the US, Japan, U.K, Germany, etc.

Music therapy combined with acupuncture therapy for children with Autism Spectrum Disorder (ASD)

Objective: To verify the efficacy of the Psychological Action Rehabilitation on autism treated with Chinese Medicine Music Therapy combined with acupuncture therapy.

Methods: A total of 70 cases with Autism Spectrum Disorder (ASD) were divided into an observation group 30 cases and a control group 40 cases.In observation group, the cases were treated with Chinese Medicine Music Therapy combined with acupuncture therapy. The control group was treated with structured education. Clancy Autism Behavior Scale Childhood Autism Behavior Scale (CARS) Autism Behavior Checklist (ABC) and Gesell Development Scale (social adaptive behaviors personal social behaviors and language development) were adopted to assess the scores before and after treatment. The results were analyzed by SPSS13.0 software.

Results: One:During the same time treatment, the observation group's efficacy on enhancing the intelligence and language ability is apparently better than the control group. Two: In observation, between the group aged from 4to 6 years and the group aged from 2 to 3 years,the differences in Clancy Autism Behavior Scale, ABC and social adaptive development scale are not obvious,which explains that Chinese Medicine Music Therapy combined with acupuncture and therapy can improve autism spectrum disorder children's

behavior and intelligence level regardless of age. Three: As for the scores of language in Gesell scale in the observation group, there were significant differences before and after treatment, which explains that the observation group's therapy can enhance autism spectrum disorder children's language skill and is better than the control group's therapy.

Conclusion: Chinese Medicine Music Therapy combined with acupuncture therapy can significantly improve the efficacy on autism spectrum disorder, effectively relieve child autism symptoms and enhance the intelligence and language expression ability.

Keywords: Autism Spectrum Disorder, Chinese Medicine Music Therapy, Acupuncture.

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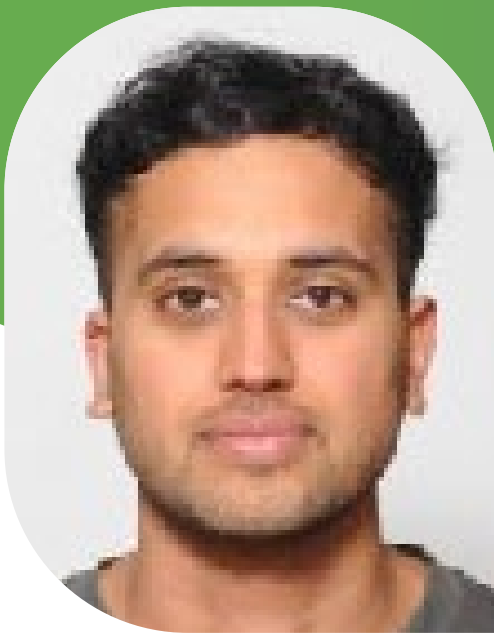
4TH EDITION OF

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ORAL
PRESENTATIONS





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Torus fractures of the distal radius in children: A review of the latest evidence

Background: Torus fractures, also known as buckle fractures, are amongst the most common paediatric orthopaedic injuries and typically affect the distal radius following a fall onto an outstretched hand. They occur due to the plasticity of the paediatric skeleton, where axial loading may cause cortical buckling without complete disruption. Although these injuries are stable, their management has historically varied, with many patients previously treated using rigid immobilisation and routine follow-up.

Aim: This literature review aimed to summarise the epidemiology, anatomy, clinical assessment, diagnosis and evidence-based management of paediatric distal radius torus fractures, with a focus on promoting consistent and up-to-date practice among hospital clinicians.

Methods: A narrative review of the available literature was undertaken, including studies and guidance relating to paediatric distal radius fractures, torus fracture diagnosis, immobilisation strategies and follow-up requirements. Key sources included national guidance, randomised controlled trial evidence and relevant orthopaedic literature addressing clinical assessment, radiographic diagnosis and patient-centred management.

Results: Torus fractures commonly present in children following a fall onto an outstretched hand, with wrist pain and localised distal radial tenderness. Clinical assessment should include inspection for swelling, deformity or open injury, palpation for bony tenderness, assessment of wrist movement, distal neurovascular examination and consideration of

associated injuries or non-accidental injury. Diagnosis is usually confirmed with plain wrist radiographs, including postero-anterior and lateral views, although findings may be subtle. Current evidence supports soft bandage treatment with immediate discharge for isolated distal radius torus fractures, once concurrent injury has been excluded. Rigid casting is not required, and routine specialist follow-up is usually unnecessary. This approach provides equivalent outcomes in pain and deformity compared with rigid immobilisation, while improving comfort, convenience and functional recovery for children and families.

Conclusion: Paediatric distal radius torus fractures are common, stable injuries that can be safely managed with soft bandaging, appropriate analgesia, safety-netting advice and discharge from first assessment. Standardising practice in line with contemporary evidence may reduce unnecessary immobilisation, follow-up appointments and healthcare burden, while maintaining safe and effective patient care.

Biography

Mr Abdullah Tahir studied Medicine at the University of Exeter, United Kingdom, and has completed an MSc in Clinical Education. Tahir has a strong interest in surgical education and evidence-based orthopaedic practice, having authored multiple peer-reviewed publications and a book chapter. Mr Tahir is currently working as a Core Surgical Trainee in the West Midlands and is pursuing a career in Trauma and Orthopaedic Surgery.



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Raghavan, Mohamed Khalefa,
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Improving orthopaedic ward round documentation using the RCS SHINE toolkit - A quality improvement project

Background: High-quality ward round documentation is essential for patient safety, multidisciplinary communication and continuity of care. Within the Orthopaedic department at Walsall Manor Hospital, ward round entries were documented using a sticker-based template. However, concerns were identified regarding incomplete documentation, lack of clarity around clinical plans and potential risks surrounding patient handover.

Aim: This quality improvement project aimed to standardise and improve Orthopaedic ward round documentation through the implementation of a structured proforma based on the Royal College of Surgeons of Edinburgh SHINE surgical ward round toolkit.

Methods: An initial quality improvement PDSA cycle was undertaken using 30 patient case notes to assess compliance with key documentation standards, including date, time, clinician details, diagnosis, operative status, venous thromboembolism assessment, antibiotic status, blood results, NEWS, current issues and management plan. Feedback was also obtained from multidisciplinary users of the existing template, including consultants, resident doctors, advanced clinical practitioners and nurses. Following this, the ward round template was redesigned to include patient identification details, clearer documentation sections, increased space for issues and plans, and pre- and post-operative checklist components. A second PDSA cycle was completed using 60 case notes to assess the modified template.

Results: Baseline data demonstrated variable documentation quality, with notable deficiencies in recording VTE status, antibiotic status, current issues and clinical plans. Following implementation of the modified template, documentation improved across several

key domains. VTE documentation increased from 0/30 cases at baseline to 60/60 cases following intervention. Documentation of clinical plans improved from 29/30 to 60/60 cases, while recording of current issues improved from 13/30 to 33/60 cases. Improvements were also observed in documentation of operative status and antibiotic status. Feedback on the modified template was generally positive, although further areas for refinement included increasing space for blood results and diagnosis, improving filing efficiency, and encouraging routine completion of peri-operative checklist sections.

Conclusion: Implementation of a structured ward round template based on the RCS SHINE toolkit improved the quality and consistency of orthopaedic ward round documentation. This project highlights the value of iterative multidisciplinary quality improvement in enhancing communication, handover and patient safety in Orthopaedic ward care.

Biography

Mr Abdullah Tahir studied Medicine at the University of Exeter, United Kingdom, and has completed an MSc in Clinical Education. Tahir has a strong interest in surgical education and evidence-based orthopaedic practice, having authored multiple peer-reviewed publications and a book chapter. Mr Tahir is currently working as a Core Surgical Trainee in the West Midlands and is pursuing a career in Trauma and Orthopaedic Surgery.



Abdulrahman Alfozan

Ministry of Education, Saudi Arabia

Vibrotactile, thermoregulated, 3D printed smart cast for improved pain management and bone healing

It is an invention of a smart orthopaedic cast system that is particularly designed to promote and accelerate bone healing while reducing patient pain and discomfort during immobilization by embedding multiple linear resonant actuators (LRAs) positioned at distinct sites within the shell of the 3D printed cast designed using a digital scan of the patient's limb those LRAs form a multi-channel vibrotactile array capable of delivering mechanical vibrations at ranges between 20-250 Hz.

Vibration frequency and amplitude are independently adjustable to target distinct physiological mechanisms like activation of beta nerve fibres and C-mechanoreceptors for antinociceptive pain relief, and low frequency stimulation that promote osteogenesis (bone healing).

It will also integrate thermoelectric heating and cooling elements to provide thermal therapy and swelling reduction.

All these functions are governed by an embedded microcontroller system with a user friendly display and voice control interface.

Biography

Artificial Intelligence enthusiast with a special interest in biotechnology participated in multiple international competitions and presented in conferences.



Abed Alfattah Mahmoud Alnsour

Northern Care Alliance, Salford Royal Hospital,
United Kingdom

Accuracy of ChatGPT in predicting six-week postoperative knee flexion following total knee replacement: A retrospective cohort study

Background: Artificial Intelligence (AI), particularly Large Language Models (LLMs) such as ChatGPT, is increasingly being explored for clinical prediction. However, their ability to predict early functional outcomes following Total Knee Replacement (TKR) remains uncertain. This study assessed the accuracy of ChatGPT in predicting six-week postoperative knee flexion and investigated factors associated with prediction error.

Methods: A retrospective cohort study was conducted involving 160 patients who underwent primary TKR at a UK tertiary centre between January and February 2025. Age, sex, Body Mass Index (BMI), diabetes, smoking status, American Society of Anesthesiologists (ASA) grade, and six-week postoperative knee flexion were obtained from electronic medical records. ChatGPT (GPT-5-mini) generated predicted six-week knee flexion using a standardized prompt based on these clinical variables. Predicted and observed flexion were compared using the Wilcoxon signed-rank test. Subgroup analyses were performed according to age, diabetes, smoking status, ASA grade, and BMI. Multivariable linear regression assessed predictors of absolute prediction error.

Results: Median observed knee flexion at six weeks was 95°, compared with 103° predicted by ChatGPT ($p < 0.05$). The median absolute prediction error was 10°. ChatGPT significantly overestimated flexion across most age groups and among diabetic and non-diabetic patients, smokers and non-smokers, and all ASA grades. Prediction error differed significantly by ASA grade, with median errors of 17° for ASA I, 9° for ASA II, and 6° for ASA III ($p < 0.05$). BMI was not significantly associated with prediction error. No clinical variable independently predicted absolute prediction error on multivariable analysis.

Conclusion: ChatGPT demonstrated moderate accuracy but consistently overestimated six-week postoperative knee flexion following TKR. Prediction errors were greater among younger and healthier patients and smaller among patients with greater comorbidity burden. Although LLMs may have potential as tools for postoperative outcome prediction, their current accuracy is insufficient to support clinical decision-making. Larger prospective studies using institution-specific datasets are required to establish their reliability and clinical utility.

Keywords: Artificial Intelligence, ChatGPT, Total Knee Replacement, Knee Flexion, Postoperative Outcome, Large Language Models, Arthroplasty.

Biography

Dr. Abed Alfattah Mahmoud Alnsour is a Trauma & Orthopaedics Senior clinical fellow (SCF) at Salford royal hospital / Northern care alliance, United Kingdom. Alnsour's clinical and research interests include orthopaedic surgery, total knee replacement, postoperative functional outcomes, and the application of artificial intelligence in healthcare. Alnsour is actively involved in clinical research exploring the potential role of emerging technologies and large language models in orthopaedic practice. Alnsour's current research evaluates the accuracy and limitations of ChatGPT in predicting early postoperative knee function following total knee replacement.



Hassan Shadad, Matthew Earnshaw, Abed Alfattah Mahmoud Alnsour*, Damien Mony, Mohamed Said Ammar, Osayi Osadolor, Ihab Boutros

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Timing of surgical stabilisation of rib fractures and clinical outcomes at a major trauma centre: A retrospective cohort study

Background: Surgical Stabilisation of Rib Fractures (SSRF) is increasingly used for patients with severe chest wall injuries. Early fixation, particularly within 72 hours of injury, has been proposed to improve respiratory outcomes and reduce intensive care requirements; however, the optimal timing of SSRF remains uncertain. This study evaluated the association between SSRF timing and postoperative outcomes at a UK major trauma centre.

Methods: We conducted a retrospective cohort study of adult patients who underwent SSRF between April 2019 and May 2024. Patients were stratified according to time from injury to surgery (≤ 72 hours vs. >72 hours) and time from surgical decision to surgery (≤ 48 hours vs. >48 hours). Primary outcomes were postoperative complications and mortality. Intensive care unit (ICU) Length of Stay (LOS) was assessed as a secondary outcome. Categorical variables were analysed using Fisher's exact test, continuous variables using the Mann–Whitney U test, and multivariable logistic regression was used to assess independent associations between surgical timing and postoperative complications.

Results: Sixty-three patients underwent SSRF, with a median age of 58 years and 84% being male. Forty-six patients (69.8%) underwent SSRF within 72 hours of injury. Overall, postoperative complications occurred in 11 patients (17.5%). There was no significant difference in complication rates between patients undergoing SSRF within 72 hours and those undergoing later fixation (17.4% vs. 15.8%, $p=0.999$). Mortality was low overall at 4.8%, with no significant difference between groups (4.3% vs. 5.3%, $p=0.9999$). Multivariable logistic regression demonstrated no significant independent association between surgical timing and postoperative complications. However, patients undergoing SSRF within 72 hours had a

significantly shorter ICU LOS compared with those undergoing later surgery (median 5 vs. 13 days, $p=0.002$).

Conclusion: In this single-centre cohort, early SSRF within 72 hours of injury was associated with a significantly shorter ICU LOS but was not associated with reduced postoperative complications or mortality. These findings suggest that early fixation may improve ICU resource utilisation and support recovery, although surgical timing should be individualised according to patient condition, injury severity, perioperative optimisation, and institutional resources. Larger prospective multicentre studies are required to establish the optimal timing of SSRF and its impact on clinical outcomes.

Keywords: Surgical Stabilisation of Rib Fractures, SSRF, Rib Fractures, Chest Trauma, Surgical Timing, ICU Length of Stay, Major Trauma.

Biography

Dr. Abed Alfattah Mahmoud Alnsour is an Orthopaedic Surgery Senior Clinical Fellow (SCF) at Salford royal hospital / Northern care alliance, United Kingdom. Alnsour's clinical interests include trauma and orthopaedic surgery, with a particular focus on major trauma. Alnsour is actively involved in clinical research and has an interest in improving surgical outcomes and the use of evidence-based approaches in orthopaedic and trauma care. Alnsour's current research focuses on surgical timing and outcomes following surgical stabilisation of rib fractures.



Ady Correa

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Rehabilitation in head and neck cancer

Head and neck cancer and its treatments, including surgery, radiation, and chemotherapy, often result in significant functional impairments that affect swallowing, mouth opening (trismus), speech, neck and shoulder mobility, posture, and overall quality of life. These impairments can interfere with nutrition, communication, social participation, and independence. Rehabilitation plays a critical role in addressing these challenges and supporting patients across the cancer care continuum, from diagnosis through survivorship.

This presentation will focus on the importance of early, interdisciplinary rehabilitation for individuals with head and neck cancer. It will highlight common treatment-related impairments such as trismus, radiation fibrosis, shoulder dysfunction, and head and neck lymphedema. The functional consequences of these impairments and their impact on daily activities will be discussed to emphasize the need for timely intervention.

The session will review evidence-based rehabilitation interventions, including therapeutic exercises to improve range of motion and strength, postural retraining, lymphedema management techniques, and the use of botulinum toxin injections when appropriate. The role of physical therapy, occupational therapy, speech-language pathology, and collaboration with oncology teams will be emphasized to illustrate the value of coordinated care.

Finally, the presentation will address the importance of integrating rehabilitation into oncology care pathways, identify common barriers to access, and advocate for early referrals.

Biography

Ady Correa is an Assistant Professor at the University of Miami in Florida, USA. Correa's clinical practice focuses on cancer rehabilitation.



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Factors influencing intraoperative radiation exposure during ankle fracture ORIF: A six-year retrospective analysis

Background: Intraoperative fluoroscopy is integral to ankle fracture Open Reduction and Internal Fixation (ORIF), but repeated image acquisition exposes patients and theatre staff to ionising radiation. Published reference values for orthopaedic trauma fluoroscopy are limited, and the operative factors associated with radiation use during ankle ORIF remain incompletely defined.

Methods: We performed a six-year retrospective observational analysis of 419 patients who underwent ankle ORIF at a single institution. Data were extracted from electronic patient records, operative notes and the radiology archiving system. Outcomes were fluoroscopy time and fluoroscopy-derived radiation dose metrics, reported as dose-area product (Gy cm²) and cumulative dose (mGy), as recorded by the fluoroscopy system. Candidate predictors included patient age and sex, Weber fracture type, injury/fixation pattern, surgical approach, plate type, syndesmotic fixation, posterior malleolar fixation, surgeon grade and screw variables. Multivariable ordinary least-squares regression was used to assess independent associations, with Tukey post-hoc testing for pairwise categorical comparisons.

Results: The radiation duration model explained 23.9% of variance and was statistically significant overall. Increased total screw number was associated with longer fluoroscopy time, whereas higher lag-screw number was associated with shorter fluoroscopy time. Pairwise analyses showed greater radiation duration in trimalleolar injuries and trimalleolar fixation, posterior malleolar fixation, syndesmotic fixation, posterolateral approaches and LCDCP plate constructs. Dose-area product and cumulative dose models showed broadly similar patterns, with higher exposure associated with syndesmotic fixation, posterior malleolar

fixation, trimalleolar patterns and greater screw number. Surgeon grade, age and sex were not consistently associated with exposure across post-hoc comparisons.

Conclusion: Intraoperative radiation exposure during ankle ORIF was driven mainly by fracture complexity, fixation strategy and surgical approach rather than surgeon seniority. Complex injuries requiring posterior malleolar or syndesmotic fixation should be regarded as higher-exposure cases. Standardised fluoroscopy protocols, structured surgeon-radiographer communication, real-time feedback and ALARA-based practice may reduce exposure without compromising fixation quality.

Biography

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A comparative analysis of financial tariff coding accuracy between non-clinical coders and orthopaedic surgeons in a large district hospital – A prospective controlled study

Background: Accurate clinical coding is a cornerstone of modern healthcare systems, directly influencing reimbursement, service planning, and real-world data integrity. However, traditional coding processes remain largely manual and are typically performed by non-clinical coders, introducing variability and potential inefficiencies. With increasing interest in digital transformation and data-driven healthcare, opportunities exist to enhance coding accuracy through improved clinician engagement and emerging technologies. This study evaluates the accuracy and financial impact of tariff coding in orthopaedic procedures, comparing outputs generated by non-clinical coders and orthopaedic surgeons.

Methods: A prospective controlled study was undertaken in a district general hospital. A random sample of 20 patients from 219 consecutive orthopaedic admissions was selected. Each case was independently coded by non-clinical clinical coders and orthopaedic surgeons. Generated Healthcare Resource Group (HRG) tariff codes were compared to assess concordance and variation. Financial implications were calculated based on differences in tariff allocation between groups.

Results: Non-clinical coders demonstrated moderate concordance with surgeon-derived coding, achieving identical tariff codes in 60% of cases. In 30% of cases, coder-derived tariffs were higher, while 10% were lower. On average, coder-generated tariffs exceeded surgeon-

derived tariffs by £114.70 per case. These findings highlight significant variability in coding accuracy, with implications for both financial reimbursement and the reliability of real-world clinical data. The observed discrepancies underscore the limitations of current manual coding workflows and the potential role of digital and AI-assisted solutions in improving standardisation.

Conclusions: This study highlights a critical gap between clinical practice and administrative coding processes within orthopaedics. Variability in coding not only impacts financial outcomes but also compromises the quality of healthcare data used for research, audit, and service planning. Integration of clinician-led coding validation, alongside emerging technologies such as automated and AI-assisted coding systems, may offer a pathway to improve accuracy, reduce variability, and enhance the efficiency of healthcare systems. This represents an important step towards data-driven, digitally integrated orthopaedic practice.

Biography

Mr Amar Sidhu MBBS MRCS is a Core Surgical Trainee (CT2) in Trauma and Orthopaedics in the East Midlands of England. Sidhu graduated from St George's, University of London in 2021, where Sidhu developed a strong interest in pursuing a career in orthopaedic surgery. Since then, Sidhu has actively engaged in academic work within the field, including publications and multiple national oral presentations at leading conferences. Sidhu's current interests include emerging technologies in orthopaedics and lower limb arthroplasty.



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Hands-on to heal: A scoping review of the effectiveness of workshops in orthopaedic surgical training

Background: Traditional surgical training models have been challenged by reduced operative exposure due to working time restrictions, ethical considerations, and increasing service demands. As a result, simulation-based education and hands-on workshops have emerged as essential tools in orthopaedic training. This scoping review evaluates the effectiveness of hands-on workshops in trauma and orthopaedic education and explores opportunities for future innovation in surgical training.

Methods: A scoping review was conducted in accordance with PRISMA-ScR guidelines using PubMed, Embase, Cochrane Library, and Google Scholar. Studies published between 2015 and 2025 were included if they assessed hands-on workshop-based training in orthopaedics among medical students or surgical trainees. Outcomes relating to technical skills, decision-making, and trainee confidence were analysed, alongside reported limitations and future applications.

Results: Forty-five studies met inclusion criteria, with 42 (93%) demonstrating significant improvements in trainee performance following participation in hands-on workshops compared to traditional learning methods. A wide range of simulation modalities were utilised, including synthetic models, cadaveric specimens, and virtual reality platforms. Consistent

improvements were observed in technical proficiency, operative efficiency, and decision-making, with evidence of improved procedural accuracy and reduced error rates. Importantly, these benefits were transferable to higher-fidelity and cadaveric settings, supporting real-world applicability. However, significant barriers were identified, including high costs, limited accessibility, and a predominant focus on technical skills, with limited incorporation of non-technical competencies such as communication, teamwork, and situational awareness.

Conclusions: Hands-on workshops are a highly effective and increasingly essential component of orthopaedic surgical training, significantly enhancing technical skill acquisition and trainee confidence. However, current models remain limited by accessibility and a narrow focus on technical proficiency. Future innovation should prioritise scalable, cost-effective solutions and the integration of human factors training. Advances in virtual reality and artificial intelligence present a unique opportunity to create immersive, adaptive, and comprehensive training environments. Expanding simulation-based education in this way will be key to shaping the next generation of orthopaedic surgeons and improving global training equity.

Biography

Mr Amar Sidhu MBBS MRCS is a Core Surgical Trainee (CT2) in Trauma and Orthopaedics in the East Midlands of England. Sidhu graduated from St George's, University of London in 2021, where Sidhu developed a strong interest in pursuing a career in orthopaedic surgery. Since then, Sidhu has actively engaged in academic work within the field, including publications and multiple national oral presentations at leading conferences. Sidhu's current interests include emerging technologies in orthopaedics and lower limb arthroplasty.



Amr Mohamed Foad Mohamed

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Total Knee Replacement (TKR): Audit of readmissions within 30 days

Background: Total Knee Replacement (TKR) is a very successful operation but like all surgery carries risks. Complications can arise immediately or shortly after surgery. Patients can be readmitted back to hospital for a number of reasons, but not all necessarily linked to post-operative complications. We wanted to quantify the risk of readmission within 30 days of surgery and analyse the reasons.

Aim: To identify causes of readmission after TKR & their frequency, within 30 days of surgery.

Methodology: Data spanning 2 years (Apr 2018- Apr 2020) were analysed. Patients' details were retrieved for those with at least one readmission within 30 days of TKR. The following data was retrieved:

- Time to readmission
- Reason, duration and outcome of readmission
- Specialty of readmission
- Patient demographics (including ASA grade)

Results: Over the 2 year period analysed, 1259 patients underwent TKR; 81 of these (6.4%) were readmitted within 30 days.

40 % of readmitted patients stayed for less than a day while 3% stayed for 17 days. 90***% were admitted for less than 10 days.

41% were admitted under the medical team, 27% under A&E, 26% under orthopaedics, 5% under urology, and 1% under care of the elderly.

Only 15 % of readmissions could be directly linked to TKR.

The main reasons for readmission were: pulmonary emboli (2 patients), DVT (1 patient), wound cellulitis (2), chest infection (**), urinary retention (**), urinary tract infection (***), and 2 haematuria

Conclusion: Most readmissions occurred within the first ten days post-operative, yet most could not be directly linked to the surgery in question. However it is likely that surgery was a contributing factor.

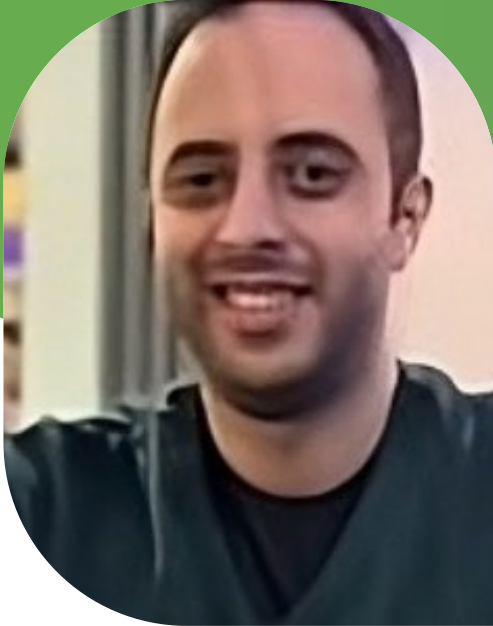
There were a broad range of reasons for readmission including chest, urinary, and wound infection.

Though 28 admissions were for suspected DVT/PE, only 3 thrombotic events were confirmed.

Further research should be aimed at identifying effective ways of reducing post-operative complications, including investigating the role of routine chest physiotherapy, urinary catheterization, and regular wound surveillance.

Biography

Amr Mohamed Foad Mohamed is a Trauma & Orthopaedics Registrar at Watford General Hospital with a strong academic and clinical background. Mohamed completed Core Surgical Training with a focus on T&O in the East Midlands Deanery and has demonstrated proficiency in managing acute trauma cases and performing complex procedures, including neck of femur and ankle fracture surgeries. Mohamed holds a PGCert in Medical Education from Cardiff University and is actively involved in undergraduate and postgraduate teaching with Imperial College London and the University of Leicester. Mohamed is the first author of a systematic review on buprenorphine for postoperative pain and a co-author in multiple orthopaedic publications. Mohamed's audit and quality improvement projects have been presented nationally and internationally, and Mohamed has a long-term interest in hip and knee arthroplasty, robotic surgery, and medical education, aiming to contribute to global orthopaedic outreach work in the future.



Amr Mohamed Foad Mohamed

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Potential referral pathway for suspected Cauda Equina Syndrome (CES)

Background: Cauda Equina Syndrome (CES) is a rare but time-critical spinal emergency requiring rapid diagnosis and intervention to prevent irreversible neurological deficits. Delays in imaging and referral remain a significant challenge in many healthcare systems.

Aim: To present and evaluate a structured referral pathway for suspected CES, designed to streamline patient triage, expedite MRI access, and ensure timely orthopaedic involvement.

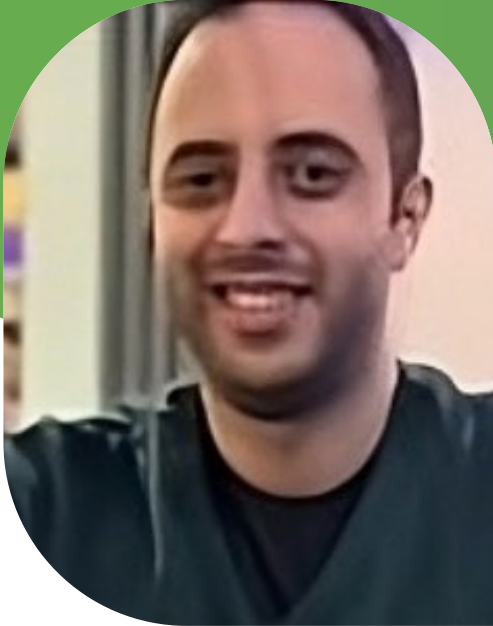
Methods: This pathway targets patients presenting with symptoms of less than two weeks' duration, or those with progressive neurological deficits including motor weakness, bladder, bowel, or sexual dysfunction. Patients meeting criteria are directed to the Emergency Department (ED), where a standardized flowchart determines eligibility for urgent MRI. Imaging requests are clearly labelled CES to prioritise radiological assessment. Patients are transferred to the Emergency Assessment Unit (EAU) while awaiting MRI and subsequently referred to orthopaedics. Out-of-hours protocols ensure direct orthopaedic admission if CES is suspected. Radiology services provide emergency MRI within defined hours, with escalation to on-call services outside these times. A standardized MRI protocol includes sagittal and axial sequences of the entire spine with appropriate overlap between regions to avoid missed pathology.

Results: Implementation of this pathway is expected to reduce delays in diagnosis, improve coordination between ED, radiology, and orthopaedics, and enhance patient safety through early identification of CES.

Conclusion: A clearly defined, multidisciplinary referral pathway is essential for the effective management of suspected CES. Standardisation of imaging protocols and escalation processes ensures timely diagnosis and intervention, ultimately improving neurological outcomes and reducing medico-legal risk.

Biography

Amr Mohamed Foad Mohamed is a Trauma & Orthopaedics Registrar at Watford General Hospital with a strong academic and clinical background. He completed Core Surgical Training with a focus on T&O in the East Midlands Deanery and has demonstrated proficiency in managing acute trauma cases and performing complex procedures, including neck of femur and ankle fracture surgeries. He holds a PGCert in Medical Education from Cardiff University and is actively involved in undergraduate and postgraduate teaching with Imperial College London and the University of Leicester. Dr Basha is the first author of a systematic review on buprenorphine for postoperative pain and a co-author in multiple orthopaedic publications. His audit and quality improvement projects have been presented nationally and internationally. He has a long-term interest in hip and knee arthroplasty, robotic surgery, and medical education, aiming to contribute to global orthopaedic outreach work in the future.



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Second loop of the Neck of Femur (NOF) operation notes audit

Background: Neck of Femur (NOF) fractures are common injuries associated with significant morbidity and mortality, requiring timely surgical management and high-quality perioperative documentation. Accurate operative notes are essential for ensuring continuity of care, guiding postoperative management, and reducing medico-legal risk. Previous local audit data demonstrated poor compliance with documentation standards set by the Royal College of Surgeons of England, with 0% of operation notes meeting full compliance prior to intervention.

Aim: To evaluate and compare compliance with national operative note documentation standards between the first and second audit cycles following the introduction of a standardized NOF operation note template, and to assess differences between template and non-template use.

Methods: A retrospective audit was conducted at Kettering General Hospital including all surgically managed NOF fracture patients over a two-week period between April and May 2023. Procedures included hip arthroplasty, dynamic hip screw fixation, and intramedullary nailing. Data were collected from electronic patient records (Bluespider and Mediviewer). Operative notes were assessed against RCS England guidelines, with subgroup analysis comparing cases where a standardized NOF template was used versus freehand documentation.

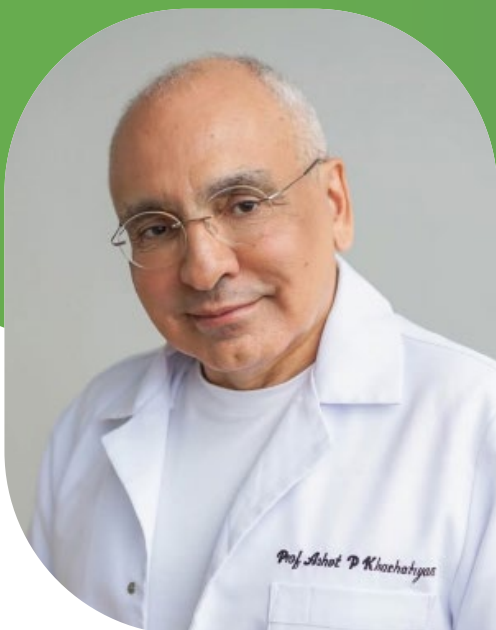
Results: Seventeen patients were identified in the second audit cycle. All operation notes (100%) were typed, demonstrating improvement in legibility and accessibility. The NOF template was used in 53% (n=9) of cases. Overall compliance with RCS guidelines significantly improved compared to the initial audit, achieving 100% adherence in key domains including

postoperative instructions and follow-up planning. However, certain elements, such as documentation of suture removal, remained inconsistently recorded.

Conclusion: Introduction of a standardized NOF operative note template significantly improved compliance with national documentation standards and enhanced communication between surgical and ward teams. Wider adoption of the template is recommended to ensure consistency and further improve patient safety. Re-audit is planned to assess sustainability.

Biography

Amr Mohamed Foad Mohamed is a Trauma & Orthopaedics Registrar at Watford General Hospital with a strong academic and clinical background. He completed Core Surgical Training with a focus on T&O in the East Midlands Deanery and has demonstrated proficiency in managing acute trauma cases and performing complex procedures, including neck of femur and ankle fracture surgeries. He holds a PGCert in Medical Education from Cardiff University and is actively involved in undergraduate and postgraduate teaching with Imperial College London and the University of Leicester. Dr Basha is the first author of a systematic review on buprenorphine for postoperative pain and a co-author in multiple orthopaedic publications. His audit and quality improvement projects have been presented nationally and internationally. He has a long-term interest in hip and knee arthroplasty, robotic surgery, and medical education, aiming to contribute to global orthopaedic outreach work in the future.



Ashot Khachatryan

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Hydrogen medicine: An innovative modality for enhancing recovery and functional outcomes in physical medicine and rehabilitation

Modern physical medicine and rehabilitation (PM&R) seeks effective strategies to accelerate tissue repair, manage pain and fatigue, and restore optimal function. Hydrogen medicine, founded on the application of active hydrogen, offers a novel, scientifically-grounded approach to address these core challenges.

As a selective antioxidant, active hydrogen's minimal molecular size grants it unique bioavailability, enabling it to penetrate cellular membranes, muscle tissue, and the blood-brain barrier. It effectively neutralizes cytotoxic Reactive Oxygen Species (ROS) – key drivers of exercise-induced oxidative stress, inflammation, and Delayed-Onset Muscle Soreness (DOMS) – while preserving vital signaling molecules. This action reduces oxidative damage at the site of injury or strain, modulates inflammatory pathways, and supports mitochondrial function for improved cellular energy (ATP) production. Our experimental studies confirm that hydrogen-enriched solutions exhibit high antioxidant activity, significantly suppressing biomarkers of oxidative stress such as Lipid Peroxidation (LPO).

Since establishing the world's first hydrogen medicine clinic in 1993, our clinical experience with over 70,000 patients demonstrates the therapeutic potential of this modality. A comprehensive protocol for hydrogen therapy has been developed and refined over decades. To translate this clinical success into daily life, we pioneered and patented the world's first household hydrogen generators (2009, 2015) and subsequently the first dietary supplement for hydrogenating food and beverages (2018). This allows for continuous antioxidant and anti-inflammatory support, which is crucial for managing chronic fatigue and supporting long-term recovery phases.

Therefore, integrating hydrogen-based interventions – both in-clinic therapy and through at-home nutritional strategies – into PM&R frameworks represents a logical step to enhance recovery trajectories. By targeting the fundamental mechanisms of oxidative stress and energy metabolism, hydrogen medicine provides a safe, non-invasive adjunct therapy. Its application is aimed at improving functional outcomes, accelerating return to activity, and elevating the quality of life for patients undergoing rehabilitation.

Biography

Ashot Khachatryan, MD, PhD, Professor, is an Active Member of the European Academy of Natural Sciences and the New York Academy of Sciences. A pioneer in hydrogen medicine, Khachatryan founded the world's first hydrogen medicine clinic in 1993. With over 30 years of clinical experience, Khachatryan has developed a unique integrative protocol combining hydrogen therapy (inhalations, infusions, bath and other) with hydrogen-enriched nutrition to address chronic conditions and enhance recovery. Khachatryan's innovations include internationally patented the world's first household hydrogen generators and the world's first dietary supplement for hydrogenating food products. Khachatryan is the author of over 60 patents, 10 monographs, and a recipient of numerous international awards.



**Benjamin White*, Lewis Turmeau,
James Redfern, Pranshu Agrawal,
Tom Luscombe**

Wirral University Teaching Hospitals NHS, United Kingdom

Evaluating the Cambridge Knee Injury Tool (CamKIT) for triage of soft tissue knee injury referrals to fracture clinic

Background: Soft Tissue Knee Injury (STKI) referrals generate substantial fracture clinic workload, though many can be safely managed conservatively or via physio led services at a lower cost. Referrals from the Emergency Department (ED) and community are often made without structured triage. Early stratification of knee injury severity is essential for guiding appropriate investigation and management. This study aimed to retrospectively evaluate how the Cambridge Knee Injury Tool (CamKIT) performs in stratifying referrals to fracture clinic at a DGH.

Methods: Single-center retrospective observational study of 100 randomly selected patients referred to fracture clinic with suspected STKI between January 2025 and February 2026. Demographics, history, mechanisms and examination findings at index presentation (ED, WIC or GP) were extracted from Cerner electronic medical records and CamKIT scores retrospectively calculated. Patients continued through the established referral pathway determined by the treating team; CamKIT scores did not influence clinical decisions. Patient outcomes were collected from clinic letters. Statistical analysis included sensitivity, specificity, PPV, NPV, descriptive statistics and Mann-Whitney U comparison between injured and non-injured cohorts using R(TM).

Results: 100 referrals were assessed; 20 were excluded due to lack of data or follow-up. 25 patients (29%) had confirmed STKI. CamKIT scores were significantly higher in injured (median 5; IQR: 4–6) than non-injured patients (median 2; IQR: 1–4) ($p=0.0001$). STKI rates rose with risk band: low 11% (5/47), moderate 48% (14/29), high 67% (6/9). Surgical consideration was given to 4% of low, 10% moderate and 44% of high risk groups. Sensitivity was 80%, specificity 70%, NPV 89% and PPV 53% overall.

Conclusion: CamKIT scores were significantly higher in patients with confirmed STKI. These findings support further evaluation of CamKIT as an ED-based triage tool to direct lower-risk knee injuries to physiotherapy or primary care, while reserving fracture clinic capacity for higher-risk referrals.

Biography

Dr Benjamin White MBChB PgDip (ClinEd) is an Orthopaedic Core Trainee (CT1) currently working in Royal Stoke hospital, a major trauma centre. White has recently completed foundation training at Arrowe Park Hospital, Wirral where White has rotated through the orthopaedic department and lead a variety of audits and projects including partaking in regular teaching of peers. Working towards completion of MRCS exams over the next two years White looks forward to building White's portfolio with a view to join the ST3 rotation in the future.



**Benjamin White*, Lewis Turmeau,
James Redfern, Pranshu Agrawal,
Tom Luscombe**

Wirral University Teaching Hospitals NHS, United Kingdom

Improving documentation and communication of bone health plans following Neck of Femur (NOF) fracture: A closed-loop audit at a UK district general hospital

Background: Patients with Neck of Femur (NOF) fractures are at high risk of subsequent fragility fractures. Timely initiation of secondary fracture prevention is recommended by the National Osteoporosis Guideline Group (NOGG). At our centre, orthogeriatricians formulate inpatient bone health plans which the orthopaedic team action and communicate to GPs via discharge letter. These plans are often omitted, risking discontinuity of secondary fracture prevention and risk further fractures.

Aims: To assess accuracy of documentation and implementation of orthogeriatric bone health plans in discharge letters in patients following NOF fracture, and evaluate impact of a departmental educational intervention.

Methods: A two-cycle, closed-loop audit was conducted at Arrowe Park Hospital. Discharge letters of NOF fracture admissions were reviewed against locally agreed standards derived from NOGG guidance. After Cycle 1, an educational intervention was delivered to orthopaedic teams comprising a NOGG-aligned bone health toolkit encouraging transfer of the orthogeriatric plan to the discharge letter; re-audit followed. Patients deceased prior to discharge or non-operative management were excluded.

Results: Cycle 1 included 121 patients (mean age 81.5); Cycle 2 included 83 patients (mean age 81.4 years). An orthogeriatric bone health plan was documented in 88.4% of cases in Cycle 1 and 96.4% in Cycle 2. Accurate transfer of this plan to discharge letter improved from 30.6% to 59.0% ($\chi^2=15.2$, $p<0.001$). Appropriate measurement and replacement of calcium and vitamin-D remained high across both cycles (84.3% vs 78.3%). DEXA referral gaps fell (13% to 7%) and antiresorptive treatment prescribing improved (23% to 29%).

Conclusions: Our simple, educational toolkit and structured bone health discharge proforma doubled documentation of bone health plans to GPs at discharge. It also showed an improvement in DEXA referral gaps and antiresorptive prescribing. Embedding structured prompts within ward-level processes can meaningfully strengthen secondary fracture prevention pathways but highlights the ongoing challenges of secondary fracture prevention.

Biography

Dr Benjamin White MBChB PgDip (ClinEd) is an Orthopaedic Core Trainee (CT1) currently working in Royal Stoke hospital, a major trauma centre. White has recently completed foundation training at Arrowe Park Hospital, Wirral where White has rotated through the orthopaedic department and lead a variety of audits and projects including partaking in regular teaching of peers. Working towards completion of MRCS exams over the next two years White looks forward to building White's portfolio with a view to join the ST3 rotation in the future.



**Bhavit Dhokia^{1*}, Elspeth Olivia Mabin¹, Warren Jeremy Bradley²,
Bradley Stephen Neal^{1,3}**

¹Sports and Exercise Medicine, William Harvey Research Institute, Queen Mary University of London, London, UK

²Hydro Ltd., West Byfleet, Surrey, UK

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Is garment-integrated blood flow restriction training feasible and safe? A study in healthy adults

Background: Blood Flow Restriction training (BFR) has been demonstrated to increase muscle hypertrophy and strength, but has logistical and cost barriers. Garment-integrated BFR has the potential to reduce these barriers by lowering equipment demands and cost. The primary aim of the study was to explore the feasibility of garment-integrated BFR in the upper limb of healthy adults, with a secondary aim of exploring safety and efficacy.

Methods: Physically active and otherwise healthy participants with no previous experience of BFR were recruited. Eligible participants completed a five-week garment-integrated BFR programme, comprising two sessions per week. Feasibility was determined against a priori defined thresholds for recruitment, adherence, and data collection. Safety was assessed by recording adverse events and monitoring total arterial occlusion pressure via fingertip pulse oximetry. Efficacy was explored by measuring push-ups to volitional failure, arm girth, and number of prescribed repetitions completed.

Results: Twenty-eight participants (15 men, 13 women; mean age 31.6 years [SD 9.1]) were recruited within three months, and 27 completed the study. Adherence was 99.3% (278/280 sessions; 95% CI 97.4–99.9%). Adverse events were minimal: one case of localised bruising (0.36%) and three instances of exercise-related pain in two participants (1.07%). Push-ups to volitional failure increased by 40% (mean change 8.0, 95% CI 6.0–10.0, Cohen's $d=1.40$), while arm girth showed negligible change. Total repetitions completed also increased over the programme.

Conclusion: Garment-integrated BFR is feasible, well-adhered to, and shows no signal of important harm in the upper limb of healthy adults, with early evidence of efficacy for muscular endurance. This low-cost, equipment-light approach may broaden access to BFR training in clinical and community settings; further controlled trials are warranted to confirm efficacy.

Biography

Bhavith Dhokia is a Core Surgical Trainee in Trauma and Orthopaedic Surgery in England. Dhokia trained at Barts and The London School of Medicine and Dentistry, completing an intercalated BSc in Sports and Exercise Medicine at Queen Mary University of London. Dhokia's research interests centre on exercise-based rehabilitation, including the feasibility and safety of garment-integrated blood flow restriction training, the subject of Dhokia's recent publication in Pilot and Feasibility Studies. Alongside clinical training, Dhokia is undertaking a postgraduate certificate in medical education and regularly contributes to orthopaedic teaching for junior doctors, reflecting Dhokia's combined interest in surgical practice and education.



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Day-case shoulder arthroplasty: Potential for improved efficiency and cost reduction in an NHS elective cohort

Introduction: The demand for shoulder arthroplasty has tripled over the last decade and is continuing to grow at a rate greater than that of hip or knee. Innovative and resource efficient strategies are needed to meet this growing demand and although Enhanced Recovery and same-day discharge arthroplasty pathways have been successfully implemented across the world, Day-Case Shoulder Arthroplasty (DCSA) has remained difficult to achieve at the same rate in the United Kingdom.

Methods: We conducted a retrospective evaluation of elective shoulder arthroplasties done in our centre between January 2024 and April 2025 to gather information on Length of Stay (LOS), complications and potential for improvement in contemporary elective shoulder arthroplasty NHS cohorts. We analysed patient characteristics, LOS, complications and factors contributing to delayed discharge, and compared our current performance with established DCSA pathways to identify opportunities for improvement and potential cost savings associated with implementing a DCSA pathway at our centre.

Results: A total of 54 patients were evaluated. Mean age was 72.9 years. Most patients were ASA II (n=36, 66.7%). Mean LOS was 2.7 days. 50% were discharged after a one-day stay, 20.4% stayed 2 days as inpatients and 29.6% required stays of 3 days or more. Adherence to existing DCSA pathways would have allowed for same-day discharge of 35.1% of patients. Analysis of these patients showed that the main factor contributing to their stay in hospital (1.52 day avg. LOS) was timing of investigations and assessments and not medical necessity. In patients not fit for DCSA, the completion of post-op investigations and assessments, was still the main factor prolonging their inpatient stay beyond 1 day. Other factors leading to increased LOS were minor complications such as pain, anaemia, hyponatraemia, hypotension or social factors. Readmissions were rare (n=1, 1.4%).

Conclusion: Elective shoulder arthroplasty can be safely delivered with short LOS or same-day discharge. Enhanced preoperative assessment, early physiotherapy and imaging, and streamlined discharge planning have the potential to significantly improve efficiency, bed utilization and reduce costs to the NHS.

Biography

Carlos Argerich is a Core Surgical Trainee in Mersey and West Lancashire NHS FT, currently progressing through training and a career in Trauma and Orthopaedics. Argerich has a keen interest in quality improvement and research.



Carlos Argerich^{1*}, Ahmet Khandaker², Aravind Padmanaban², Furkan Ankar², Ahmet Alsonbaty², Nandhakumaran Palanivelu², Pranav Ponvannan², Ameer Patel², Rudra Prabhu², Aaisha Shahbaz², Rahul Ragate², May Labidi²

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Functional outcomes following syndesmotic fixation: Comparison of tightropes, screws and break-away screws in syndesmotic repairs

Introduction: Malleolar ankle fractures are often associated with tibiofibular syndesmotic injury. Accurate reduction and stable fixation of the syndesmosis are critical to maximize patient outcomes, but with different techniques and tools available, there is currently no consensus on how to optimally fix the syndesmosis. We have reviewed the functional outcomes associated with different management options.

Methods: We conducted a retrospective evaluation of ankle fractures managed operatively in our centre during the year 2023. We gathered information on injury characteristics, incidence of syndesmotic injury, method of repair, mobilisation, complications and outcomes. We evaluated patient characteristics, reported pain, activity limitation, ankle motion and stability, and compared outcomes across the three management options available in our centre, syndesmotic screws, TightRopes and Titanium Breakaway screws.

Results: A total of 152 patients were evaluated, with 63 of them undergoing syndesmotic repair. The most commonly syndesmotic repair technique was syndesmotic screws (n=36, 57.1%), least commonly used technique was the more recently popularised breakaway screws (n=6, 9.5%). Evaluation of outcomes showed that among the syndesmotic screw group, 30.5% (n=11) patients had no complaints of pain, activity limitation, ankle motion or stability, compared to 40% (n=8) in the tightrope group or 66.7% (n=4) in the breakaway screw group. 52.7% (n=19) complained of mild symptoms across one or more of the parameters in the syndesmotic screw group, 55% (n=11) in the TightRope group and 33.3% (n=2) in the breakaway screw group. 22.2% (n=8) complained of moderate to severe symptoms across one or more parameters

in the syndesmotic screw group, 16.6% (n=6) needing reoperation for removal of metalwork due to failure or discomfort, compared to 10% (n=2) in the syndesmotic repair group, where one patient complained of severe pain due to a raised button, needing reoperation, and one patient complained of severe restriction of ankle motion. There were no reported complaints of moderate or severe symptoms in the breakaway screw patients.

Conclusion: In this retrospective cohort, syndesmotic screws were the most commonly utilised repair method. Functional outcomes varied across techniques, with a higher proportion of patients reporting no symptoms in the TightRope and breakaway screw groups compared to traditional syndesmotic screws. Notably, breakaway screws demonstrated the most favourable profile in this series, with the greatest proportion of asymptomatic patients and no reported moderate or severe symptoms; however, their use was limited by small patient numbers. Reoperation for metalwork-related complications was most frequent in the syndesmotic screw group and least frequent in the TightRope cohort. These findings suggest that dynamic fixation methods and newer implant designs may offer improved patient-reported outcomes and reduced need for secondary procedures. Overall, while breakaway screws show promising early results, the small sample size limits definitive conclusions. Larger, prospective studies are required to validate these findings and guide consensus on optimal syndesmotic fixation strategy.

Biography

Carlos Argerich is a Core Surgical Trainee in Mersey and West Lancashire NHS FT, currently progressing through training and a career in Trauma and Orthopaedics. Argerich has a keen interest in quality improvement and research.



Chandler Durbidge*, James Jeffery

The Queen Elizabeth Hospital King's Lynn NHS Foundation
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MRI before X-ray? The limited impact of pre-referral MRI-detected meniscal pathology on orthopaedic management

Introduction: Many patients with knee pain are referred to orthopaedic clinic after pre-referral MRI demonstrates meniscal pathology. In older patients, MRI frequently identifies degenerative or incidental meniscal abnormalities which may not be the primary driver of symptoms. This can create expectation of arthroscopy despite management often being determined by clinical assessment and radiographic osteoarthritis.

Aim: To evaluate whether pre-referral MRI-detected meniscal pathology alters subsequent orthopaedic management, and to assess the proportion of patients ultimately managed conservatively, via arthroscopy pathway, or via arthroplasty pathway.

Limitations of MRI

- Non-weight-bearing imaging
- Relatively expensive compared with plain radiographs
- Frequently demonstrates incidental degenerative findings
- Can delay pathway progression while awaiting imaging/reporting
- May create unrealistic expectations of arthroscopy
- Is often not the deciding factor for operative management

Standards / Clinical Context

Weight-bearing knee radiographs should usually precede MRI in older patients with chronic atraumatic knee pain

MRI should be used selectively, for example in true mechanical locking, acute trauma, suspected ligament injury, or diagnostic uncertainty
Clinical assessment and plain radiographs often guide management more than MRI-reported degenerative meniscal change

Methods: Retrospective audit of 100 consecutive clinic patients referred following pre-referral MRI knee imaging. Data collected included age, MRI findings, presence or absence of previous/recent radiographs, and final clinic outcome. Patients were categorised into conservative/non-operative pathway, arthroscopy pathway, or arthroplasty pathway.

Results:

- Conservative / non-operative / discharged: 82%
- Arthroscopy pathway: 8%
- Arthroplasty pathway (TKR / UKR): 7%
- Missing / unclear outcome: 3%
- 79/100 patients had MRI-reported meniscal pathology
- 37 patients were aged >60 with MRI-reported meniscal pathology
- In patients aged >60 with MRI-reported meniscal pathology and significant radiographic osteoarthritis (n = 11), 0 patients proceeded to arthroscopy
- 22% of patients had undergone MRI without previous or recent X-ray imaging recorded
- MRI changed management in only 9% overall, and in 0/11 of the key older OA subgroup

Discussion and Conclusion: This audit demonstrates that pre-referral MRI-detected meniscal pathology rarely leads to arthroscopic intervention. The majority of patients were managed conservatively or discharged, and a smaller proportion were directed towards arthroplasty pathways. In older patients with significant radiographic osteoarthritis, MRI did not alter management and no patients proceeded to arthroscopy. These findings suggest that MRI frequently identifies incidental or degenerative meniscal abnormalities without changing treatment decisions.

In patients aged over 60 with MRI-reported meniscal pathology and significant radiographic OA, no patients proceeded to arthroscopy and MRI did not alter management.

Recommendations: Encourage weight-bearing radiographs before MRI in older patients with chronic atraumatic knee pain

Improve referral pathway education for GPs and referrers

Reserve MRI for selected indications rather than routine use in degenerative knee pain

Consider re-audit following pathway intervention

Estimated Cost Context: Knee MRI approximately £130 vs knee radiographs approximately £50–£60 (costs vary by provider and local tariff).

Biography

Chandler Durbidge is from the The Queen Elizabeth Hospital King's Lynn NHS Foundation Trust, United Kingdom



Chelsea Elizabeth Batty

Wrexham University, UK

Exercise rehabilitation in Plasma Cell Leukaemia (PCL): A case study in oncology care

Plasma Cell Leukaemia (PLC) is an aggressive haematological malignancy defined as the presence of 5% or more circulating plasma cells. Prognosis is unfavourable with a median survival rate after treatment being 18 months. However, due to its rarity (1 in 1 million individuals diagnosed per year in the UK) and emerging novel treatments, some may survive longer. Treatment nonetheless can be aggressive and can have debilitating side effects including fatigue, compromised immunity, weight loss/gain, poor appetite and peripheral neuropathy. Cancer Exercise Rehabilitation (CER) is an emerging field with exercise benefits noted to improve physical fitness, functioning, treatment related fatigue and Quality of Life (QOL). Despite its benefits, CER is not part of standard care within the National Health Service (NHS) but is typically funded by cancer charities and often has strict eligibility criteria. Therefore, the aim of this study was to evaluate the impact of an eight-week structured CER programme on various psychological and physiological parameters on an individual with PLC. Following ethical approval, a 50-year-old caucasian female diagnosed with PLC and Multiple Myeloma (MM) in 2024 was recruited following written informed consent. The patient completed an 8-week supervised CER programme of 3x weekly aerobic and resistance exercise. At baseline, week 4 and following completion of the programme, various psychological and physiological parameters were measured. Whole-body muscle mass increased from baseline to week 4 by ~7% with a slight reduction observed following the intervention by ~0.8%. Whole-body fat mass decreased from baseline to week 4 by ~5% with a modest regain of ~4% following the intervention. Incremental shuttle walk test (ISWT) performance was improved by 100m at week 4 but the improvement was not sustained following the intervention. General anxiety levels showed small fluctuations over the intervention whereas depression levels initially worsened but improved to a clinically meaningful degree by the end of the intervention.

Fatigue levels were slightly elevated at week 4 but reduced below baseline levels by the end of the intervention. In conclusion, the CER programme produced early improvements in whole-body muscle, fat mass and functional capacity but these were not fully sustained by the end. Psychological outcomes improved following completion of the CER programme with the exception of anxiety which remained stable and low across the CER programme.

Biography

Dr Batty is the Principal Lead for the Sport and Exercise Science Department at Wrexham University, bringing extensive expertise in applied research and professional practice across clinical and performance settings. A CASES-accredited Sport and Exercise Scientist, Dr Batty demonstrates a strong commitment to advancing evidence-based practice. Batty's research has primarily focused on the application of exercise science in health contexts, with particular emphasis on cardiac rehabilitation and exercise fidelity. More recently, Batty's research interests have expanded into the field of cancer exercise rehabilitation. Batty is particularly interested in the role of tailored exercise interventions in supporting individuals living with rare cancers.



Chanelle Olivier

Enable Lifecare, Australia

Beyond the mattress: Improving real-life outcomes through smarter support surface selection

Pressure injuries can have a profound impact on a person's life, affecting comfort, sleep, independence, participation, dignity and overall quality of life. They are also associated with prolonged hospital admissions, significant healthcare costs and increased demands on health services. While support surfaces are an essential component of prevention and management, improving outcomes requires far more than selecting a mattress based on pressure injury risk or stage alone.

This presentation explores how evidence-informed, person-centred support surface selection can improve real-life outcomes through structured clinical reasoning. Through real-world case studies and live demonstrations of high-specification foam, hybrid and alternating pressure support surfaces, attendees will explore the clinical benefits of key design features and learn how these influence support surface selection based on an individual's pressure injury risk, mobility, functional goals, transfer methods, repositioning needs, care environment and available supports. Practical demonstrations will illustrate how support surface design, pressure redistribution and bed positioning work together to support clinical decision-making.

Rather than focusing on equipment features alone, the session will demonstrate a practical framework for selecting and evaluating support surfaces that balances pressure redistribution with functional outcomes, occupational performance and quality of life. Interactive quizzes will encourage audience participation throughout the session, while attendees will also be guided through an innovative digital clinical reasoning tool that supports a structured approach to support surface assessment and prescription. The demonstration will show how clinicians can systematically consider person, environment and occupational factors when navigating an increasingly complex support surface landscape.

Attendees will leave with practical strategies to strengthen their clinical reasoning, confidently compare support surface technologies and apply evidence in everyday practice. Ultimately, the session aims to demonstrate how an individualised, person-centred approach to support surface selection can improve the real-life outcomes that matter most to people through greater comfort, function, participation and quality of life.

Biography

Chanelle Olivier is an Occupational Therapist and Clinical Educator at Enable Lifecare, specialising in assistive technology assessment and prescription, with a particular interest in pressure care and support surface selection. Olivier has worked across public hospital and community settings in South Africa and Australia, supporting people with complex rehabilitation and disability needs, delivers evidence-based education through webinars, workshops and conferences and contributes to the development of clinical resources and digital clinical reasoning tools. Olivier is passionate about improving pressure injury prevention through practical education, innovation and person-centred care.



Efficacy of ultrasound-guided steroid injections in the management of Morton's neuroma: A retrospective cohort study

Background: Morton's neuroma is a common painful neuropathy of the forefoot, characterised by fibrotic thickening of the plantar digital nerves. Patients typically present with forefoot pain, burning, tingling or numbness, most commonly affecting the third webspace. The exact aetiology remains unclear, although chronic repetitive microtrauma is the most widely accepted theory. Ultrasound-guided (US) corticosteroid injections are used for symptom relief; however, their efficacy and factors influencing treatment response remain uncertain.

Methods: This retrospective cohort study evaluated the efficacy of US-guided corticosteroid injections for pain associated with Morton's neuroma and investigated whether neuroma size influenced pain severity or treatment response. Data were obtained from SPECTRA IDS7 and included age, sex, smoking status, neuroma size, and pre- and post-injection Visual Analogue Scale (VAS) pain scores. Statistical analyses included analysis of variance (ANOVA), Spearman's rank correlation coefficient and the Wilcoxon signed-rank test. Statistical significance was defined as $p < 0.05$.

Results: Twenty eligible patients were included. Seventeen patients (85%) reported a reduction in pain following US-guided corticosteroid injection. The median duration of pain relief was 17 months (IQR 18 months; Q1=6, Q3=24). Mean VAS pain scores decreased significantly from 7.7 before injection to 2.2 after injection ($p=0.006$). Neuroma size at the time of ultrasound assessment was not significantly associated with baseline pain severity or reduction in pain score following injection ($p=0.767$). Female patients demonstrated a greater reduction in VAS pain scores than male patients; however, this difference was not statistically significant ($p=0.33$). Six patients (30%) subsequently underwent surgical intervention.

Conclusions: US-guided corticosteroid injections were associated with significant pain reduction in the majority of patients with Morton's neuroma, with variable duration of symptomatic relief. Neuroma size did not appear to influence treatment response. No complications were observed in this cohort. Larger prospective studies are required to further investigate predictors of treatment response, including the potential influence of sex and neuroma size, and to identify patients who may benefit from earlier surgical intervention.

Biography

Chi Hoi Lee is currently a Trauma fellow at Royal Cornwall Hospital NHS Trust, having recently completed an orthopaedic themed Core Surgical Training in the North West of England. Lee is passionate about medical teaching and leadership and was part of the Royal College of Surgeons of Edinburgh's Core Trainee Forum.



Chi Hoi Lee*, Brier Jones, Abdullah Bin Sahl

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Improving documentation in hip fracture clerking: A quality improvement project

Background & Aims: Neck of Femur (NOF) fracture patients require prompt assessment on admission to enable safe, timely transfer to theatre, in line with NICE guidance and the Best Practice Tariff standard of surgery within 36 hours. NICE recommends early identification of correctable comorbidities, such as anaemia, electrolyte imbalance, arrhythmia and chest infection, to avoid surgical delay. Incomplete clerking and delayed interpretation of bloods, ECG and chest X-ray can lead to missed comorbidities, prolonged pain, delayed theatre access and increased mortality. At Wythenshawe Hospital, use of an existing tick-box clerking proforma by orthopaedic SHOs raised concerns about incomplete documentation. This quality improvement project aimed to improve completeness of NOF admission documentation using a standardised proforma, support multidisciplinary input from orthogeriatrics and physiotherapy, and reduce delay to theatre.

Methods: A baseline retrospective review of 44 patients admitted with hip fractures in December 2023 assessed documentation of key admission assessments, including interpretation of chest X-ray, ECG and bloods, chest auscultation, resuscitation status, ceiling of care discussion, and proforma use. Using a PDSA methodology, three interventions were introduced: an educational session for orthopaedic clerking clinicians; a Hip Fracture Clerking Cheat Sheet; and a revised clerking proforma incorporating delirium (4AT) screening and additional prompts for reviewing bloods, ECG, chest X-ray and resuscitation status, reflecting NICE guidance on comorbidity optimisation. Departmental teaching was delivered to resident doctors and the wider multidisciplinary team on proforma use, standards and initial audit findings. A second audit cycle then reviewed NOF admission notes against the same domains.

Results: Documentation improved across nearly all domains. Proforma use rose to 94.7% from 55%. ECG interpretation improved to 57.9% from 20%, blood test interpretation to 39.5% from 25%, chest X-ray interpretation to 47.4% from 27%, chest auscultation to 84.2% from 64%, and resuscitation status documentation to 52.6% from 30%. Delirium (4AT) screening, newly introduced, was completed in 76.3% of admissions. Ceiling of care discussion remained the weakest domain, improving only marginally to 26.3% from 23.7%.

Conclusion: Simple, targeted interventions: including education, a quick reference cheat sheet, and a revised, guideline-aligned proforma produced clear improvements in hip fracture admission documentation across nearly all domains, supporting earlier comorbidity optimisation and more timely progression to theatre. Ceiling of care discussion remains challenging and warrants senior-led prompts, such as incorporation into post-take ward round practice. Induction packs and six-monthly re-audit will help embed and sustain these changes, particularly as new trainees rotate through the department.

Biography

Chi Hoi Lee is currently a Trauma fellow at Royal Cornwall Hospital NHS Trust, having recently completed an orthopaedic themed Core Surgical Training in the North West of England. Lee is passionate about medical teaching and leadership and was part of the Royal College of Surgeons of Edinburgh's Core Trainee Forum.



Daria Oseledets^{1*}, Svitlana Diachenko¹, Maria Varava¹, Valeriia Makarova²

¹MetaMind Consulting, UK

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Quantitative EEG assessment of neurophysiological changes induced by the TRIOS therapeutic practice

Background: Growing interest has emerged in interventions aimed at modulating the functional state of the central nervous system through meditation- and body-oriented approaches. Quantitative electroencephalography (qEEG) has become an important tool for investigating neurophysiological changes associated with such interventions. The present study evaluated the effects of the proprietary TRIOS practice on the functional organization of human brain networks.

Methods: Brain activity was assessed using quantitative electroencephalography (qEEG). Each participant completed two experimental sessions, each lasting 20 minutes. The first session served as the control condition, while the second consisted of the proprietary TRIOS intervention. The TRIOS practice was administered by a certified therapist and integrates body-oriented therapeutic techniques with an approach that, according to the developers of the method, involves interaction with the individual's electromagnetic field. EEG recordings were obtained immediately before and after each session. Quantitative analyses included spectral power, spatial distribution of EEG rhythms, and comparison with normative age-matched databases.

Results: qEEG analysis demonstrated substantially greater neurophysiological changes following the TRIOS intervention compared with the control session. The most prominent findings included enhanced alpha-band synchronization within parietal and occipital cortical regions, reduced excessive beta-band activity in frontal areas, and an overall normalization of spatial EEG activity patterns. In contrast, the control condition produced only minor fluctuations that were consistent with normal physiological variability during resting conditions. From

a neurophysiological perspective, these findings suggest that the TRIOS intervention was associated with a functional reorganization of cortical and subcortical neural networks. At the level of the dorsolateral prefrontal cortex (DLPFC; Brodmann areas 9 and 46), which plays a central role in executive function, working memory, and attentional control, reduced frontal hyperactivation may indicate decreased cognitive load and a transition toward a more energy-efficient mode of information processing. Enhanced alpha synchronization within the parietal and occipital cortices (Brodmann areas 7, 18, and 19) may reflect increased synchronization of distributed neuronal assemblies and the establishment of a relaxed yet alert brain state, a neurophysiological pattern frequently associated with meditative states.

The observed EEG changes further suggest improved thalamocortical coordination, which plays a fundamental role in generating and synchronizing cortical oscillations. More efficient communication between the thalamus and associative cortical regions may contribute to the enhanced coherence of large-scale neural activity. The distributed nature of these changes also suggests modulation of several large-scale functional brain networks. Reduced frontal hyperactivation may indicate decreased activity within the Default Mode Network (DMN), including the medial prefrontal cortex, posterior cingulate cortex, and precuneus, structures commonly associated with self-referential thinking and spontaneous internal mentation. Simultaneously, increased efficiency of the Executive Control Network (ECN) may support improved attentional regulation and cognitive control, while enhanced coordination within the Salience Network (SN) may facilitate more effective switching between internally and externally directed attention. The findings may also reflect improved functional interactions between the limbic system, including the amygdala, hippocampus, and cingulate cortex, and prefrontal regulatory regions. Such changes could contribute to improved emotional regulation and enhanced central autonomic self-regulation. Overall, the observed neurophysiological changes suggest a transition from a relatively fragmented functional state toward a more integrated organization of large-scale brain networks, characterized by enhanced neural synchronization, improved functional connectivity, and more efficient interregional communication.

Conclusion: Compared with the control condition, the proprietary TRIOS intervention was associated with more pronounced reorganization of brain bioelectrical activity, characterized by increased alpha synchronization, reduced frontal hyperactivation, and evidence of improved large-scale functional connectivity. These findings suggest that the intervention may facilitate central self-regulatory mechanisms and adaptive functional reorganization of neural networks.

Biography

Daria Oseledets is a psychologist with over five years of professional experience and the founder of the Trios Method. Oseledets has trained more than 200 students in healing practices and has dedicated a career to exploring the relationship between emotions, the body, and behavioral change. Oseledets' work integrates psychology, psychosomatics,

body-oriented approaches, channeling, and healing techniques. Through a private practice, clients have reported measurable improvements in physical symptoms alongside positive transformations in behavioral patterns and limiting beliefs. Currently, Oseledets is conducting research on the Trios Method, focusing on its effectiveness in facilitating psychological healing and behavioral change, particularly in the field of addiction recovery.



Dario Riva

Proprioception Center – Torino (Italy); International Society of Proprioception and Posture (ISPP)

The proprioceptive shield: How optimized subcortical proprioceptive control frees the prefrontal cortex for higher executive functions – Applications in physical medicine, injury prevention and peak performance

Background: Recent neuroscience suggests that efficient brain function depends less on conscious cortical control than on optimizing automatic processes delegated to subcortical sensorimotor networks. Within this framework, postural regulation is a continuous neural process competing with higher cognitive functions for limited cortical resources. We propose that optimizing proprioceptive stability—the physiological condition in which body stability is maintained predominantly through efficient subcortical proprioceptive control—may reduce the neural cost of postural regulation, preserving prefrontal resources for executive functions. This condition is referred to as the Proprioceptive Shield.

Concept and Training Principles: This presentation describes the neurophysiological principles underlying the Riva Method and High-Frequency Proprioceptive Training (HFPT), a methodology combining controllable rocking instability with real-time visual tracking of self-induced tilting of the supporting base. Unlike conventional unstable-surface training, controllable instability serves as a calibrated sensorimotor stimulus promoting proprioceptive stability.

Instability characteristics and task demands are individually adjusted through rocker geometry and task complexity according to the participant's functional capacity. Angular velocity is not externally imposed but emerges from the participant's interaction with the biomechanically constrained supporting base.

This modulation aims to optimize automatic proprioceptive processing while maintaining safety. Central to this approach is ankle-centered proprioceptive control at the primary interface between the body and the supporting surface. Rapid stabilization at this level pre-empt compensatory upper-body responses and conscious top-down intervention.

Visual tracking provides a real-time representation of board tilting relative to the assigned target. During the initial and intermediate training stages, this feedback increases the temporal density of meaningful sensorimotor situations and generates numerous corrective responses. This high-frequency exposure is essential for progressively refining control. Visual calibration uses the same representation as an external reference, enabling continuous comparison between perceived and actual board inclination. This process may refine proprioceptive estimates and improve the accuracy of internal sensorimotor models.

As training progresses, the tilting of the supporting base evolves from relatively large corrective waves (macrowaves) toward increasingly fine micro-adjustments (microwaves). During the initial and intermediate stages, a high frequency of proprioceptive activation and corrective responses is fundamental for reducing stabilization errors and refining automatic control. Once high levels of proprioceptive stability are achieved, however, the relationship between correction frequency and control efficiency becomes less direct: stabilization responses become increasingly small and precise, reducing the need for larger corrective actions. Within the proposed model, the transition from macrowaves to microwaves therefore reflects the progressive optimization of proprioceptive control, rather than a continuous increase in correction frequency.

Clinical Applications and Conclusions: The proposed framework has potential applications in physical medicine, neurological and musculoskeletal rehabilitation, injury and fall prevention, and elite sport. Within this model, the Proprioceptive Shield represents the neurophysiological outcome of optimized proprioceptive control. By promoting proprioceptive stability through calibrated controllable instability, HFPT may reduce the cortical resources required for postural regulation, preserving resources for executive functions during everyday activities and cognitively demanding motor performance.

This conceptual framework generates experimentally testable hypotheses for investigating the relationship between proprioceptive stability, neural efficiency, and executive functions.

Biography

Dario Riva, MD, is an Italian physician and specialist in Sports Medicine and Pediatrics, and former Director of the Research Center at SUISM, University of Turin. Riva's scientific work has contributed to research on proprioception, single-leg stance stability, and injury and fall prevention. Riva developed the Riva Method and the Delos Postural Proprioceptive System (DPPS), an integrated methodology and technology adopted by elite athletes and professional sports organizations worldwide. Riva's current research focuses on the neurophysiology of proprioceptive control, proprioceptive stability as a marker of performance and injury risk, and the relationship between subcortical motor control and higher cognitive functions.



**Daisy Theakston^{1*},
Niranj Radhamony², Joel Melton³**

¹University of Cambridge, UK

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3D CT analysis and software-assisted pre-operative planning of tunnel position in revision ACL reconstruction

Background: Re-rupture of Anterior Cruciate Ligament (ACL) following Reconstruction (ACLR) remains prevalent, with failure following revision reconstruction making the scenario further challenging to manage. Optimising pre-operative planning may therefore play an important role in supporting surgical decision-making and improving outcomes following revision ACLR.

Aims: This paper aims to evaluate the use of pre-operative planning, such as CT-based software reports, to develop patient-specific surgery plans and potential to design custom implants for patients who undergo revision ACLR.

Methods: The pre-operative CT scans and long-leg alignment radiographs of 12 patients, who have undergone revision ACLR, were analysed using software that generated 3-dimensional anatomical models and quantitative reports (Personalised Surgery™, Sydney, Australia). These reports incorporated anatomical alignment, bone stock, and femoral and tibial morphology to provide data and recommendations regarding tunnel position, morphology and dimensions. The resulting reports were subsequently used to develop a questionnaire assessing their usefulness in pre-operative planning of revision ACLR. The questionnaire was distributed to knee surgeons at Addenbrooke's Hospital.

Results: The 3-dimensional reports clearly visualised existing and proposed tunnel positions using colour coding, while providing detailed measurements of tunnel dimensions. All the five surgeons surveyed reported that they would use the reports to aid and independently verify their pre-operative planning, with all participants stating that the analysis of femoral

and tibial tunnel position and trajectory was valuable. 100% also felt the reports would assist in determining whether a single- or two-stage revision was appropriate, and all surgeons considered the reports useful, clear and easy to interpret. Furthermore, all participants believed that improved pre-operative planning could influence surgical success and that they would use the software in future revision ACLR planning. 80% viewed the technology as a step towards patient-specific surgical planning, while 60% felt it could assist with implant and instrument selection.

Conclusion: Overall, these findings suggest that software-assisted 3D CT analysis has considerable potential to enhance decision-making and optimise pre-operative planning in revision ACLR. The strong preference among surgeons for incorporating these reports into their pre-operative planning highlights their perceived clinical value. These CT-based analyses have the potential to reinforce surgeons' chosen surgical strategies, while providing additional patient-specific information to support decision-making, particularly in complex revision cases. This technology represents an exciting step towards more personalised surgical planning and, ultimately, the potential to develop custom implants, with the potential to improve surgical outcomes.

Biography

Daisy Theakston is a fifth-year medical student at the University of Cambridge, who combines Theakston's academic ambitions with a longstanding passion for sport and a keen interest in sports medicine. Theakston's enthusiasm for improving patient outcomes and effective rehabilitation has led Theakston to explore sports injuries, particularly Anterior Cruciate Ligament (ACL) injuries and reconstruction surgery. Theakston's curiosity, determination and commitment to excellence have inspired Theakston to pursue research bridging Theakston's clinical interests with Theakston's passion for sport. Charismatic and driven, Theakston approaches new opportunities enthusiastically, eager to learn and contribute to the evolving field of medical research.



Eleanor Boden¹, Anya Behl², Ryan Eaw², Cara Lancaster², Senthil Muthian²

Tension band suture fixation for olecranon fractures: Intra operative decision making in comminuted fractures

Background: In 2017 Phadnis and Watts presented the first all-suture technique for olecranon fracture fixation. The key benefit of this new technique was the absence of metalwork, which frequently causes symptoms for patients requiring re-operation for removal. In this study, we sought to demonstrate the validity of the technique and to determine if the indications for using this could be extended.

Methods: We analysed all olecranon fixation procedures over a two-year period from 2022 to 2024. Specifically looking at fracture pattern, surgical technique and the rates of complications.

Results: A total of 32 tension band suture fixations were performed over this period, with a complication rate of 15% and a re-operation rate of 9%. Analysis of fracture pattern on initial imaging demonstrated that the technique can be successful for patients with comminution at either the near or far cortex with 18% and 14% complication rate respectively. In contrast, operative technique was observed to be much more important for final outcome, with gap at the fracture site intraoperatively giving a 50% non-union rate.

Conclusions: Our study validates the tension band suture fixation technique for olecranon fracture fixation as safe and effective. We have also demonstrated that this technique could be used in olecranon fractures with limited comminution, using our intra operative screening method to decide between tension suture fixation and plate fixation.

Biography

Eleanor Boden is a core surgical trainee in the Wessex region on an orthopaedic themed program. She has previously worked in surgical roles both within the UK and Australia and has specific interests in upper limb surgery and major trauma.



**Gaurav Jha*, Surya Malasani,
William Elliot, Amin Kheiran**

University Hospitals of Leicester NHS Trust, Leicester, United Kingdom

WALANT for cubital tunnel syndrome: A systematic review and meta-analysis of safety and clinical outcomes

Purpose: Cubital tunnel surgery is performed under general or regional anaesthesia. Wide-Awake Local Anaesthesia No Tourniquet (WALANT) may reduce anaesthetic dependency, postoperative pain and resource use while permitting active assessment of ulnar nerve stability. We evaluated clinical outcomes, anaesthetic feasibility and reported complications.

Methods: Following PRISMA 2020 guidance (PROSPERO CRD420261407435), MEDLINE, Embase, Scopus and Google Scholar were searched from inception to June 2026. Comparative and uncontrolled studies of decompression, medial epicondylectomy or anterior transposition under awake local infiltration without routine tourniquet inflation were included. Meta-analysis was undertaken where sufficiently comparable data were available.

Results: Twelve studies (535 participants; five comparative and seven uncontrolled) were included. Three comparative studies involving 111 participants showed no difference in patient-reported disability between awake local and comparator anaesthesia (standardised mean difference 0.13, 95% confidence interval -0.23 to 0.50; $I^2=0\%$). Revision or reoperation evidence was sparse and imprecise (risk ratio 0.36, 95% confidence interval 0.12 to 1.05; $I^2=46\%$). Individual studies reported lower early postoperative pain and shorter perioperative pathways. Supplemental infiltration was sometimes required, and seven of 40 intended-WALANT anterior transpositions changed to general anaesthesia. Reported adverse events were uncommon but inconsistently ascertained.

Conclusions: Awake local anaesthesia without routine tourniquet inflation appears feasible for selected patients and provides similar medium-term function to general or regional

anaesthesia, with possible early pain and efficiency advantages. Current evidence does not establish superior neurological recovery, lower revision risk or definitive safety. Operative selection should remain independent of anaesthetic choice, with counselling and a rescue pathway.

Biography

Dr Gaurav Jha is a Trauma and Orthopaedic registrar working in a tertiary care NHS hospital. Jha's clinical interests include trauma, arthroplasty, hand and wrist surgery, and surgical innovation. Jha has published peer-reviewed papers researching biomechanics, sustainability, artificial intelligence, and orthopaedic outcomes. Jha holds a Postgraduate Diploma in Medical Education and has a special interest in teaching. Jha has received awards for education and clinical leadership and contributes to surgical education, global surgery, quality improvement, and multidisciplinary projects. Jha's work aims to improve patient care through practical, evidence-based approaches and collaborative innovation.



Gaurav Jha*, Weronika Noncun, Amit Bishnoi

University Hospitals of Leicester NHS Trust, Leicester, United Kingdom

Vitamin D status and supplementation in orthopaedic trauma: A systematic review and meta-analysis of fracture union, infection, and functional outcomes

Background: Vitamin D deficiency is biologically plausible as a modifiable risk factor across orthopaedic trauma outcomes, yet no comprehensive synthesis has examined prevalence, fracture healing, infection, and prevention within a unified framework.

Methods: A systematic review and meta-analysis was conducted following PRISMA 2020 guidelines (PROSPERO: CRD420261380380). PubMed, MEDLINE via Ovid, Embase, and CENTRAL were searched from inception to April 2026. Adults with orthopaedic trauma were eligible. Randomised trials were assessed using Cochrane RoB 2 and observational studies using the Newcastle–Ottawa Scale. Meta-analysis was performed for fracture prevention using random-effects inverse-variance weighting; remaining domains were narratively synthesised owing to clinical and methodological heterogeneity.

Results: Twenty-three primary studies (N = 396,502 participants) were included across four domains, with four contextual studies retained for interpretation. Prevalence studies reported combined Vitamin D deficiency and insufficiency in 43–86% of orthopaedic patients at presentation. Dark skin pigmentation (OR ~5.5), winter presentation, and obesity were the most consistent independent risk factors. In fracture healing, persistent deficiency was independently associated with delayed union in observational studies (9.7% vs. 0.3% in patients remaining deficient versus sufficient after supplementation; population-level OR 1.14, 95% CI 1.05–1.22). The only randomised trial was underpowered and negative. In infection, five of seven observational studies reported significantly lower 25-hydroxyvitamin D concentrations in infected patients (strongest effect estimate OR 5.94). However, acute inflammation

suppresses hydroxyvitamin D perioperatively, critically undermining causal interpretation. Meta-analysis of four fracture-prevention RCTs yielded a pooled HR of 0.83 (95% CI 0.73–0.94; $I^2=45\%$); sensitivity analysis restricted to trials achieving ≥ 800 IU/day yielded HR 0.75 (95% CI 0.64–0.88), suggesting a clinically significant dose-response threshold.

Conclusion: Vitamin D deficiency is common in orthopaedic trauma and associated with adverse outcomes. Supplementation at ≥ 800 IU/day reduces fracture incidence in vitamin-D-depleted elderly patients. Evidence for healing and infection remains observational.

Biography

Dr Gaurav Jha is a Trauma and Orthopaedic registrar working in a tertiary care NHS hospital. Jha's clinical interests include trauma, arthroplasty, hand and wrist surgery, and surgical innovation. Jha has published peer-reviewed papers researching biomechanics, sustainability, artificial intelligence, and orthopaedic outcomes. Jha holds a Postgraduate Diploma in Medical Education and has a special interest in teaching. Jha has received awards for education and clinical leadership and contributes to surgical education, global surgery, quality improvement, and multidisciplinary projects. Jha's work aims to improve patient care through practical, evidence-based approaches and collaborative innovation.



Gustavo Nolasco Santarem*, Bianca Dantas de Carvalho

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Efficacy of the modified Lemaire technique combined with Anterior Cruciate Ligament (ACL) reconstruction: A comparative analysis with isolated arthroscopic reconstruction

Current Anterior Cruciate Ligament (ACL) reconstruction techniques focus predominantly on intra-articular graft replacement, achieving favorable outcomes in restoring anteroposterior knee stability. However, growing evidence highlights the limitations of this approach in controlling rotational instability, particularly in young, active patients involved in pivoting sports. In these individuals, a higher incidence of persistent rotational laxity is observed, frequently demonstrated by the pivot-shift test, along with non-negligible rates of graft failure. In this context, the role of the anterolateral complex of the knee in rotational stability is prominent; its deficiency is directly associated with persistent instability even after isolated ACL reconstruction. Therefore, Lateral Extra-articular Tenodesis (LET) emerges as a complementary strategy with the potential to act synergistically with intra-articular reconstruction, enhancing control over tibial rotation and reducing load on the graft.

The incorporation of LET, particularly via the modified Lemaire technique, has been proposed to diminish mechanical graft overload, decrease the prevalence of residual rotational instability, and consequently lower failure rates, especially in high-risk populations. Thus, there is a clear rationale for critically evaluating the benefits of combining these techniques to improve clinical outcomes, enhance graft survival, and optimize a safe return to sports.

Biography

Gustavo Nolasco Santarem is currently in Santarem's penultimate semester of medical school. Always passionate about anatomy and orthopedics, Santarem suffered bilateral knee injuries, which significantly impacted Santarem's quality of life. Prior to undergoing surgery, Santarem researched several renowned orthopedic surgeons in Brazil and reviewed hundreds of scientific articles on anterior cruciate ligament (ACL) injuries. Santarem's surgeon proposed an approach that differed from conventional isolated ACL reconstructions—which traditionally used gracilis and semitendinosus tendon grafts—explaining the concept of secondary stabilization involving the anterolateral compartment associated with Segond fractures, using the modified Lemaire technique. Since then, Santarem has dedicated himself to comparing the success of this therapeutic approach against historical patient outcomes from the past decade following isolated ACL reconstruction. Through this project, Santarem aims to demonstrate an alternative surgical approach that, while requiring specific indication criteria, has proven to be highly effective.



**H.-J. Riesner, J. DePhilips, A. Witt,
J. Mahoney, B. Bucklen**

German Armed Hospital Ulm, Department of Orthopedic
an Trauma Surgery, Ulm, Germany, Scientific Affairs, Globus
Medical, Audubon, United States

Biomechanical comparison of triangular osteosynthesis and triangular minimally invasive spinopelvic stabilization technique for pelvic fragility fractures

Topic: Spine - Trauma

Introduction: Triangular Osteo Synthesis (TOS) is considered the gold-standard for treatment of Type IV Fragility Fractures of the Pelvis (FFP), as it provides vertical and horizontal stability through lumbopelvic fixation and iliosacral screws. An emerging Triangular Minimally Invasive Spinopelvic Stabilization (TMSS) technique has been clinically introduced [Riesner et al 2021] as an alternative. This study aims to biomechanically compare the stability of TOS and TMSS in a cadaveric model of FFP Type IV U-shaped fractures.

Methods: Six fresh-frozen osteoporotic human cadaveric lumbopelvic spine specimens underwent simulated Type IV U-shaped sacral fractures and were instrumented with either TOS or TMSS constructs, the TOS (L4 Pedicle Screws – Iliac Screw), while the TMSS construct replaced the iliosacral screw with an inferior iliac screw and transverse rod for compression. They were subjected to cyclic loading (200 – 430 N for 25,000 cycles) simulating 3 to 4-week post-operative mobilization. Fracture displacement was measured using a 3D motion tracking system and the magnitude of the combined translation in the three cardinal planes (t-test ($p < 0.05$)).

Results: The TMSS construct demonstrated after 25,000 cycles reduced maximum fracture displacement (6.05 mm) compared to TOS (12.12 mm), though statistical significance was not reached ($p = 0.071$). Each, TOS and TMSS constructed exhibited 56% and 62% of the maximum fracture displacement within the first 1,000 cycles.

Conclusions: The TMSS construct provides comparable biomechanical stability to TOS in stabilizing Type IV FFPs. Given its minimally invasive approach and promising biomechanical performance, TMSS represents a viable alternative for treating FFPs.

Biography

Hans-Joachim Riesner completed his secondary education at Kolleg St. Blasien in Germany, graduating with a German secondary school diploma in 1988. Since 1988, he has served in the German Armed Forces and currently holds the rank of Colonel while practicing as a physician within the German military healthcare system. Between 1990 and 1997, he studied Human Medicine at the University of Ulm, laying the foundation for his distinguished medical and military career. Following graduation, he pursued extensive specialist training in Orthopedic and Trauma Surgery. His residency and advanced training included positions at the German Armed Forces Hospital in Ulm (1997–1999 and 2002–2004), the ABC Defense and Self-Protection School in Sonthofen (1999–2002), the Hessing Foundation in Augsburg (2005–2006), and the University of Leipzig (2006–2008), where he served as Deputy in Orthopedic and Trauma Surgery.

From 2008 onward, he held several leadership positions within the German Armed Forces medical system, serving as Deputy in the Department of Orthopedic and Trauma Surgery at the German Armed Forces Hospital in Berlin (2008–2009) and later in Ulm (2009). Since 2010, he has been Vice Director of the Department of Orthopedic and Trauma Surgery at the German Armed Forces Hospital and Chief of the Spine Surgery Section. His professional qualifications continued to advance with additional certifications as a Special Trauma Surgeon in 2012 and a Special Orthopedic Surgeon in 2015. In 2022, he earned his State Doctorate in Orthopedic and Trauma Surgery and was promoted to the rank of Colonel, further recognizing his significant contributions to military medicine, orthopedic surgery, trauma care, and spine surgery.



Quzli AA, Jouni H*, Dekker AP,
Amanullah N, Ishaq A, Ashwood N

Mersey and West Lancashire Teaching Hospitals NHS Trust,
United Kingdom

Operative versus nonoperative outcomes: A cohort study on distal biceps tendon rupture

Background: Distal biceps tendon rupture is an uncommon injury affecting predominantly middle-aged men. Comparative outcome data between operative and nonoperative management remain limited. This study aimed to evaluate both approaches within a single UK centre.

Methods: A retrospective cohort study was conducted at Queen's Hospital Burton, including 72 male patients (52 operative, 20 nonoperative) with confirmed complete distal biceps tendon ruptures between 2016 and 2023. Operative repair employed single anterior incision or modified two-incision technique with cortical button fixation. Outcomes assessed included complications, range of motion, and return to activity over a minimum six-month follow-up.

Results: Complications occurred in 36.5% of operative patients, including transient neurapraxia (13.5%), reduced range of motion (19.2%), lateral cutaneous nerve injury (5.8%), cubital tunnel syndrome (3.8%), and isolated cases of posterior interosseous nerve palsy, arterial injury, wound infection, and granuloma. No re-ruptures were recorded. The nonoperative group reported zero complications, with all patients returning to pre-injury activity levels. Mild subjective supination weakness was noted in a few nonoperative cases without functional impact.

Conclusion: Nonoperative management offers excellent functional outcomes with a favourable safety profile, making it a viable option for selected patients. Operative repair provides superior supination strength recovery but carries significant morbidity. Treatment should be individualised based on patient activity demands, comorbidities, and risk tolerance.

Prospective studies utilising validated outcome measures are needed to refine patient selection criteria.

Biography

Hassan Jouni is affiliated from Mersey and West Lancashire Teaching Hospitals NHS Trust, United Kingdom



Rasul S, Shetty S, Mortada M, Quzli AA, Kulkarni SV, Bencharles O, Jouni H*, Saleem F

Mersey and West Lancashire Teaching Hospitals NHS Trust, United Kingdom

Comparative effectiveness of proximal femoral nail and dynamic hip screw fixation in intertrochanteric femur fractures: A systematic review and meta-analysis

Background: Intertrochanteric femur fractures represent a major burden in the elderly, with over 1.6 million cases annually worldwide. Debate persists regarding optimal fixation between the Proximal Femoral Nail (PFN) and Dynamic Hip Screw (DHS).

Methods: A systematic review and meta-analysis was conducted in accordance with PRISMA guidelines, searching PubMed, Embase, Cochrane, Web of Science, and Scopus from January 2010 to September 2025. Studies directly comparing PFN and DHS in intertrochanteric fractures were eligible. Thirty-three studies met inclusion criteria, comprising randomised controlled trials, prospective, and retrospective cohorts. Analysis was performed using RevMan 5.4.1 with a random-effects model.

Results: PFN demonstrated significantly shorter operative time (MD: -12.30 min, 95% CI: -17.33 to -7.28) and reduced intraoperative blood loss (MD: -115.01 mL, 95% CI: -132.05 to -97.98). Patients achieved full weight-bearing earlier with PFN (MD: -2.21 days, 95% CI: -3.32 to -1.10). PFN was associated with significantly lower total complication rates (RR: 0.46, 95% CI: 0.31–0.68) and reduced infection risk (RR: 0.37, 95% CI: 0.21–0.62). No significant differences were observed in implant failure, Harris Hip Score, or mortality.

Conclusion: PFN offers superior perioperative outcomes and earlier mobilisation compared to DHS, while achieving equivalent long-term functional results and survival. Implant selection should remain individualised, guided by fracture stability, patient comorbidities, and surgeon expertise.

Biography

Hassan Jouni is affiliated from Mersey and West Lancashire Teaching Hospitals NHS Trust, United Kingdom

Hassan Kazemi*, Jack Turnbull,
Joshua Henry

Royal Bolton Hospital, United Kingdom

Management of intra-operative contamination of an ACL graft: A cross-sectional survey of UK orthopaedic surgeons

Purpose: Intra-operative Anterior Cruciate Ligament (ACL) graft contamination is a rare but recognised complication. There are no guidelines or consensus on the management of this occurrence. Our aim was to survey trauma and orthopaedic surgeons with a knee subspecialty interest in the United Kingdom (UK) who perform anterior cruciate ligament reconstruction (ACLR) to explore the preferred strategy when there is intra-operative graft contamination.

Methods: An online questionnaire was sent to UK ACLR surgeons. The survey included the year of training completion, the average number of ACLs per year, whether they have experienced any intra-operative graft contamination, the strategies implemented, and whether they are aware of any literature and how it has influenced their strategies.

Results: 28 responses were received with an average of 11 years of experience in ACLR totalling in an estimate of more than 15000 ACLR. Three surgeons surveyed had experienced a single intra-operative ACL graft contamination all of which were soaked in chlorhexidine gluconate solution (CG). Of those surgeons who had not encountered a contaminated graft 11 (44%) would use CG, 7 (28%) would soak in saline and vancomycin solution and 7 (28%) would harvest a new graft.

Conclusions: There is significant variation in management strategy for an intraoperative contaminated graft in ACLR. This variation highlights the need for further work to develop a consensus for guidance for ACLR surgeons.

Biography

Mr Hassan Kazemi is working as a junior clinical fellow in trauma and orthopaedics at Royal Bolton Hospital, Manchester.

Hassan Kazemi*, Bawan Hama,
Jack Turnbull

Royal Bolton Hospital, United Kingdom

Distalising tibial tubercle osteotomy for patellofemoral instability: A systematic review

Background: Distalising Tibial Tubercle Osteotomy (TTO) is used to treat patella alta in Patellofemoral Instability (PFI) to restore early patellotrochlear contact. Nevertheless, indications, planning techniques and correction targets are not well standardised. Unlike prior reviews focusing solely on outcomes, this study uniquely analyses planning strategies and correction targets to propose a structured framework.

Methods: PubMed, Embase and Cochrane Library were searched up to April 2026 using full search strings with Boolean operators (Appendix A) to identify studies that reported distalising TTO for PFI with radiographic indices or clinical outcomes. Two independent reviewers assessed eligibility with inter-reviewer agreement calculated ($\kappa = 0.85$), and conflicts resolved by consensus. The quality of methods was evaluated based on MINORS. Bias was integrated analytically by comparing outcomes in high vs low quality studies. Synthesis was descriptive according to SWiM guidelines with subgroup analyses comparing empirical vs target-based vs formula-based planning.

Findings: Seventeen studies (1,534 patients; 1,642 knees) were eligible. The mean MINORS score was 10.2/16 (SD 1.7), indicating moderate quality. Studies with MINORS ≥ 12 (higher quality) reported more consistent outcomes. The Caton-Deschamps Index (CDI) thresholds for patella alta ranged between >1.2 and >1.4 . Planning strategies were formula-based calculation, target-based reverse planning and empirical intraoperative judgement, empirical being the dominant despite its poor reproducibility. The magnitude of distalisation ranged 5–20 mm (pooled mean 12.2 ± 4.5 mm). No dose–response relationship was identified between CDI and millimetric correction. Postoperative CDI clustered at 0.9–1.2, although 30% of knees had

persistent alta and 17% had patella baja. Functional outcomes improved consistently (Kujala: 52→89; Lysholm: 50→83; IKDC: 50→85; all $p<0.001$). Redislocation rates were 3–8% at two years. Complication rates were 5–20% and reoperation 14–21%, mostly for hardware removal.

Conclusion: Distalising TTO improves functional performance and reduces instability in PFI with patella alta, though significant heterogeneity in indications, planning and execution prevents standardised practice. Empirical intraoperative judgement remains dominant despite lack of reproducibility—this likely contributes directly to overcorrection and undercorrection rates. Based on current evidence, surgeons should avoid relying solely on intraoperative judgement and instead aim for CDI 1.0–1.1 using preoperative planning. This review proposes a structured planning framework (Figure 1) to guide surgical decision-making.

Biography

Mr Hassan Kazemi, Clinical fellow in trauma and orthopaedic, Royal Bolton Hospital.



Joseph Salem-Hernández^{1*}, Luis Barreto-Solá¹, Norman Ramirez^{1,2}

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Beyond the growth plate: Orthobiologic therapies in the developing and mature skeleton

Introduction: Orthobiologic therapies have become increasingly incorporated into musculoskeletal care as biologically derived materials designed to enhance tissue healing and regeneration. These therapies include Platelet-Rich Plasma (PRP), Bone Marrow Aspirate Concentrate (BMAC), bone graft substitutes, and recombinant growth factors. Although their use has expanded rapidly in adult orthopedics, the role of orthobiologic augmentation across stages of skeletal maturity remains incompletely understood. Differences in bone metabolism, cellular activity, and regenerative capacity between pediatric and adult patients may influence treatment response.

Methods: A narrative review of the literature was conducted to evaluate the biological mechanisms and clinical applications of orthobiologic therapies across stages of skeletal maturity. Published studies examining orthobiologic use in pediatric, adolescent, and adult orthopedic conditions were analyzed to identify key mechanisms, indications, and limitations.

Results: Orthobiologics exert therapeutic effects through osteogenic, osteoinductive, and osteoconductive mechanisms that interact with the host healing environment. In skeletally immature patients, intrinsic regenerative capacity is generally high, often reducing the need for biologic augmentation. However, orthobiologics have demonstrated clinical utility in select pediatric conditions such as spinal fusion augmentation and congenital pseudarthrosis of the tibia. In contrast, adult orthopedic practice demonstrates broader use of biologic therapies for degenerative conditions, tendon disorders, cartilage injury, and spinal fusion.

Conclusion: Orthobiologic therapies represent promising tools for enhancing musculoskeletal healing across stages of skeletal maturity. However, biological differences between pediatric and adult patients highlight the need for maturity-specific indications and further research to optimize their clinical application.

Biography

Joseph Salem Hernández is a fourth-year medical student at the University of Puerto Rico School of Medicine, expected to graduate in May 2026, with a strong academic focus in orthopaedic surgery and musculoskeletal research. Hernández will serve as an Incoming Orthopaedic Surgery Research Fellow at the Ponce Health Sciences University, Department of Orthopaedic Surgery. Of Puerto Rican and Lebanese descent, Hernández brings a diverse and global perspective to orthopaedic research. Hernández's work spans clinical and imaging-related outcomes in distal radius fractures, surgical management of lateral epicondylitis, nerve transfer techniques in brachial plexus injuries, and cross-cultural validation of orthopaedic outcome measures such as the Early-Onset Scoliosis Self-Report Questionnaire (EOSQ-SELF). Hernández has authored and co-authored multiple peer-reviewed publications in journals such as the Journal of Pediatric Orthopaedics, Journal of Hand Surgery Global Online, Heliyon, and Arthroplasty Today, with work presented at national and international conferences including the AO Orthopaedic Research Summit (Davos), ICEOS (France), and multiple World Orthopaedic Conferences. Hernández is a recipient of the AO Foundation/ON Foundation Education Grant and the Research Travel Award from the Center for Hispanic Excellence, and serves as Co-President of the Orthopaedic Surgery Interest Group (OSIG) at UPR.



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Vitamin D and the healing bone: Metabolic underpinnings of pediatric fracture repair

Introduction: Vitamin D is essential for calcium and phosphate homeostasis and plays a critical role in skeletal growth, mineralization, and bone remodeling during childhood. Hypovitaminosis D is increasingly recognized worldwide and may impair bone mineral accrual and skeletal strength. However, the relationship between vitamin D status and pediatric fracture risk remains controversial, with conflicting findings reported in the literature.

Methods: A narrative review of the literature was conducted to evaluate the biological mechanisms linking vitamin D to bone metabolism and fracture repair in children. Studies examining vitamin D physiology, pediatric fracture epidemiology, and clinical outcomes associated with vitamin D status were analyzed to synthesize current evidence.

Results: Vitamin D regulates intestinal calcium and phosphate absorption and supports osteoblastic activity and mineralization of newly formed bone. Deficiency may lead to secondary hyperparathyroidism, increased bone turnover, and decreased bone mineral density. Several studies demonstrate lower serum vitamin D levels among children presenting with fractures; however, others report no independent association between vitamin D concentration and fracture occurrence, suggesting fracture risk is influenced by multifactorial metabolic, genetic, and environmental determinants.

Conclusion: Vitamin D plays an important biologic role in pediatric bone health and fracture repair. While current evidence regarding its direct association with fracture risk remains inconsistent, optimization of vitamin D status represents a potentially modifiable factor supporting skeletal development and bone healing. Further prospective studies are needed to clarify the role of vitamin D screening and supplementation in pediatric fracture management.

Biography

Joseph Salem Hernández is a fourth-year medical student at the University of Puerto Rico School of Medicine, expected to graduate in May 2026, with a strong academic focus in orthopaedic surgery and musculoskeletal research. Hernández will serve as an Incoming Orthopaedic Surgery Research Fellow at the Ponce Health Sciences University, Department of Orthopaedic Surgery. Of Puerto Rican and Lebanese descent, Hernández brings a diverse and global perspective to orthopaedic research. Hernández's work spans clinical and imaging-related outcomes in distal radius fractures, surgical management of lateral epicondylitis, nerve transfer techniques in brachial plexus injuries, and cross-cultural validation of orthopaedic outcome measures such as the Early-Onset Scoliosis Self-Report Questionnaire (EOSQ-SELF). Hernández has authored and co-authored multiple peer-reviewed publications in journals such as the Journal of Pediatric Orthopaedics, Journal of Hand Surgery Global Online, Heliyon, and Arthroplasty Today, with work presented at national and international conferences including the AO Orthopaedic Research Summit (Davos), ICEOS (France), and multiple World Orthopaedic Conferences. Hernández is a recipient of the AO Foundation/ON Foundation Education Grant and the Research Travel Award from the Center for Hispanic Excellence, and serves as Co-President of the Orthopaedic Surgery Interest Group (OSIG) at UPR.



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Reframing MRI of the pediatric knee: Evidence-based indications, diagnostic pitfalls, and emerging imaging biomarkers

Introduction: Magnetic Resonance Imaging (MRI) has become the primary advanced imaging modality for evaluating pediatric knee pathology because of its ability to assess soft tissues, cartilage, bone marrow, and physeal structures without ionizing radiation. However, the growing availability of MRI has led to increasing utilization and concerns regarding inappropriate use in children. In addition, interpretation of MRI in the skeletally immature knee remains challenging due to evolving anatomy, developmental variants, and injury patterns unique to the presence of open physes. The purpose of this review is to synthesize the current evidence regarding the clinical role of MRI in pediatric knee disorders and to highlight emerging imaging parameters that may improve diagnostic accuracy and clinical decision-making.

Methods: A narrative review of the literature was performed using peer-reviewed clinical studies, imaging investigations, and guideline-based recommendations related to MRI evaluation of pediatric knee pathology. Studies addressing imaging indications, diagnostic accuracy, developmental anatomy, and emerging MRI metrics were analyzed and integrated to provide a clinically oriented synthesis of the evidence.

Results: MRI provides high diagnostic accuracy for detecting ligamentous injuries, meniscal pathology, osteochondral lesions, inflammatory conditions, and radiographically occult physeal injuries in the pediatric knee. For example, MRI can reveal occult fractures in up to approximately one-third of children with persistent clinical suspicion despite negative radiographs. Nevertheless, MRI interpretation may be complicated by normal developmental findings and age-related signal variations, which can lead to diagnostic uncertainty or

false-positive interpretations. Furthermore, increasing availability of MRI has contributed to inappropriate use as a screening tool in some clinical settings, despite evidence that clinical examination remains highly accurate when performed by experienced clinicians. Emerging MRI-based measurements, such as quantitative assessment of anterior tibial translation, may improve diagnostic confidence for injuries such as anterior cruciate ligament tears and may provide objective imaging biomarkers for clinical decision-making.

Conclusion: MRI is a powerful tool for evaluating pediatric knee disorders when used in conjunction with careful clinical assessment and appropriate initial imaging. Understanding developmental anatomy, recognizing diagnostic pitfalls, and integrating emerging quantitative MRI parameters may enhance diagnostic accuracy and optimize patient management. Future research should focus on developing evidence-based imaging algorithms and validated imaging biomarkers to further refine the role of MRI in the evaluation of the skeletally immature knee.

Biography

Joseph Salem Hernández is a fourth-year medical student at the University of Puerto Rico School of Medicine, expected to graduate in May 2026, with a strong academic focus in orthopaedic surgery and musculoskeletal research. Hernández will serve as an Incoming Orthopaedic Surgery Research Fellow at the Ponce Health Sciences University, Department of Orthopaedic Surgery. Of Puerto Rican and Lebanese descent, Hernández brings a diverse and global perspective to orthopaedic research. Hernández's work spans clinical and imaging-related outcomes in distal radius fractures, surgical management of lateral epicondylitis, nerve transfer techniques in brachial plexus injuries, and cross-cultural validation of orthopaedic outcome measures such as the Early-Onset Scoliosis Self-Report Questionnaire (EOSQ-SELF). Hernández has authored and co-authored multiple peer-reviewed publications in journals such as the Journal of Pediatric Orthopaedics, Journal of Hand Surgery Global Online, Heliyon, and Arthroplasty Today, with work presented at national and international conferences including the AO Orthopaedic Research Summit (Davos), ICEOS (France), and multiple World Orthopaedic Conferences. Hernández is a recipient of the AO Foundation/ON Foundation Education Grant and the Research Travel Award from the Center for Hispanic Excellence, and serves as Co-President of the Orthopaedic Surgery Interest Group (OSIG) at UPR.



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Admission predictors of intraoperative blood loss in pelvic ring fractures: Comparison of statistical and clinically oriented models

Background: Intraoperative blood loss during definitive internal fixation of pelvic ring fractures remains insufficiently understood. While previous studies have evaluated bleeding risk based on fracture morphology and injury severity, prediction based on admission physiological parameters has not been well established. In our prior work, preoperative transfusion was associated with blood loss; however, this approach is subjective. Therefore, an objective model using admission data is required.

Purpose: To evaluate whether intraoperative blood loss can be predicted from admission factors and to compare a statistically derived model with a clinically constructed model.

Methods: We retrospectively analyzed 34 patients who underwent definitive internal fixation for pelvic ring fractures at a single center between November 2022 and May 2025. Admission variables included age, vital signs, laboratory data, Injury Severity Score (ISS), and Young–Burgess classification. First, correlation and non-parametric analyses were performed. Subsequently, stepwise multiple regression was used to construct a statistical model. In addition, a clinical model was manually constructed by selecting variables to reflect clinical reasoning, specifically incorporating injury severity and coagulation status.

Results: The statistical model included respiratory rate, hemoglobin (Hb), shock index (SI), and age, demonstrating good performance (modified $R^2 = 0.64$). In contrast, the clinical model included age, ISS, SI, Hb, and fibrinogen (Fib), resulting in a lower model fit (modified $R^2 = 0.49$). Notably, low Hb and low Fib were significant predictors of increased blood loss. Thus, variables

reflecting systemic physiological status were consistently selected, whereas fracture-related factors were not independently predictive.

Discussion: Previous studies on pelvic fractures have primarily focused on early hemorrhage, in which fracture type and injury severity play central roles. However, intraoperative blood loss occurs during definitive internal fixation, where surgical exposure and dissection disrupt hematoma tamponade, leading to re-bleeding. Therefore, intraoperative bleeding may be more strongly influenced by systemic condition, including circulatory instability and coagulation impairment.

Conclusion: Intraoperative blood loss during pelvic ring fixation can be predicted using admission factors and appears to be more strongly influenced by systemic physiology than by fracture pattern or injury severity. Therefore, early assessment of physiological and coagulation status may be important for perioperative management.

Biography

Kentaro Sato is an orthopaedic surgeon at St. Marianna University School of Medicine, Japan, with dual training in emergency medicine and orthopaedic surgery. Sato's clinical and research interests focus on orthopaedic trauma, particularly pelvic ring fractures and perioperative management. Sato integrates systemic physiological assessment into surgical decision-making, aiming to improve risk prediction and perioperative outcomes.



Ketan Karabhai Parmar

Aayush Multispeciality Hospital, Junagadh, Gujarat, India

Bipolar hemiarthroplasty under local anesthesia (2%)

Introduction: Hip fractures in elderly patients represent a major public health concern, patients with neck of femur fractures are typically elderly and often have a history of hypertension, diabetes, and other comorbidities. These patients usually receive either spinal or general anesthesia during surgical intervention. Studies have shown that mortality rates are higher in the group receiving general anesthesia. Deep Vein Thrombosis (DVT) is one of the most significant complications affecting patients postoperatively. Its major short term complication is pulmonary embolism. While its long term complication is post – thrombotic syndrome. The incidence of DVT in patients receiving spinal anesthesia is approximately 11.23 % compared to 6.66 % in those receiving general anesthesia and 5.76 % in those receiving epidural anesthesia. General anesthesia is less favourable in patients with comorbidities, as it can cause fluctuations in blood pressure and heart rate. Local anesthesia offers several benefits, including minimal pain with lignocaine injections and reduced need for sedation in many procedures across the body.

Objectives:

Elimination of complications associated with sedation such as nausea, vomiting, urinary retention, malignant hyperthermia, aspiration pneumonia.

Faster post surgical recovery time-patients are able to get up and leave shortly after surgery similar to visit to dentist.

Elimination of most pre anesthetist consultations and testing reducing the need of additional appointments.

Lower surgical costs

Improved patient outcomes in surgery

Many procedures can be performed in minor ot rooms decreasing risk of infection

No need of nil by mouth before surgery

One anesthetist was kept present to counter any possible intra or post operative complications

Emergency medications as benzodiazepines and injecting lipids were kept present in ot to counter any possible lignocaine toxicity.

Improved patient outcomes in surgery

Many procedures can be performed in minor ot rooms decreasing risk of infection

No need of nil by mouth before surgery

One anesthetist was kept present to counter any possible intra or post operative complications

Emergency medications as benzodiazepines and injecting lipids were kept present in ot to counter any possible lignocaine toxicity.

Biography

Dr. Ketan K. Parmar completed MBBS from MP Shah Medical College, Jamnagar, Gujarat, India, and postgraduation in orthopaedics from NHL Medical College, Ahmedabad, Gujarat, India. Parmar is a compassionate orthopaedic surgeon dedicated to exceptional patient care, with versatile experience across diverse clinical settings including OPD and operation theatre. Parmar is the first orthopaedic surgeon to perform 20+ trauma surgeries under local anesthesia and the first orthopaedic surgeon to receive appreciation from Dr. Donald Lalonde, co-founder of WALANT University, Canada, via video conference. Parmar presented 'Bipolar Hemiarthroplasty under Local Anesthesia' at GOACON-2024, Bhavnagar, Gujarat, India.



Khaled Al-kharouf^{1*}, Mohammed Tayyem¹, Nizar Ismail¹, Humam Jundi¹, Pallavi Singh¹, William Leech¹, Thomas Evans¹, Mahmoud Elmesalmi², Ramesh Chennagiri

Nottingham University Hospitals

Do routine postoperative radiographs influence the management of Distal Radius Fractures (DRFs) following volar locking plate fixation?

Background: Distal Radius Fractures (DRFs) are among the most common orthopaedic injuries and frequently require surgical fixation using volar locking plates. Routine postoperative radiographs are commonly obtained following surgery to assess fixation and identify early complications; however, their impact on clinical management remains uncertain. This study evaluated whether routine postoperative radiographs influence management decisions following volar locking plate fixation of DRFs.

Methods: A retrospective review was conducted of 176 patients who underwent open reduction and internal fixation of distal radius fractures using volar locking plates at a UK district general hospital over a two-year period. Patient demographics, fracture characteristics, postoperative imaging findings, and subsequent management changes were collected and analysed. The primary outcome measure was the rate of reoperation resulting from new findings identified on routine postoperative radiographs. Secondary outcomes included any alteration in postoperative management based on imaging findings.

Results: Routine postoperative radiographs were obtained in all patients. Only one patient (1%) required reoperation based on new radiographic findings identified postoperatively. Approximately 8% of patients experienced a change in management, primarily involving prolonged cast immobilisation. No significant additional complications requiring urgent intervention were identified solely through routine imaging. The findings suggest that routine postoperative radiographs rarely altered clinical decision-making following uncomplicated volar locking plate fixation of DRFs.

Conclusions: Routine postoperative radiographs following volar locking plate fixation of distal radius fractures appear to have limited influence on patient management and reoperation rates. Their routine use may contribute to unnecessary healthcare costs and avoidable radiation exposure. A more selective, case-by-case imaging approach based on fracture complexity, associated injuries, and clinical indications may optimise resource utilisation without compromising patient care.

Biography

Khaled Alkharouf is a Registrar in Physical and Rehabilitation Medicine at the National Rehabilitation Centre, Nottingham University Hospitals NHS Trust, United Kingdom. He has a background in Trauma and Orthopaedics and an academic interest in musculoskeletal rehabilitation, functional recovery, and inpatient rehabilitation outcomes. His work focuses on improving rehabilitation pathways and patient-centred outcomes for individuals with complex musculoskeletal and orthopaedic conditions. He has been involved in clinical research, quality improvement projects, and multidisciplinary rehabilitation service development.



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Nottingham University Hospitals

Acute inpatient musculoskeletal rehabilitation in Nottingham: A service evaluation of patient characteristics and rehabilitation outcomes

Background: Patients with acute musculoskeletal and orthopaedic conditions frequently require specialist inpatient rehabilitation to optimise recovery and improve functional independence. However, service-level outcome data for this population remain limited. This service evaluation assessed functional and rehabilitation outcomes following inpatient musculoskeletal rehabilitation.

Methods: Baseline demographic and clinical characteristics were summarised descriptively. Functional outcomes were assessed using Functional Independence Measure and Functional Assessment Measure (FIM+FAM) and Rehabilitation Complexity Scale (RCS) at admission and discharge. Admission-discharge comparisons were analysed using the Wilcoxon signed-rank test, with standardised effect sizes (r) calculated.

Results: Fifteen patients were included (mean age 56.2 ± 21.2 years, 53.3% female). Diagnoses included lower limb fractures (40%), limb salvage/reconstruction (26.7%), periprosthetic fracture/arthroplasty-related complications (20%), and polytrauma (13.3%). Mean length of stay was 22.8 ± 17.9 days, with a mean baseline Patient Categorisation Assessment Tool (PCAT) score of 21.9 ± 3.9 . Significant improvement was observed in FIM+FAM scores (median change +37 [IQR 8.5], $p=0.001$, $r=0.87$). Rehabilitation complexity significantly decreased, with RCS median change -3 [IQR 1.5], $p=0.001$, $r=0.88$. FIM+FAM subdomain demonstrated significant improvement in motor function (+20, $p=0.001$, $r=0.87$), FAM (+8, $p=0.002$, $r=0.85$), and ADL score (+7, $p=0.001$, $r=0.873$). Cognitive scores showed minimal change ($p=0.1$).

Conclusions: Specialist acute inpatient musculoskeletal rehabilitation was associated with significant improvements in functional independence and reduced rehabilitation complexity. Improvements were primarily driven by physical function, functional adjustment, and ADL recovery, with limited cognitive change. These findings support the value of specialist musculoskeletal rehabilitation pathways, although larger evaluations are required.

Biography

Khaled Alkharouf is a Registrar in Physical and Rehabilitation Medicine at the National Rehabilitation Centre, Nottingham University Hospitals NHS Trust, United Kingdom. He has a background in Trauma and Orthopaedics and an academic interest in musculoskeletal rehabilitation, functional recovery, and inpatient rehabilitation outcomes. His work focuses on improving rehabilitation pathways and patient-centred outcomes for individuals with complex musculoskeletal and orthopaedic conditions. He has been involved in clinical research, quality improvement projects, and multidisciplinary rehabilitation service development.



Ki Ji Lee

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Muscle imbalance effects on musculoskeletal injuries (sports injuries), and new treatment through muscle regeneration by activation of quiescent muscle stem cells

Many sports require an athlete to repeat the same motion or movement time and time again which can cause the athlete's body to become unbalanced. This repetitive use by the same muscle groups causes certain muscles to become much stronger than their opposing muscles. About 65% of injuries come from overuse, which is repetitive use of joints that are rendered dysfunctional by muscular imbalances. These injuries affect performance and ability to continue participation. Muscular strength and balance are crucial parameters for better performance in sports. Muscle imbalance is beginning to become a larger focal point for more athletes as they try and stay off the disabled list. Muscle imbalances can be remedied and the approach is actually fairly simple, strengthen muscles that are weak and stretch muscles that are tight through muscle regeneration. This review showed that sport injuries can be dramatically improved through muscle balance with muscle regeneration by activation, proliferation, and differentiation of quiescent muscle stem cells (satellite cells) of whole body(esp., injury site) at same time back to original muscle length, strength.

Biography

Dr Ki Ji Lee is a professor at Busan Medical University and Go Sin Medical University, and was a National Research Foundation Researcher in the past. For 20 years, Lee has been studying activating quiescent muscle & neural stem cells by mitochondrial dynamics. Modern conventional medicine focuses on incubating and reinjecting embryonic stem cells, but Lee recently confirmed that quiescent muscle & neural stem cells that exist in the body can

be activated, proliferated, differentiated, and matured to regenerate quickly without any side effects. Lee is going to make a presentation at the International Neurology of Brain Disorders and Neurology Conference 2026 and the World Orthopaedic Conference 2026, and has published 15 medical books.



Ki Ji Lee

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New treatment of muscle contracture and joint contracture through muscle regeneration with mitochondrial dynamics

A muscle contracture refers to a shortening of muscle length due to a decrease in the number of sarcomeres in series along the myofibrils, accompanied by an increase in the resistance to passive stretch. Joint contracture, defined as the limitation in the passive range of motion of a mobile joint, can be classified as noninflammatory diseases of the musculoskeletal system. The contractures are often a symptom of a wide variety of heterogeneous disorders that are in many cases multifactorial. Among them, the pathological changes of muscle tissue caused by immobilization-induced joint contracture include disuse skeletal muscle atrophy and skeletal muscle tissue fibrosis. Elucidating whether the cause of the limited ROM is due to spasticity alone or the secondary effects of muscle contracture can be very important. This review showed that muscle contracture and joint contracture are dramatically improved through muscle regeneration with mitochondrial dynamics.

Biography

Dr Ki Ji Lee is a professor at Busan Medical University and Go Sin Medical University, and was a National Research Foundation Researcher in the past. For 20 years, Lee has been studying activating quiescent muscle & neural stem cells by mitochondrial dynamics. Modern conventional medicine focuses on incubating and reinjecting embryonic stem cells, but Lee recently confirmed that quiescent muscle & neural stem cells that exist in the body can be activated, proliferated, differentiated, and matured to regenerate quickly without any side effects. Lee has published 15 medical books.



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A comparison of the radiation exposure and total exposure time between Conventional C-Arm and Mini C-Arm in wrist and ankle fractures

Objectives: Orthopaedic surgeons have an increased risk of developing cancer due to occupational radiation exposure. When fluoroscopy is required, there is a choice between the conventional and mini c-arm machine. The aim of this study is to investigate whether there is a significant difference between radiation or total exposure time, when using the mini Mini C-Arm versus the Conventional C-Arm

Methods: A retrospective cohort study design was used. The data for radiation exposure, total exposure time, number of images taken and fracture classification was collected for 119 ankle and wrist surgeries. The data sets were checked for normality using the Shapiro-Wilk test and through a Q-Q plot. A two tailed Mann-Whitney U test was then used to compare the data between the conventional and mini c-arm.

Results: The mean Dose Area Product (DAP) in ankle surgery was 11.07 cGy·cm² in cases requiring the conventional c-arm and 6.4 cGy·cm² for the mini c-arm. This was a statistically significant reduction in DAP ($p=0.0164$). The mean DAP values for wrist surgery were slightly reduced but showed no significant difference. The mean Total Exposure Time (TET) between was higher in both wrist and ankle surgeries when using the mini c-arm. The difference was significant in wrist surgery ($p=0.00062$).

Conclusion: The mini c-arm was associated with a significant reduction in ankle ORIF and a mean reduction in wrist ORIF. TET for both ankle and wrist were higher when using the mini c-arm. Implemented recommendations in our centre included further training and distribution

of information sheets to remind operators to abide by as low as reasonably achievable principles. Larger and prospective cohort studies are essential to provide definitive guidelines on reduction of radiation exposure.

Biography

A resident doctor currently working in Trauma and Orthopaedics in the Royal Alexandra Hospital, Scotland, NHS Greater Glasgow and Clyde. Graduate from University of Glasgow where Davidson developed an interest in Trauma and Orthopaedics through research, elective placements and student selected modules. Previous president of University of Glasgow Orthopaedics Society and current member of BOMFA's national committee. Passionate about education, research and trauma surgery. Hope to pursue Trauma and Orthopaedics training in the West of Scotland.



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Cost-effectiveness of endoscopic versus open carpal tunnel release: A scoping review

Background: Endoscopic Carpal Tunnel Release (ECTR) is increasing in popularity globally and has been associated with faster functional recovery and earlier return to work compared with Open Carpal Tunnel Release (OCTR). Despite these advantages, its cost-effectiveness remains uncertain, particularly within publicly funded healthcare systems.

Methods: A PRISMA-ScR-compliant scoping review was undertaken. Peer-reviewed studies were identified through PubMed, Scopus, ProQuest, OpenAlex, and citation tracking. Studies reporting cost analyses or cost-minimisation strategies in ECTR, with or without comparison with OCTR, were included. Extracted data included study design, geographic origin, cost perspective, and key economic findings. Data were synthesised using descriptive and thematic analysis.

Results: Fifty-one studies met inclusion criteria, predominantly comprising retrospective cohort and observational designs, with marked heterogeneity in costing methods and outcome measures. A consistent finding was that ECTR incurs higher direct procedural costs, largely related to specialised equipment and staffing requirements. However, many studies demonstrated that these increased upfront costs may be offset by indirect economic benefits, particularly earlier return to work and shorter recovery periods. Interpretation was limited by retrospective methodologies, variation in study time horizons, and over-reliance on surrogate economic measures. Modifiable cost drivers were identified in both ECTR and OCTR, including anaesthetic technique and operative setting. Emerging evidence also suggests that patients with bilateral carpal tunnel syndrome may be suitable candidates for simultaneous bilateral release, offering potential reductions in cumulative healthcare utilisation and recovery-related costs.

Conclusion/Findings: The current evidence base is fragmented and methodologically heterogeneous, limiting its applicability to clinical decision-making. While ECTR demonstrates potential for indirect economic benefit, its overall value remains context dependent.

Implications: Future research should prioritise prospective, standardised economic evaluations incorporating societal perspectives, with specific relevance to national health systems such as the NHS. Cost analyses among patients suitable for simultaneous bilateral ECTR were not identified in this review.

Biography

Dr Lewis Turmeau studied medicine at the University of Edinburgh before undertaking Turmeau's Foundation Year 1 training at Wirral University Teaching Hospital. Turmeau has a strong interest in orthopaedics and hopes to pursue a career in the specialty. During medical school, Turmeau completed a six-week elective at the Wrightington Hospital Upper Limb Unit, gaining exposure to minimally invasive and arthroplasty techniques. Turmeau has strong academic interests, with work accepted at national conferences across sports medicine, surgery and medical education. Turmeau's work on surgical sterility teaching at Edinburgh remains incorporated within the curriculum and has been published in 'The Clinical Teacher'.



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Association of the Malnutrition Universal Screening Tool and ASA classification with 30-day and 1-year mortality after hip fracture: An observational cohort study

Background: Malnutrition is common in older patients admitted with a hip fracture and may contribute to poor outcomes. ASA grade is already used routinely when assessing these patients, while MUST is generally recorded as part of nutritional screening. We looked at whether mortality differed according to MUST score and whether this association remained after taking ASA and other patient characteristics into account.

Methods: We included consecutive patients aged 60 years and over who presented with a hip fracture between January 2022 and June 2025. Clinical information had been collected prospectively. Patients with a periprosthetic or distal femoral fracture were excluded. Death within 30 days was the primary outcome, and mortality at 1 year was examined as a secondary outcome. Deaths were identified through our institutional hip-fracture review process. We could not establish whether this captured every death occurring outside the Trust. For the main analysis, patients were divided into MUST 0, MUST 1 and MUST ≥ 2 . We also repeated the analysis using MUST as a continuous score. Logistic regression was used to adjust for age, sex, year of presentation and ASA category. Models with and without MUST were compared using likelihood-ratio tests. AUCs were calculated from the same dataset and therefore represent in-sample performance.

Results: We included 1,149 patients. Median age was 86 years (IQR 79–91); 790 (68.8%) were female and 359 (31.2%) were male. There were 107 deaths within 30 days (9.3%), and 332 patients (28.9%) had died by 1 year.

MUST was available as a numeric score in 1,116 patients. Thirty-day mortality was 6.6% in patients with MUST 0, compared with 11.5% for MUST 1 and 14.3% for MUST ≥ 2 . The same pattern was seen at 1 year, when mortality was 23.6%, 35.4% and 42.0%, respectively.

After adjustment for age, sex, calendar year and ASA, patients with MUST ≥ 2 had higher odds of death at 30 days than patients with MUST 0 (OR 2.06, 95% CI 1.25–3.38; $p=0.004$). This was also seen at 1 year (OR 2.36, 95% CI 1.68–3.31; $p<0.001$). For MUST 1, the association was significant at 1 year (OR 1.78, 95% CI 1.09–2.91; $p=0.021$), but not at 30 days (OR 1.90, 95% CI 0.91–3.96; $p=0.087$).

The analysis using MUST as a continuous score gave similar findings. For each one-point increase in MUST, the OR was 1.51 for death within 30 days and 1.49 for death within 1 year (both $p<0.001$). Adding MUST to the adjusted model changed the AUC from 0.77 to 0.79 for 30-day mortality and from 0.71 to 0.74 for 1-year mortality. The likelihood-ratio tests also favoured models containing MUST ($p=0.011$ at 30 days and $p<0.001$ at 1 year).

Conclusion: Patients with higher MUST scores had higher mortality after hip fracture, even after adjustment for ASA, age, sex and calendar year. MUST added some information to the models, although the change in AUC was small. These findings show an association and do not establish MUST as a mortality prediction tool. Incomplete ascertainment of deaths outside the Trust and the use of complete cases should be considered when interpreting the results.

Keywords: Hip Fracture, Mortality, Malnutrition, MUST, ASA, Nutritional Screening.

Biography

Mr Manoj Kumar is a Clinical Fellow in Trauma and Orthopaedics at George Eliot Hospital NHS Trust and holds a ChM in Trauma and Orthopaedics from the University of Edinburgh. Kumar's clinical and academic interests include hip pathology, trauma and orthopaedic surgery, evidence-based practice, and surgical outcomes. Kumar's current work examines outcomes following hip fracture, with a particular interest in nutritional status, perioperative risk assessment, and mortality in older patients.



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Management and outcomes of spontaneous osteonecrosis / subchondral insufficiency fracture of the knee: A systematic review and limited meta-analysis

Purpose: Spontaneous Osteo Necrosis of the Knee (SONK) is increasingly recognised within the spectrum of Subchondral Insufficiency Fracture of the Knee (SIFK), reflecting a shift towards mechanically influenced subchondral failure. This systematic review aimed to comprehensively evaluate outcomes across conservative, pharmacological, joint-preserving and arthroplasty strategies and to identify prognostic factors associated with disease progression and treatment failure.

Methods: A systematic review of 34 studies was performed. Data were extracted for study design, sample size, treatment, follow-up, clinical and radiological outcomes, revision, conversion to arthroplasty, complications and prognostic factors. A limited random-effects meta-analysis of proportions using logit transformation and inverse-variance weighting was conducted for clinically comparable outcomes with extractable event counts and denominators. Methodological quality and risk of bias were assessed according to study design.

Results: Evidence was predominantly derived from retrospective cohorts and case series. Conservative and pharmacological treatments demonstrated symptomatic improvement in selected early-stage disease, while joint-preserving procedures showed favourable native-joint survival in appropriately selected pre-collapse or malaligned knees. Arthroplasty provided reliable outcomes for advanced disease. Pooled failure or conversion to arthroplasty following non-arthroplasty treatment was 11.0% (95% CI 6.0–19.5%; $I^2=64.9\%$; 14 studies). Revision or failure following arthroplasty was 5.5% (95% CI 3.1–9.4%; $I^2=0\%$; 8 studies), while

joint-preservation success following selected procedures was 95.2% (95% CI 90.2–97.7%; $I^2=0\%$; 9 studies). Meniscal root/radial tears, meniscal extrusion, varus alignment, older age, lesion characteristics and advanced osteoarthritis were associated with poorer outcomes.

Conclusions: Management should reflect the contemporary subchondral insufficiency fracture paradigm and be individualised according to disease stage, lesion characteristics, meniscal pathology, alignment and compartment involvement. Early diagnosis and offloading are supported for pre-collapse disease, joint preservation is appropriate in selected patients, and arthroplasty remains reliable for advanced disease. Prospective comparative studies using standardised definitions and outcomes are required.

Keywords: Subchondral Insufficiency Fracture, Spontaneous Osteonecrosis, Knee, Joint Preservation, Arthroplasty, Systematic Review, Meta-analysis.

Biography

Mr Manoj Kumar is a Clinical Fellow in Trauma and Orthopaedics at George Eliot Hospital NHS Trust and holds a ChM in Trauma and Orthopaedics from the University of Edinburgh. Kumar's clinical and academic interests include knee pathology, trauma and orthopaedic surgery, evidence-based practice, and surgical outcomes. This systematic review and limited meta-analysis was undertaken as part of Kumar's University of Edinburgh ChM project and evaluates the contemporary management and outcomes of spontaneous osteonecrosis and subchondral insufficiency fracture of the knee.



Massimo Piracci

Medcare Orthopedic & Spine Hospital, Dubai, UAE

Synergy of hyaluronic acid scaffold and BMAC in one-step chondral repair

Articular cartilage defects remain a major challenge in orthopedic practice because of their limited intrinsic healing capacity. This presentation evaluates a one-step technique for knee chondral repair using a hyaluronic acid scaffold impregnated with Bone Marrow Aspirate Concentrate (BMAC). The biological rationale is based on the scaffold's biocompatibility and the chondrogenic potential of mesenchymal stem cells contained in BMAC, with the aim of promoting hyaline-like tissue regeneration.

The procedure is performed in a single surgical stage after lesion debridement. Bone marrow is harvested intraoperatively, concentrated, and then applied to a Hyaff-11/Hyalofast scaffold before implantation into the defect. In selected patients with focal cartilage lesions, this approach has shown meaningful improvements in clinical outcomes, including pain reduction, functional recovery, and return to sport. MRI evaluation has also demonstrated progressive defect coverage and tissue repair.

This technique offers a reproducible and minimally invasive biological solution for cartilage restoration, particularly in carefully selected patients with focal ICRS grade III-IV lesions. Compared with traditional microfracture procedures, the combination of scaffold and BMAC may provide more durable repair tissue and better mid-term clinical results. Appropriate patient selection and structured rehabilitation remain essential for success.

Biography

Prof. Dr. Massimo Piracci, PhD, FEBOT, is a Consultant Orthopedic Surgeon specialized in sports medicine, knee surgery, and regenerative orthopedics. Piracci practices at Medcare Orthopedic & Spine Hospital in Dubai and has extensive experience in arthroscopy, biologic treatments, and cartilage restoration techniques.



Massimo Piracci

Medcare Orthopedic & Spine Hospital, Dubai, UAE

Rehabilitation protocols following Anterior Cruciate Ligament Reconstruction (ACLR) versus primary repair: A criteria-based approach

Background: Return to safe, functional sport after ACL surgery depends as much on the rehabilitation pathway as on the surgical technique. Recent interest in primary ACL repair for selected proximal tears has renewed the need to define pragmatic, evidence informed rehab pathways that reflect differences in tissue healing, graft biology, and early stability between reconstruction and repair.

Objective: To present a concise, clinically usable, criteria based rehabilitation protocol covering early protection, progressive loading, neuromuscular retraining, and return to sport criteria tailored separately for ACL reconstruction (ACLR) and arthroscopic primary ACL repair (ACLRp), highlighting where timelines and milestones should diverge.

Methods: We combined contemporary evidence and commonly used institutional protocols to produce parallel, milestone led pathways. Protocol stages are Immediate (0–2 weeks), Early Recovery (2–6 weeks), Strength & Control (6–12 weeks), Advanced Conditioning (3–6 months) and Return to Sport (criteria based, typically ≥ 6 months). For each stage we specify goals (pain/effusion control, ROM, gait, quadriceps activation), safe progression of weightbearing and range of motion, key exercises, and objective criteria (strength symmetry, hop testing, movement quality) that guide progression rather than rigid time points.

Results: Early motion and accelerated weightbearing are encouraged after successful arthroscopic primary repair when tissue quality and fixation are reliable, often allowing faster restoration of range of motion and quadriceps activation compared with reconstruction;

nevertheless, repair pathways require careful monitoring for elongation or failure and a slightly more conservative approach to high grade pivoting drills until healing is confirmed.]

ACL reconstruction protocols focus on protecting graft fixation and optimizing graft maturation progression to high velocity cutting and pivoting is generally more conservative and driven by objective strength and functional tests (commonly $\geq 90\%$ limb symmetry on strength and hop testing). Both pathways emphasise early neuromuscular training, progressive eccentric and closed chain quadriceps loading, and psychological readiness as essential components to reduce re injury risk and optimise return to sport outcomes.

Conclusion: A criteria based rehabilitation framework that distinguishes biological and mechanical differences between ACL reconstruction and primary repair produces clearer guidance for clinicians and patients, supports safer progression through sport specific demands, and prioritises objective milestones over fixed timelines. Implementation requires close surgeon–physiotherapist communication and routine objective testing to personalise progression and identify early signs of failure or delayed recovery.

Keywords: ACL rehabilitation; ACL reconstruction; primary ACL repair; return to sport; criteria based protocol.

Biography

Prof. Dr. Massimo Piracci, PhD, FEBOT, is a Consultant Orthopedic Surgeon specialized in sports medicine, knee surgery, and regenerative orthopedics. Piracci practices at Medcare Orthopedic & Spine Hospital in Dubai and has extensive experience in arthroscopy, biologic treatments, and cartilage restoration techniques.



Matthew B Werd

American Academy of Podiatric Sports Medicine, Lakeland,
Florida, USA

Athletic footwear and orthoses in sports medicine

Lower extremity sports injuries are frequent, yet are often mis-understood on how best to diagnose and treat, and they continue to be a hot topic in athletics amongst both athletes and healthcare providers. Early accurate diagnoses are necessary to formulate a treatment protocol on how best to return an athlete quickly and safely to sport. A critical part of sports orthopedic rehabilitation includes optimizing athletic footwear and orthoses, and upon return to sport, maximizing performance utilizing proper athletic shoe gear.

A thorough review and discussion of current concepts and pearls of prescribing athletic footwear should be both relevant and interesting to attendees. A contemporaneous update will be presented, including applicable research and evidence-based studies.

Presentation will include a brief historical discussion, current concepts, and possible future emerging concepts.

Biography

Dr. Werd has led a distinguished career in sports medicine and surgery of the foot and ankle and he continues to serve his profession with distinction at the highest level in Lakeland, Florida. He is Past-President and Fellow, American Academy of Podiatric Sports Medicine (AAPSM). He serves as a team physician for youth, high school, collegiate, and professional athletes. Former NCAA Division 1 collegiate athlete. He won Robert Barnes Distinguished Service Award Recipient, AAPSM, 2014. Lifetime Achievement Award Recipient, AAPSM, 2024. Lead Author and Editor: Athletic Footwear and Orthoses in Sports Medicine, Springer, NYC. He earned his Doctor of Podiatric Medicine from Scholl College of Podiatric Medicine, Chicago, in May 1993, graduating Magna Cum Laude with a 3.9 GPA and ranking in the top 7% of his class. He holds an Honors Bachelor of Arts in Biology and a Bachelor of Arts in Chemistry, both awarded in May

1989 from Indiana University, Bloomington. In 1987, he completed a PreMed Biology Summer Session at Harvard College, Cambridge. Since July 1995, he has owned and practiced at Odro, Fazekas, and Werd, PA. Licensed in Florida (PO 2458) since 1994, he is a diplomate of the American Board of Foot and Ankle Surgery, certified in Foot Surgery (1997, recertified through 2027) and Reconstructive Rearfoot, Ankle, and Leg Surgery (1998, recertified through 2028). Dr. Werd has held medical staff privileges at Lakeland Regional Health since 1995, where he was Chief of Podiatric Surgery and a member of the Operating Room Committee from 2000 to 2017. He has also served at Lakeland Surgical and Diagnostic Center since 1998, including on the Medical Advisory Committee from 2007 to 2009. Dr. Werd is a nationally recognized leader in podiatric sports medicine, twice named among the Top 25 Most Influential Podiatrists in America by PMNews (2010, 2017). He received the AAPSM Lifetime Achievement Award in 2024 and the Dr. Robert Barnes Distinguished Service Award in 2014. A Past-President of the American Academy of Podiatric Sports Medicine (2007–2008), he is also a Fellow of the ACSM, ACFAP, and AAPPM. He has served as Team Podiatrist for Florida Southern College since 2000 and has been an active member of the ABFAS Certification Exam Committee and NBPME panel. Dr. Werd is Lead Editor of Athletic Footwear and Orthoses in Sports Medicine (2010, 2017) and serves on the American Medical Athletic Association Clinic Advisory Board. He is a graduate of Leadership Lakeland (Class XX) and Leadership Polk (Class IV). The largest Physical Medicine Conferences in the Asia Pacific region is happening on September 15-17, 2025 at London, UK. It is the meeting place of all international Physiatrists.

Michael Davies^{1*}, Rosie Broadbent¹,
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Learning Disabilities (LD) and hip fractures: Are we getting it right? Experience from a major trauma centre

Background: Patients with a Learning Disability (LD) are classified as vulnerable. This group of patients are reported to have a significantly younger median age of death (61 years), an increased risk of osteoporosis and 'less good' acute care. The Royal College of Physicians (RCP) acute care toolkit (2022) was developed to support doctors in prioritising specific aspects of care in hospital for these individuals. The National Hip Fracture Database (NHFD) includes patients with a hip fracture over the age of 60 years old, meaning those with a LD who develop frailty younger are excluded. Our aim is to assess whether the care of LD patients aligns with these standards and recommendations.

Methods: Data were collected from patient presenting with a hip fracture and diagnosed LD between 2017 - 2025. 83 patients were identified and 56 met inclusion criteria. We audited data against the standards and recommendations set in the NHFD and from the RCP acute care toolkit.

Results: Of these, 24 were male, 32 were female, and 20% were under 60 years. There were discrepancies relating to number receiving post-operative medical assessment (80.3% LD group vs 93.6% Trust average), mobilising day 1 post-surgery (66.0% vs 85.8%), and receiving bone health treatment (67.9% vs 99.5%). No patients had a specialist pain assessment tool used. Only 64% of LD patients received a fascia iliaca block in the emergency department, (trust average 75%). Documentation suggested they might not tolerate the procedure.

Conclusions: This study identifies barriers in managing LD patients who present with hip fractures. It is particularly important to ensure they are fully supported in making decisions about their care and optimising communication. Educating care providers about the complexities

surrounding LD patients, inclusion within NHFD regardless of age, and signposting to RCP guidelines may facilitate improvement in management..

Biography

Michael Davies is currently working as a trust grade CT3 in spinal surgery in Sheffield, Davies has completed Davies's surgical training and am working towards achieving Davies's ST3 Orthopaedic Training number. Currently support the Audit Lead in Davies's department and am dedicated in delivering high quality audit and quality improvement work, for which this project has been a key highlight.



Mick Nagra*, Dylan Nagra*, Rajinder Atwal

University of Calgary; University of Western Ontario,
London, Ontario; Preceptor, Toronto Metropolitan
University; Preceptor, York University, Canada



Artificial turf vs. natural grass: A comparative analysis of ankle injury risk in soccer players

Ankle injuries are one of the most common injuries sustained among soccer players. Of the factors that may contribute to these injuries, playing surfaces, i.e., artificial turf or natural grass, has been the subject of considerable debate. It is still not clear whether artificial turf increases the risk of ankle injury compared with natural grass. Understanding this factor may help players, coaches, and different organizations make better decisions about playing surfaces and reduce the chance of injury to players. To address this gap, this work examines whether playing soccer on artificial turf poses a higher risk of ankle injuries compared with natural grass in soccer players. Nine studies, representing twelve different cohorts, were reviewed in this work. All selected studies were included because they directly compared ankle injuries incurred on artificial turf and natural grass among soccer players. These studies included both male and female soccer players across a range of ages and competition levels to evaluate whether the relationship between playing surface and injury risk is consistent across sexes. Using the injury counts and player exposure hours from these studies, injury incidence rates (injuries per 1000 player-hours) on both surfaces, as well as Incidence Rate Ratios (IRRs) were calculated to statistically compare ankle injury risk between the two playing surfaces. Our IRR analysis indicates that an almost equal number of cohorts had IRR values greater than 1 and less than 1, suggesting similar ankle injury risk on either surface.

Furthermore, we used the log-transformed standard error of each study cohort to calculate the respective 95% confidence intervals for possible IRR ranges. Taken together, our analysis does not support consistent evidence that playing soccer on either artificial turf or natural grass leads to a higher risk of ankle injuries. This also reveals that the type of playing surface may not be the sole risk factor for ankle injuries among soccer players. Other factors such as age, sex, training time, experience, competition level, and injury definition, could also have an impact on injury rate.

Overall, this work suggests that there is no significant difference in the rate of ankle injuries between artificial turf and natural grass among soccer players.

Biography

Mick Nagra is a student, TEDx speaker, patent holder, varsity athlete, award-winning author, and co-founder of the North American Youth Research Society. Based in Massachusetts, Mick is an emerging youth innovator whose work bridges research, health technology, sustainability, and sports safety. Mick developed a skin cancer detection app. Mick has shared his work at international conferences, including the World Youth Sustainability Summit. Mick's research has been submitted to international journals. Mick has been granted the Cambridge Center for International Research STEM Fellowship, Humanitarian Innovation Award, Innovation and Sustainability Award, National Leadership Award, and American Citizenship Award and multiple volunteer awards.

Dylan Nagra has presented at international conferences, including twice at the World Youth Sustainability Summit. Dylan's work spans youth research, innovation, sustainability, and health technology. Dylan is also the creator of a skin cancer detection app and has contributed research that has been submitted to international journals. Dylan has received recognitions, including the Cambridge Center for International Research STEM Fellowship, Beyond the Goal Award, Innovation and Sustainability Award, National Leadership Award, and American Citizenship Award.



Miguel Carrato*, Jose De Haro

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What's going on in Spain with the direct anterior approach? General trends and our own experience

The direct anterior approach has gained popularity in operating rooms and in recent Spanish scientific literature, which focuses on its advantages of rapid recovery and less muscle damage. The technique is used in the context of the more than 30,000 hip arthroplasties performed annually in Spain, with an upward trend in recent years, although still significantly lower than in other countries such as the US or other European countries.

In the last 4 years, the average number of annual publications related to this type of approach has increased from 11 to 25, followed by an increase in the number of surgeries performed anterior approach.

The choice of surgical approach in total hip arthroplasty (THA) directly impacts functional recovery, prosthetic stability, and postoperative complications.

Contributing to this cause, we present our study which compares the clinical outcomes of two muscle-sparing techniques: the Direct Anterior Approach (DAA) and the Posterior Approach (PA) which included Postero Lateral (PL) and Direct Superior Approach (DSA). This is our experience during a 16 month surgery period.

This is a retrospective comparative study of 84 patients who underwent primary THA between November 2022 and February 2024 by 2 different surgeons. They were divided into two groups: DAA (n=53) and PA (n=31)(PL=20)(DSA=11), with a minimum follow-up of 12 months. Evaluated variables included Harris Hip Score (HHS), incidence of dislocations, need for revision surgery, and residual pain level using the visual analogue scale (VAS).

At 12 months, the DAA group showed a mean HHS of 91.2 compared to 88.1 in the PA group ($p < 0.05$). The dislocation rate was lower in the DAA group (1.9%) compared to the PA group (4.9%), although not statistically significant. One revision due to loosening was recorded in the PA group and none in the DAA group. Residual pain was lower in the DAA group (VAS 1.4 vs 1.8; $p < 0.05$).

Both approaches show good functional results, but the direct anterior approach is associated with better functional recovery, less residual pain, and a lower trend toward mechanical complications. These findings support its use in selected patients, provided it is performed by experienced surgeons.

Biography

Dr. Miguel Carrato (June 16th, 1990). Orthopedic surgeon specialized in hip surgery in Hospital Vithas Alicante (Spain). Member of the Spanish Society of Orthopedic Surgery (SECOT), the Spanish Society of Hip Surgery (SECCA) and the Spanish Arthroscopy Association (AEA). Specialist in Orthopedic Surgery and Traumatology. Accredited by the University Hospital of Toledo. Master's Degree in Orthopedic Surgery and Traumatology from CEU Cardenal Herrera University. International training at the University of California, Irvine Extension, International Programs (California, USA). Medical students tutor at CTO Academy. Associate Professor of General Pathology, University of Castilla-La Mancha (UCLM). Over 40 National/International publications and presentations.



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Discontinuation and nonpublication of osteosarcoma clinical trials: A cross-sectional analysis of clinicaltrials.gov data

Background: Osteosarcoma is a rare and aggressive bone cancer. Despite the urgent need for new treatments, clinical trials in this field are frequently discontinued or left unpublished, resulting in significant research waste and stalling therapeutic progress. This study evaluates the rates and key predictors of trial discontinuation and nonpublication.

Methods: We conducted a cross-sectional analysis of 210 interventional osteosarcoma trials registered on ClinicalTrials.gov up to July 1, 2025. Logistic regression was used to identify factors associated with trial discontinuation and nonpublication.

Results:

Discontinuation & Nonpublication: Nearly one-third of the trials (29.5%, n=62) were discontinued prematurely. Of the 148 completed trials, only 17.6% (n=26) were published, leaving 82.4% (n=122) unpublished.

Risk Factors: Trials with fewer than 100 participants were significantly more likely to be discontinued (95.2% vs. 81.6%, p=0.011) and unpublished (85.5% vs. 65.4%, p=0.017).

Collaboration Benefits: Multicenter trials had significantly higher publication rates than single-center studies (73.9% vs. 26.1%, p=0.006). Multivariable analysis confirmed that a multicenter design independently predicted lower odds of nonpublication (OR=0.291, 95% CI : 0.098-- 0.859, p=0.025).

Non-factors: Trial phase, funding source, and intervention type did not significantly influence these outcomes.

Conclusions: A high rate of trial discontinuation and nonpublication exists in osteosarcoma research, primarily driven by small sample sizes and single-center limitations. To prevent valuable data loss and honor patient participation, the oncology community must prioritize collaborative multicenter trials and strictly enforce timely results reporting.

Biography

Mohammad Khriesat is a Core Surgical Trainee at University Hospitals Plymouth NHS Trust and a graduate of Jordan University of Science and Technology. Khriesat has developed a growing interest in clinical research, particularly in orthopaedics and orthopaedic oncology, has participated in and presented at multiple international surgical conferences, and is currently involved in several research projects progressing towards publication. Khriesat is passionate about advancing evidence-based orthopaedic practice and aims to pursue Higher Surgical Training in Trauma and Orthopaedics.



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Research waste in Ewing sarcoma: Predictors of clinical trial discontinuation and nonpublication

Background: Ewing sarcoma is a rare primary bone and soft tissue malignancy encountered in orthopaedic oncology, where high-quality clinical evidence is essential for guiding treatment. Premature trial discontinuation and nonpublication reduce the available evidence and contribute to research waste. This study evaluated the prevalence and predictors of these outcomes in registered Ewing sarcoma clinical trials.

Methods: A cross-sectional analysis was conducted using interventional Ewing sarcoma trials registered on ClinicalTrials.gov between January 1999 and March 2025. Trial characteristics including study phase, funding source, enrolment size, intervention type, masking, and study design were extracted. Publication status was determined through ClinicalTrials.gov together with PubMed and Google Scholar searches. Multivariable logistic regression identified predictors of trial discontinuation and nonpublication.

Results: A total of 181 eligible trials were included. Of these, 141 (77.9%) were completed, while 40 (22.1%) were discontinued. Only 33 completed trials (23.4%) were subsequently published. Trials enrolling fewer than 100 participants demonstrated significantly higher discontinuation rates than larger studies (26.2% vs. 7.4%, $p=0.028$) and were substantially more likely to remain unpublished (86.1% vs. 51.9%, $p=0.002$). NIH-funded trials had significantly lower odds of discontinuation than industry-funded studies (adjusted OR 0.12, 95% CI 0.02–0.71). Multicentre studies were independently associated with a lower likelihood of nonpublication (adjusted OR 0.15, 95% CI 0.05–0.46), while enrolment of at least 100 participants was also protective against nonpublication (adjusted OR 0.30, 95% CI 0.11–0.81).

Conclusions: Clinical trials in Ewing sarcoma experience substantial rates of discontinuation and nonpublication. Small enrolment and single-centre study design are major contributors to unsuccessful trial completion and dissemination. Strengthening multicentre collaboration, improving recruitment strategies, and ensuring timely reporting of all trial outcomes may reduce research waste and improve the evidence base for this rare orthopaedic malignancy.

Biography

Mohammad Khriesat, MBBS, is a Core Surgical Trainee at University Hospitals Plymouth NHS Trust and a graduate of Jordan University of Science and Technology. Khriesat has developed a growing interest in clinical research, particularly in orthopaedics and orthopaedic oncology. Khriesat has participated in and presented at multiple international surgical conferences and is currently involved in several research projects progressing towards publication. Khriesat is passionate about advancing evidence-based orthopaedic practice and aims to pursue Higher Surgical Training in Trauma and Orthopaedics.



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Modifiable lifestyle and occupational risk factors associated with Dupuytren's disease: A systematic review and meta-analysis

Background: Dupuytren's Disease (DD) is a chronic fibroproliferative disorder of the palmar fascia that leads to progressive flexion contractures of the fingers. While its genetic basis is well recognised, the role of modifiable lifestyle and occupational risk factors remains unclear. This systematic review and meta-analysis aimed to evaluate the association between modifiable lifestyle and occupational exposures and the risk of developing DD.

Methods: Following a pre-registered PROSPERO protocol (CRD420251105387), comprehensive searches were conducted across six databases up to July 2025. Eligible observational and randomised studies examining modifiable risk factors were included. The risk of bias was assessed using the Newcastle–Ottawa Scale, Joanna Briggs Institute checklist, and AMSTAR-2 tool, while the certainty of evidence was graded using the GRADE framework.

Results: Fifty studies encompassing approximately 4.62 million participants from 20 countries were included. Smoking (OR = 1.23), alcohol consumption (OR = 1.89), diabetes (OR = 1.42), manual labour (OR = 2.81), hand–arm vibration exposure (OR = 2.06–2.65), and previous hand trauma (OR = 1.81) were all positively associated with DD. However, substantial heterogeneity was observed across studies. Most evidence was of moderate certainty, with methodological limitations primarily due to exposure assessment and confounder control.

Conclusion: Modifiable lifestyle and occupational factors are associated with an increased risk of Dupuytren's disease, with manual labour and hand–arm vibration showing the strongest associations. Despite these findings, evidence heterogeneity limits causal inference. Future high-quality longitudinal studies are needed to clarify these relationships and inform preventive strategies.

Biography

Mr Mohammed Jameel graduated with distinction from Baghdad College of Medicine in 2019. Jameel completed the MRCS examinations in 2023 and obtained GMC registration in the same year, subsequently beginning his clinical practice in Accident and Emergency before progressing to Trauma and Orthopaedics at Royal Blackburn Hospital. In 2025, Jameel earned a Postgraduate Certificate in Surgery from the Royal College of Surgeons of England. Mr Jameel has a strong interest in research, having contributed to several cross-sectional studies in Iraq, and is developing further expertise in systematic reviews and meta-analyses. Jameel has authored several publications and is passionate about teaching, having supervised and educated medical students both in Iraq and at Royal Blackburn Hospital. Jameel also holds a Postgraduate Certificate in Medical Education from the University of London, awarded in 2026.



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The impact of the 2023 ST3 national selection criteria change on SHO operative exposure and training culture in Neck of Femur (NOF) fracture surgery

Background: Selection criteria for ST3 (registrar-level) national recruitment in Trauma & Orthopaedics changed in November 2023 for the registrars to start in August 2024 from including Extracapsular neck of femur fracture to all neck of femur fractures, both intra capsular and extra capsular. Anecdotally, this shift has increased pressure on Senior House Officers (SHOs) to accumulate hands-on operative experience earlier in training, particularly in Neck of Femur (NOF) fracture surgery. This service evaluation examines whether SHO operative involvement in NOF fracture procedures changed following this policy shift.

Methods: Two years of operative notes for NOF fracture operations were retrospectively reviewed, one year pre change and from October 2023 to October 2022 and post change from November 2025 to November 2024. For each operation type — hemiarthroplasty (intracapsular, IC), cannulated hip screws (CHS, IC), Dynamic Hip Screw (DHS, extracapsular, EC) and intramedullary (IM) nail (EC) — three outcomes were compared between periods: (1) the proportion of cases where an SHO was primary surgeon, (2) the proportion of cases where an SHO scrubbed in, and (3) the conditional probability of an SHO performing the operation given that they had scrubbed in. Chi-square tests were used for 2x2 comparisons with expected cell counts ≥ 5 ; Fisher's exact test was used otherwise.

Results: Across all NOF operations combined ($n=960$), the proportion of cases where an SHO was primary surgeon rose from 13.6% pre-change to 23.5% post-change ($p<0.001$), and the proportion of cases where an SHO scrubbed in nearly doubled, from 32.0% to 54.3% ($p<0.001$). However, the conditional probability of performing the operation given the SHO was already scrubbed in was unchanged (42.7% vs 42.8%, $p=1.00$). This pattern held for hemiarthroplasty

and DHS individually: both showed significant increases in SHO performance and scrubbing-in rates, but no change in conversion rate once scrubbed in. IM nail showed no significant change in any measure. CHS was the exception: both scrubbing-in and conditional performance rates rose significantly (25.0%→51.0% and 25.0%→80.0% respectively), though based on small case numbers.

Conclusion: Following the November 2023 change to ST3 selection criteria, SHOs are scrubbing into NOF fracture operations substantially more often, and this increased presence — rather than any change in supervisors' willingness to hand over the procedure once an SHO is already scrubbed in — appears to be the principal driver of increased SHO operative rates for hemiarthroplasty and DHS. IM nailing has not been affected. CHS shows a different pattern, with more scrubbed-in SHOs also being allowed to perform the procedure, though this finding is based on small numbers and warrants further data collection.

Biography

Mr. Mohamed Komber is currently a resident doctor in Lancashire teaching Hospitals Trauma and Orthopaedic surgery, Komber completed MRCS from RCS Edinburgh, T&O themed Core surgical training in NW of England, Post graduate diploma in clinical practise in the UK from The University of Manchester and PG Cert in medical education from the University of South Wales, with particular interest in Training and teaching.



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Complication and mortality rates following Neck of Femur (NOF) fracture surgery: Does SHO involvement increase risk?

Background: Concerns are frequently raised that increased operative exposure for Senior House Officers (SHOs) in Neck of Femur (NOF) fracture surgery could compromise patient safety. This service evaluation examined whether SHO-performed NOF fracture operations were associated with higher complication or mortality rates than operations performed by a registrar or consultant, and whether operative time was itself a risk factor, benchmarked against national mortality standards.

Methods: Operation notes for NOF fracture operations were reviewed (n=963 cases with complete clinical data). Inpatient falls (n=6), pathological fractures (n=1) and total hip replacements (n=2) were excluded, leaving 953 cases. Cases were classified by primary surgeon as SHO or non-SHO (registrar or consultant) and by procedure (hemiarthroplasty, Dynamic Hip Screws [DHS], intramedullary [IM] nail, Cannulated Hip Screws [CHS]). Outcomes were any recorded complication at any time and 90-day mortality. Chi-square/Fisher's exact tests compared proportions; Welch's t-test compared surgical time; multivariable logistic regression assessed the independent effect of SHO status and surgical time on each outcome, adjusting for ASA grade and age.

Results: Overall, SHO-performed cases had a significantly lower complication rate than non-SHO cases (12.8% vs 19.7%, p=0.043), with no significant difference in 90-day mortality (13.4% vs 16%, p=0.463). SHOs took significantly longer for hemiarthroplasty and DHS (both p<0.001) but not IM nail or CHS. Surgical time itself showed no association with complications (65.4 vs 65.5 minutes, p=0.966). Case-mix (ASA grade, age) was near-identical between groups. On multivariable logistic regression adjusting for ASA grade, age and surgical time, SHO status

remained associated with significantly lower odds of complications (OR 0.58, 95% CI 0.36–0.94, $p=0.028$) and showed no significant association with mortality (OR 0.82, 95% CI 0.5–1.34, $p=0.421$).

Overall cohort 90-day mortality was 15.4% (147/953), higher than typical published 90-day benchmarks (~10–12%) and the national 30-day NHFD average (~6–7%), consistent with a heavily comorbid case-mix (82% ASA grade ≥ 3).

Conclusion: There is no evidence that SHO involvement in NOF fracture surgery increases complication or mortality rates; if anything, SHO-performed cases showed fewer complications, including after adjustment for patient frailty. Operative time was not an independent predictor of complications or mortality. The cohort's overall mortality exceeds typical national benchmarks, most plausibly reflecting case-mix rather than surgeon grade, and warrants comparison against the unit's risk-adjusted NHFD submission.

Biography

Mr Mohamed Komber is currently a resident doctor in Lancashire Teaching Hospitals Trauma and Orthopaedic Surgery. Komber completed MRCS from RCS Edinburgh, T&O themed Core Surgical Training in NW of England, a Postgraduate Diploma in Clinical Practice in the UK from The University of Manchester and a PG Cert in Medical Education from the University of South Wales, with particular interest in training and teaching.

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Impact of timing surgical fixation on complications and functional outcomes in ankle fractures

Introduction: This study aimed to assess whether adherence to the British Orthopaedic Association Standards for Trauma (BOAST) and National Institute for Health and Care Excellence (NICE) guidelines for ankle fractures is associated with reduced complication rates and improved functional outcomes.

Methods: A retrospective analysis was conducted of all patients who underwent surgical fixation for ankle fractures in August 2023 to January 2024 from an acute hospital. Statistical analyses were performed using IBM SPSS Statistics software, version 29 (IBM Corp., Armonk, NY), to explore the relationship between BOAST and NICE guideline adherence and the study outcomes.

Results: The analysis revealed that only 10% of patients underwent ankle surgical fixation in accordance with the BOAST and NICE guidelines, with the mean time for surgery from injury as 10.7 days for the remaining cohort. Mental health effects were also recognised, with 26.7% due to waiting times. The association between BOAST and NICE compliance and complication incidence was found to be non-significant ($p = 0.414$). Mean Manchester-Oxford Foot Questionnaire (MOXFQ) scores were lower in the BOAST and NICE-compliant groups. The correlation coefficient between surgical waiting time and MOXFQ scores was $r = 0.007$, demonstrating no significant correlation between the time to surgery from injury and functional outcomes.

Conclusions: This study highlights the challenges in adhering to BOAST and NICE guidelines for timely surgical intervention in ankle fractures, with only a small proportion of patients receiving surgery within the recommended timeframe. Larger-scale studies are required to

substantiate the hypothesis that early surgical intervention, as per the guidelines, leads to improved outcomes and whether achievement of the guidelines is feasible or requires re-examination.

Biography

Mr. Mohamed Komber is currently a resident doctor in Lancashire Teaching Hospitals Trauma and Orthopaedic surgery. Komber completed the MRCS from RCS Edinburgh, T&O-themed Core surgical training in NW of England, a Post graduate diploma in clinical practice in the UK from The University of Manchester and a PG Cert in medical education from the University of South Wales, with particular interest in Training and teaching.



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QIP driving advice in stroke patients

Verbal and written reminders to clinicians are a recognised but limited quality-improvement lever. We tested whether redesigning the electronic patient record itself, rather than educating the clinicians who use it, could achieve reliable adherence to DVLA driving guidance in stroke and TIA patients.

Baseline audit (Cycle 1, n=85, 59 confirmed stroke) found 58% of eligible patients lacked documented driving advice at discharge. An awareness campaign (Cycle 2: posters, circulated guidance, team discussion; n=70, 53 confirmed stroke) improved documentation to approximately 60% in-patient and 56.6% at discharge, but adherence remained inconsistent and dependent on which clinician conducted the discharge interview.

We therefore worked with the Digital/IT team to redesign the stroke pathway within the electronic patient record (Qmed): a mandatory field now prompts documentation of driving status during the initial history and discharge interview, and, where the patient is identified as a driver, the relevant DVLA advice is automatically inserted into the discharge letter. Re-audit (Cycle 3, n=56, 26 confirmed stroke) showed 100% adherence (21/21) among confirmed stroke drivers for both in-patient and discharge-letter advice — a complete resolution of the original gap.

This project illustrates a broader principle for rehabilitation and stroke services: technology-embedded prompts can convert an unreliable, memory-dependent task into a guaranteed one, at negligible recurring cost and without adding to clinical workload. Because the intervention lives in the record rather than in individual practice, it is inherently resistant to staff turnover — a persistent vulnerability in rotational training posts. We propose this EPR-embedding approach as a scalable model for other statutory or high-risk discharge-advice requirements across rehabilitation settings.

Biography

Mr. Mohamed Komber is currently a resident doctor in Lancashire Teaching Hospitals Trauma and Orthopaedic surgery, and worked as Junior fellow in stroke medicine. Komber completed the MRCS from RCS Edinburgh, T&O-themed Core surgical training in NW of England, a Post graduate diploma in clinical practice in the UK from The University of Manchester and a PG Cert in medical education from the University of South Wales, with particular interest in Training and teaching.

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Cognition, mobilisation and surgical timing after hip fracture: Survival and return home

Background: Hip-fracture outcomes reflect patient frailty and multiple care-pathway factors. We examined the relative links of cognition, mobilisation, surgical timing and Orthogeriatric (OG) review with survival, hospital stay and return home.

Methods: We analysed 1,805 hip-fracture patients recorded from 2021–2025 in a single-centre service dataset. The primary functional outcome was discharge to own home among patients admitted from home. Secondary outcomes were hospital stay and recorded 30-day and cumulative 1-year death rate. We used adjusted models to take account of age, sex, ASA grade, delay to surgery >36 hours, orthogeriatric (OG) assessment within 48 hours, mobilisation and year. Cognition (AMTS/4AT) was available from 2023–2025 and examined in sensitivity models.

Results: Median age was 85 years (IQR 78–91); 1,225/1,766 (69.4%) patients with recorded sex were female. Median time to surgery was 33.5 hours (IQR 21.0–49.0), and 796/1,713 (46.5%) waited >36 hours. Among previously home-dwelling patients with known discharge destination, 1,123/1,485 (75.6%) returned home. Those recorded as mobilised returned home more often than those not mobilised (81.7% vs 61.5%) and had shorter median hospital stay (17 vs 22 days). In the 2022–2025 adjusted model, mobilisation was linked with greater odds of return home (OR 2.70, 95% CI 1.90–3.82) and shorter hospital stay (ratio 0.82, 95% CI 0.75–0.90); delay to surgery >36 hours was linked with longer hospital stay (ratio 1.22, 95% CI 1.13–1.31), while orthogeriatric (OG) assessment within 48 hours was linked with shorter hospital stay (ratio 0.90, 95% CI 0.83–0.99). In 2023–2025, cognitive problems were still linked with lower odds of return home (OR 0.25, 95% CI 0.17–0.38) and higher 30-day death rate (OR 3.90, 95% CI 2.28–6.66). Recorded 30-day death rate was 7.7% overall.

Conclusion: Mobilisation was the care-pathway factor most strongly linked with returning home, whereas delay to surgery was more consistently linked with prolonged hospital stay. Cognitive problems marked a high-risk group for death and failure to return home. These findings support a multidimensional orthogeriatric (OG) model focused on cognition, timely surgery and postoperative mobilisation rather than any single performance target.

Keywords: Hip fracture; orthogeriatric care; cognition; mobilisation; time to surgery; death rate; discharge destination; hospital stay

Biography

Mohammad MaazAzam is a Clinical Education Fellow at George Eliot Hospital NHS Trust and a graduate of the University of Birmingham. His clinical and academic interests include trauma and orthopaedic surgery and medical education. His current work examines outcomes following hip fracture, with a particular focus on cognition, postoperative mobilisation, and surgical timing in older patients.

Dr Rohit Chowdhury is an orthopaedic doctor with a strong interest in trauma and orthopaedic surgery. He completed his MBBS in 2018, followed by Foundation Year 1 training before moving to the United Kingdom to pursue his medical career. Since joining the NHS, he has gained extensive clinical experience in trauma and orthopaedics, working within multidisciplinary teams and managing a wide range of acute and elective orthopaedic conditions. He has successfully completed the Membership of the Royal Colleges of Surgeons (MRCS) examination and continues to develop his surgical knowledge and skills. He is committed to delivering high-quality patient care, professional development, and advancing his career in orthopaedic surgery.



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Who fixes rib fractures in the UK? Insight from a national cross-sectional study

Background: Rib fracture fixation is increasingly recognized in managing severe thoracic trauma. While current guidelines address management, little is known about which surgical specialties perform this procedure across UK and the rationale behind it. This national survey aimed to identify the primary surgical specialty responsible for rib fixation in UK and explore their arguments for specialty suitability.

Method: A cross-sectional survey was distributed via Google Forms to rib fixation leads across Major Trauma Centres (MTCs) in 12 UK regions. The initial email was sent on 25/02/2025, followed by three biweekly reminders. The survey collected hospital names, regions, performing specialty, access to onsite thoracic services, additional procedures and opinions on which specialty should perform the operation and why.

Results: Out of 20 MTCs from 12 regions that are invited, 12 MTCs from 8 regions responded (2 in Scotland, 1 in Wales, 9 in England). Six centres (50%) reported thoracic surgery as the main specialty performing fixation, five (41.7%) for orthopaedic, and one uses both. 75% of centres have onsite thoracic services. All thoracic surgeons reported using video-assisted thoracoscopy (VATS) for pleural inspection. Surgical preference varied: 5 respondents favoured orthopaedics, 4 for thoracic surgery, and 3 express no preference as depends on availability. The main arguments favour orthopaedics were expertise in muscle-sparing dissection, bone-fixation, and managing polytrauma patients. In contrast, thoracic surgeons' ability to use VATS for identifying subtle pleural injuries which may be undetectable by CT scan was their key advantage.

Fixation responsibilities are evenly split between thoracic and orthopaedic specialties in surveyed MTCs. Orthopaedics are often preferred due to experience with bone-fixation and polytrauma management, though thoracic surgery offers unique benefits through VATS. Further research is needed to compare postoperative outcomes and pleural injury detection rates through VATS and its clin

Biography

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Outcomes of hindfoot fusion using hindfoot nailing with supplemental lateral plate via trans-fibular approach for complex deformities with poor bone stock

Background: Complex hindfoot deformities with poor bone quality, including Charcot neuroarthropathy, present increasing challenges. Although circular external fixators can achieve correction, they are associated with prolonged frame time and high rates of reoperation from non-union, broken wires, and pin-site infection. These patients are often frail, especially those with diabetes, who face elevated risks of amputation and mortality. This study evaluates internal fixation technique with hindfoot nailing and a supplemental lateral plate via trans-fibular approach in terms of allowing early weightbearing and maintaining hindfoot alignment.

Methods: All patients undergoing Tibiototalcalcaneal (TTC) arthrodesis with deformity correction using internal fixation between October 2022 and June 2026 in Liverpool University Teaching Hospital were included. Data collected included demographics, BMI, Clinical Frailty Score (CFS), diabetes status, HbA1c, smoking history, surgical indication, and arthrodesis type. Outcomes assessed were time to weightbearing, Length of Hospital Stay (LOS), and postoperative wound complications which further subdivided into delayed wound healing, superficial ulcer and deep infection which warrant further debridement or amputation. In addition, bone union status and mortality were also studied.

Results: Eighteen patients were included with total of nineteen limbs operated on (one patient had bilateral hindfoot fixation) (mean age 58.5 years). The mean CFS was 3.8 and mean BMI 32.3. Eight patients have diabetes, and 2 were active smokers while 6 are ex-smoker. In terms of outcome measures, mean LOS is 7.5 days, and weightbearing began at a mean of 2.9 weeks. For wound complications, 4 had delayed wound healing (2 required antibiotic treatment and 2

managed conservatively with wound care), one patient had superficial ulcer and one patient had deep infection which require debridement then below knee amputation. 17 operated hindfoot fixation had bone union achieved during studied period with one limb pending follow up in future and one lost to follow up. There is no mortality recorded in our cohort of patients.

Conclusion: Internal fixation for TTC arthrodesis appears to be a viable alternative to circular fixation for complex hindfoot deformities. Early weightbearing was achievable, and LOS was acceptable despite significant comorbidity. Wound complications were relatively common, but few patients required major revision surgery. Further studies with longer follow-up are needed to assess fusion rates and long-term limb outcomes.

Biography

Muhaned El Gheryani, Liverpool University Hospitals NHS Foundation Trust, United Kingdom



Natalia Bareikis

School of Presence Ltd, United Kingdom

Temporal dynamics of brain activity during the PRISM™ method: A quantitative EEG study

Background: The PRISM™ method is an integrative psychophysiological framework designed to facilitate nervous system regulation, emotional resilience, and adaptive neuroplasticity through present-moment awareness, somatic perception, autonomic regulation, and experiential integration. Unlike purely cognitive approaches, PRISM conceptualizes personal transformation as a multidimensional interaction between brain activity, autonomic nervous system function, embodied awareness, and emotional processing. Although the theoretical foundations of the method are supported by contemporary research in neuroscience, interoception, neuroplasticity, and polyvagal theory, objective neurophysiological evidence remains limited. The present pilot study aimed to investigate cortical functional changes associated with a single PRISM intervention using quantitative electroencephalography (qEEG).

Methods: Resting-state qEEG recordings were obtained immediately before and after a standardized PRISM™ session administered by a certified practitioner. Quantitative analyses included spectral power, frequency distribution, cortical topography, and comparison of oscillatory activity across delta (1–4 Hz), theta (4–7 Hz), alpha (8–12 Hz), SMR (12–15 Hz), beta1 (13–20 Hz), and beta2 (20–30 Hz) frequency bands. Changes in spatial distribution and functional organization of cortical rhythms were evaluated using topographic brain mapping.

Results: The PRISM intervention produced measurable neurophysiological changes across multiple frequency bands. The most prominent finding was enhanced alpha synchronization within parietal and occipital cortical regions, indicating increased cortical coherence and a relaxed but alert functional state. Theta activity demonstrated greater synchronization,

suggesting enhanced internal attention, interoceptive awareness, and emotional integration. Mild increases in posterior delta activity were consistent with physiological relaxation without evidence of pathological slowing. Sensorimotor rhythm remained stable, indicating preserved sensorimotor regulation throughout the intervention. Simultaneously, frontal beta1 activity decreased, suggesting reduced cognitive load, diminished cortical hyperactivation, and more efficient executive processing, while beta2 activity remained physiologically balanced without evidence of stress-related hyperexcitability. Overall cortical topography demonstrated a transition toward a more homogeneous spatial distribution of neural oscillations, consistent with improved large-scale functional integration.

Conclusion: The observed qEEG findings suggest that the PRISM™ Method is associated with rapid functional reorganization of cortical activity characterized by increased alpha and theta synchronization, reduced frontal hyperactivation, and improved balance of large-scale neural networks. These changes are consistent with enhanced autonomic regulation, improved thalamocortical coordination, and increased efficiency of neural communication.

Biography

Natalia Bareikis is an energy worker and somatic practitioner with over 17 years of experience, founder of Luv Yourself Space and creator of the PRISM™ Method, an internationally accredited approach to Kundalini Activation, breathwork and non-duality, recognised by IPHM. Bareikis' work incorporates EEG brain mapping and experimental research methods. In June 2026 the PRISM™ Method was tested in Warsaw using EEG across 19 channels, producing results consistent with deep meditation, neuroplasticity and psychedelic-like states without substances. Bareikis trains facilitators internationally and has been accepted to present findings at an international conference for psychology and science in Washington.



Neha Patel

Paradise Valley High School (PVHS), United States

Projections of High Tibial Osteotomy (HTO), unicompartmental knee arthroplasty, and primary total knee arthroplasty in the United States from 2020 to 2050

Introduction: While primary Total Knee Arthroplasty (TKA) remains the most common and definitive treatment for advanced knee arthritis, there is growing interest in joint-preserving procedures such as High Tibial Osteotomy (HTO) and Unicompartmental Knee Arthroplasty (UKA), particularly among younger, active patients with isolated compartment disease. However, long-term projections for surgical procedures commonly used in the management of knee osteoarthritis remain limited.

The purpose of this study was to analyze national trends in HTO, UKA, and TKA, and project the utilization of these procedures in the United States through 2050.

Methods: Procedural data for TKA, UKA, and HTO from 2000 to 2019 were obtained from the Medicare Part B database. After evaluating several statistical models, the autoregressive integrated moving average (ARIMA) model was selected based on the lowest normalized root mean square error, a robust measure of forecast accuracy. This model was subsequently used to project annual procedure volumes through 2050.

Results: In 2019, Medicare Part B data recorded 444,270 TKA procedures, 30,002 UKA procedures, and 734 HTO procedures. ARIMA modeling projected continued growth across all three techniques through 2050. TKA is estimated to increase at a compounded annual growth rate of 2.14%, reaching 883,306 procedures by 2050 (95% CI: 830,818–935,997). UKA is projected to grow at 2.07% annually, with an estimated volume of 58,571 procedures by 2050 (95% CI: 49,397–67,178). HTO is expected to increase at a rate of 3.06% per year, reaching 1,918 procedures by 2050 (95% CI: 1,463–2,748).

Conclusion: Relative to the annual volume reported by Medicare in 2020, TKA and UKA are projected to increase by 92.82% and 88.49%, respectively, by 2050. Although HTO accounts for a small proportion of overall procedures, its projected 154.38% increase underscores its continued utility in select patients — particularly those with isolated single-compartment disease and varus malalignment. This trend may also reflect the growing use of HTO in slope-correcting osteotomies for ACL-deficient knees, where adjusting tibial slope can improve stability and reduce graft failure risk. Notably, this analysis is limited to older adults, likely underestimating broader HTO utilization in younger populations. These projections highlight the importance of long-term planning in surgical training, implant manufacturing, and healthcare infrastructure to meet the rising demand for knee osteoarthritis procedures.

Biography

Neha Patel studying at Paradise Valley High School (PVHS), United States



Nicola Burgess^{1,2*}, Stefanie N Voelker², Belinda Phillips^{3,4}, Marnie Graco^{1,2,5}, Sue Berney^{1,2,5}, Linda Denehy^{1,6,7}, Lara Edbrooke^{1,6,7}

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Outcome measures in prehabilitation interventions for total hip and knee arthroplasty: A scoping review

Objective: This scoping review aimed to map outcome measures collected in randomised controlled trials investigating prehabilitation interventions in total hip and knee arthroplasty, and timepoints of collection.

Data Sources: A systematic search of MEDLINE, EMBASE, Web of Science, Cochrane, and CINAHL was conducted.

Methods: This review followed the Joanna Briggs Institute Scoping Review methodology. Outcome domains, concepts of interest and assessment tools were characterised using the International Society for Pharmacoeconomics and Outcomes Research Framework, and timepoints for data collection were extracted.

Results: Eighty-one trials (published between June 2001 and May 2024) were included. Most delivered unimodal prehabilitation, with exercise the most common intervention (n=34, 42%). The review identified 34 outcome concepts measured with 206 unique assessment tools. Patient-reported outcomes were collected in 91% of trials (n=74), and was the most heterogeneous domain with 91 assessment tools. Observer-reported outcomes were reported in 90% of trials (n=73), with healthcare utilisation (e.g. hospital length of stay) the most common

concept. Clinician-reported outcomes were reported in 69% of trials (n=56) and most frequently included post-operative complications. Performance-based outcomes, most commonly muscle strength, were collected in 68% of trials (n=55) and utilised 46 different tools. Biomarker outcomes were rare (n=6, 7%).

Timing of outcome collection varied, with just under half the trials collecting both a pre-operative and post-operative timepoint.

Conclusion: This review identified significant variability in outcome measures collected in prehabilitation trials for total hip and knee arthroplasty, highlighting the need for a core set of assessments to facilitate consistent reporting and robust meta-analyses of prehabilitation efficacy.

Clinical messages:

- Evidence for prehabilitation effects on joint arthroplasty outcomes may be affected by heterogeneity in reported measures.?
- Meaningful, valid and feasible outcomes and assessment tools in this population need to be identified to form a core outcome set for future reporting.

Meaningful, valid and feasible outcomes and assessment tools in this population need to be identified to form a core outcome set for future reporting.

Biography

Burgess is a senior orthopaedic physiotherapist at a major metropolitan hospital in Melbourne, Australia. Burgess is in the final year of a PhD at the University of Melbourne and is a Melbourne Academic Centre for Health (MACH) Research Fellow. Burgess's research focuses on optimising pre-operative care for people undergoing total hip and knee arthroplasty surgery. Burgess investigates current orthopaedic prehabilitation practice, barriers and enablers to implementation, and strategies to deliver more personalised, evidence-based care. As part of the doctoral research, Burgess is developing a screening tool to identify modifiable risk factors before orthopaedic surgery and support stratified, needs-based prehabilitation.



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Prehab should adapt to the person, not the other way around: A qualitative study exploring stakeholder perceptions of prehabilitation for total hip and knee arthroplasty

Background: Despite increasing research on prehabilitation interventions for people undergoing Total Hip and Knee Arthroplasty (THA/TKA), little is known about its acceptability to consumers and clinicians, or the barriers and enablers to implementation in clinical settings. Most qualitative research has occurred to evaluate existing prehabilitation programs, rather than during the design phase to inform intervention development.

The aim of this qualitative study was to:

1. Explore acceptability of prehabilitation as an intervention for patients awaiting arthroplasty surgery and to the clinicians involved in delivering care.
2. Identify barriers and enablers to prehabilitation uptake and delivery.
3. Investigate consumers and clinicians' perspectives on an ideal model of prehabilitation care in this setting and identify possible strategies for future implementation.

Methods: Semi-structured interviews were conducted with consumers who had undergone or were awaiting THA/TKA at a quaternary public hospital in Melbourne, Australia, and with clinicians involved in perioperative care for this cohort. Interview guides were informed by the Theoretical Framework of Acceptability (TFA) and the Theoretical Domains Framework (TDF). Data were analysed using the Framework Analysis, incorporating inductive and deductive approaches.

Results: 30 semi-structured interviews were completed at one health service in 2024/2025 with consumers (n=15) and clinicians (n=15). Consumers (n=6 pre-operative, n=9 post-operative) had a mean age of 69 years (SD 8) and an average waitlist time of 527 days [IQR 169–749]. Seven participants were awaiting or had received a TKA, and eight were awaiting or had received a THA. Clinicians were physiotherapists (n=7), surgeons (n=4), anaesthetists (n=3) and a surgical liaison nurse (n=1) with varying years of experience.

Three overarching themes were identified which encompassed multiple sub-themes:

- 1) Understanding and beliefs of prehabilitation for THA/TKA. Prehabilitation was generally acceptable to both consumers and clinicians and seen to be beneficial, although there was significant variation in the understanding of prehabilitation.
- 2) Factors influencing prehabilitation implementation. Several barriers and enablers to prehabilitation uptake and delivery were identified by both consumers and clinicians at three levels in the care ecosystem (Figure 1) – interpersonal factors related to the consumer (e.g. Mindset regarding preparing for surgery), factors related to the clinician (e.g. Level of confidence discussing prehabilitation with consumers), and system level factors (e.g. Long waitlists make timing prehabilitation relative to surgery challenging).
- 3) Ideal model of care. Recommendations for prehabilitation implementation prior to THA/TKA were identified, covering ‘who’, ‘what’, ‘when’ and ‘how’ constructs. Participants emphasised the need for tailored care that considers an individual’s goals and risk profile, ongoing prehabilitation support and information from consent through to surgery, the integration of remote monitoring, and multi-modal delivery that affords flexibility. Ten recommendations made by participants are summarised in Figure 2.



Figure 1. Barriers and enablers to prehabilitation uptake and delivery identified at different levels of the care ecosystem in total hip and knee arthroplasty.



Figure 2. Ten recommendations for implementation of orthopaedic prehabilitation prior to total hip and knee arthroplasty.

Conclusion: This study identified factors that influenced the acceptability of and engagement with prehabilitation at multiple levels of care. The findings will help inform the development of a novel stakeholder-informed, multi-modal model of prehabilitation care for THA/TKA.

Biography

Burgess is a senior orthopaedic physiotherapist at a major metropolitan hospital in Melbourne, Australia. Burgess is in the final year of a PhD at the University of Melbourne and is a Melbourne Academic Centre for Health (MACH) Research Fellow. Burgess's research focuses on optimising pre-operative care for people undergoing total hip and knee arthroplasty surgery. Burgess investigates current orthopaedic prehabilitation practice, barriers and enablers to implementation, and strategies to deliver more personalised, evidence-based care. As part of the doctoral research, Burgess is developing a screening tool to identify modifiable risk factors before orthopaedic surgery and support stratified, needs-based prehabilitation.



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An orthopaedic surveillance guide for congenital insensitivity to pain

Introduction: Congenital Insensitivity to Pain (CIP) is an ultra-rare monogenic disorder with lifelong inability to sense pain. There is a paucity of literature on the presentation, surveillance, and management of CIP. An aim of this work was to determine the common orthopaedic complications of CIP, develop a surveillance guide, and evaluate this through survey of paediatric orthopaedic surgeons.

Methods: Ethics approval was obtained from the NHS Health Research Authority in 10/2022. The British Paediatric Neurology Surveillance Unit (BPNSU) facilitated a multi-centre surveillance study 04/2023-08/2025. Patients aged 1 month-18 years with a history consistent with CIP and no co-existing neurological disorder were included. English language patient information sheets and assent/consent forms were sent to families. Clinical data were obtained through General Practitioners and electronic health records. This was supplemented with a systematic review through PubMed, Google Scholar, OVID and EBSCO using keywords congenital insensitivity to pain, followed by title/abstract and full text screening and narrative synthesis. The findings were presented at the First International Conference on Congenital Insensitivity to Pain 10/10/2025. One component involved paediatric orthopaedic surgeons and affected families informing development of an orthopaedic surveillance guide, subsequently evaluated by paediatric orthopaedic surgeons at the British Society for Children's Orthopaedic Surgery Annual Meeting 2026.

Results: 25 case notifications were received by BPNSU; one did not have CIP, nine did not respond, three declined, and clinical data was successfully collected for 12. Children with CIP are susceptible to fractures, joint subluxation, avascular necrosis, septic arthritis, osteomyelitis,

and Charcot joints. The surveillance guide aims to mitigate these risks. Below is the guide and evaluation results. We received 81 responses with 98% being paediatric orthopaedic surgeons.

- 1) 'Children with CIP should be reviewed by an orthopaedic specialist six months after starting to walk and have X-rays of hips, ankles, knees and spine', 33% were unsure. Of those responding, 72% agreed.
- 2) 'Children with CIP may have orthopaedic damage only identifiable on imaging', 17% were unsure. Of those responding, 67% agreed.
- 3) 'Before age six, children with CIP should have X-rays of hips, ankles, knees and spine every 18-24 months as a minimum', 40% were unsure. Of those responding 78% agreed.
- 4) 'After age six, follow up could be undertaken every three years at minimum', 41% again were unsure. Of those responding, 96% agreed.
- 5) 'Is there any other orthopaedic surveillance you recommend?', 57% were unsure and 11 respondents offered free text suggestions. Key points included considering Electronic Optical Scanning, DEXA scanning, range of motion assessments, and extending surveillance to the upper limb.
- 6) 70% of respondents did not know who in the multidisciplinary team (MDT) to contact to manage children with CIP.

Conclusions: Children with CIP should have orthopaedic review and x-rays of spine, hips, knee and ankles six months after they start walking and then at least every 18 to 24 months through until the age of six years. It could then be reduced to every three years, in the absence of bony injury. They should be integrated with an MDT.

Biography

Basha recently graduated from the University of Cambridge and is now a Foundation Year 1 doctor undertaking a Specialised Foundation Programme at Ipswich Hospital. Basha is an aspiring academic paediatrician with an interest in research and teaching.



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Exercise-based therapies provide the most consistent benefits for upper limb recovery after Spinal Cord Injury (SCI): A systematic review

Introduction: Spinal Cord Injury (SCI) has dramatically increased and is associated with significant long-term disability, with loss of upper limb function representing a major determinant of independence and quality of life. Optimising recovery of arm and hand function, alongside pain control, remains a key goal of orthopaedics and rehabilitation. However, management is challenging as evidence guiding treatment selection is heterogeneous and often limited to small, single-centre studies. A systematic review of randomised controlled trials was conducted to evaluate interventions aimed at improving upper limb motor function and pain following SCI.

Methods: This systematic review was conducted in accordance with PRISMA 2020 guidelines. The protocol was registered on PROSPERO (CRD42024611561). Interventions were categorised as follows: exercise-based, pharmacological, robotic/AI-assisted, and electrical stimulation. Qualitative synthesis and quantitative aggregation of p-values performed.

Results: Twenty studies (n=792) were included. Exercise-based rehabilitation demonstrated the most consistent improvements in motor outcomes, particularly in strength and endurance (p=0.008), and showed benefit in pain reduction (WUSPI, p=0.002). Robotic-assisted therapies improved motor ability, particularly when combined with exercise programs (SCIM p<0.01, UEMS p=0.003). Of pharmacological agents tested, riluzole showed targeted benefits (UEMS, P=0.01) though results were variable. There was no robust evidence supporting standalone use of electrical stimulation for motor recovery or pain control.

Conclusion: Based on the evidence, exercise regimens should be utilised as first-line therapy to enhance both upper limb motor ability and pain control. Robotic/AI-assisted therapies and pharmacological adjuncts may offer targeted benefits, though this requires further validation. Future research should prioritise multi-centre studies with standardised treatment protocols and longer follow-up times to establish evidence-based rehabilitation pathways.

Biography

Nihal Sogandji is an F2 doctor in North West England and a graduate of the University of Cambridge, School of Clinical Medicine. Sogandji also holds a BA in Mechanical Engineering and Bioengineering. Sogandji has published multiple works and presented research at international conferences. Sogandji's academic interests include surgical research, and Sogandji intends to pursue a career in trauma and orthopaedic surgery.



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Non-compliance or clinical prioritisation? An audit of timing of surgical fixation for NOFs in young patients and the impact of polytrauma cases

Background: NICE guidance recommends surgical fixation for Neck of Femur Fractures (NOFs) on the day of or the day following admission. Compliance is commonly assessed with a 36-hr target. However, interpretation may be challenging, especially in major trauma centres and for younger patient cohorts frequently dealing with high energy traumas associated with polytrauma and competing injuries requiring clinical prioritisation for management. This audit evaluated compliance with national guidance on timing of surgical fixation for NOFs at a tertiary MTC in a cohort of patients younger than 60 and investigated the contribution of polytrauma to delays in surgical intervention.

Methods: This was a retrospective closed-loop audit conducted at a tertiary MTC. Patients younger than 60 admitted with NOFs were identified during two different audit periods. Time between admission and surgical fixation recorded. Subgroup analysis was conducted following cycle 1 to identify the proportion of polytrauma cases in the non-compliant group. Findings were discussed at a multidisciplinary departmental governance meeting and a poster prepared for display. A second cycle was conducted to assess compliance following these interventions.

Results: Cycle 1 included 236 patients, for 76 of whom the target was not met (32.8%). Subgroup analysis revealed 22 of these patients (28.9%) were patients with polytrauma with multiple complex injuries. Other factors noted to have contributed to operative delays included need for anticoagulation reversal and logistical issues surrounding theatre availability.

Cycle 2 revealed persisting challenges in meeting the national targets with non-compliance at 45% (n=20).

Conclusion: Meeting national guidelines for timing of surgical fixation of NOFs remained a challenge at this tertiary MTC. A substantial proportion of non-compliant cases involved polytrauma patients where delays in surgical fixation may be partially attributed to appropriate clinical prioritisation. A binary assessment of compliance with timing targets may overlook case complexity particularly in younger patient cohorts presenting with polytraumas.

Biography

Nihal Sogandji is an F2 doctor in North West England and a graduate of the University of Cambridge, School of Clinical Medicine. Sogandji also holds a BA in Mechanical Engineering and Bioengineering. Sogandji has published multiple works and presented research at international conferences. Sogandji's academic interests include surgical research, and Sogandji intends to pursue a career in trauma and orthopaedic surgery.



Olena Bakai

International Yoga Therapy Center SENSE, Ukraine

Autonomic regulation through structured yoga intervention in post-COVID anxiety

Post-COVID anxiety has emerged as a persistent condition associated with autonomic nervous system dysregulation following SARS-CoV-2 infection. Increasing evidence suggests that neuroinflammatory responses, hypoxia, and hypothalamic–pituitary–adrenal (HPA) axis imbalance contribute to prolonged sympathetic activation, which underlies many anxiety-related symptoms in post-COVID populations. Therefore, interventions targeting autonomic regulation represent a promising direction in rehabilitation.

The aim of this study was to investigate the effects of a structured yoga-based intervention on autonomic balance and anxiety reduction in individuals with post-COVID symptoms. A total of 42 female participants aged 30–40 years, who had recovered from COVID-19 at least 12 weeks prior, were enrolled and divided into an experimental group (n=21) and a control group (n=21).

The intervention consisted of a specifically designed protocol combining interval isometric loading with guided relaxation and controlled breathing techniques. This approach was aimed at alternating sympathetic activation and parasympathetic recovery to restore autonomic balance. The program was conducted over 8 weeks.

Outcome measures included the Spielberger–Hanin State-Trait Anxiety Inventory (STAI) and the Generalized Anxiety Disorder scale (GAD-7), assessed at baseline, 1 month, and 2 months. The experimental group demonstrated significant reductions in anxiety levels, with state anxiety decreasing by 37%, trait anxiety by 23.61%, and GAD-7 scores by 35.5% ($p < 0.05$). No statistically significant improvements were observed in the control group.

The results indicate that structured yoga interventions may serve as an effective non-pharmacological strategy for modulating autonomic function and reducing anxiety symptoms in post-COVID populations. The integration of controlled physical load with relaxation and breathing techniques appears to be a key mechanism underlying therapeutic outcomes.

Biography

Olena Bakai is the founder of the International Yoga Therapy Center SENSE, a yoga therapist and researcher. Bakai holds degrees in International Business Management and Adaptive Physical Culture and Rehabilitation, and trained at the Institute of Traditional Health Systems. Bakai graduated from Lviv State University of Physical Culture and is currently completing a Master's degree in Psychology at Kharkiv Polytechnic Institute. Bakai's work focuses on yoga therapy, pathological conditions, and integrative health approaches.



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Neuroendocrine dynamics during QUINTESSENCE Method: Implications for emotional stabilization, mental health, and rehabilitation

Introduction: The QUINTESSENCE method is described as a state associated with pronounced changes in subjective experience, emotional state, bodily sensations, and autonomic regulation. During the observed session, the participant experienced a pronounced body-emotional process manifested through spontaneous motor responses, changes in muscle tone, and emotional expression, accompanied by a subjective experience of emotional release and catharsis. From psychological and body-oriented perspectives, such an experience may be understood as increased contact with previously insufficiently conscious or suppressed components of emotional and bodily experience.

Aim: To assess neuroendocrine and neurophysiological dynamics associated with the QUINTESSENCE method, with particular attention to stress-related biomarkers, BDNF, and changes in resting-state EEG/QEEG organization potentially related to emotional regulation and stabilization.

Methods: A longitudinal psychophysiological observation was conducted using repeated laboratory measurements and comparative pre- and post-state EEG/QEEG assessment. Neuroendocrine, neurophysiological, and subjective changes were evaluated throughout the observation period.

Results: The most pronounced endocrine dynamics were observed in stress-related parameters. Cortisol progressively decreased by 17.1% between the first and second measurements and by an additional 28.3% between the second and subsequent

measurements, corresponding to an overall reduction of 40.5% from baseline. Prolactin decreased by 24.4% between the first and second measurements and by a further 28.3%, resulting in an overall reduction of 45.8%. ACTH remained relatively stable (+1.8%), while DHEAS showed a small decrease (-2.3%). BDNF demonstrated a nonlinear trajectory, initially increasing by 18.4% at the intermediate stage and subsequently decreasing, resulting in an overall change of -46.4% from baseline.

Subjectively, the participant described pronounced emotional release accompanied by a cathartic experience, changes in bodily sensations, and a subsequent subjective sense of greater emotional calm and stabilization. These subjective changes occurred in parallel with the observed endocrine and neurophysiological dynamics.

QEEG demonstrated frequency- and region-specific reorganization of resting-state cortical dynamics. The most prominent spectral finding was a redistribution of activity in posterior regions within the alpha range, characterized by decreased Alpha1 activity and increased Alpha2 activity in occipital and posterior regions. Theta power also increased predominantly in central-posterior regions, while Beta1 and Beta2 demonstrated more moderate regional redistribution. Source-level analysis revealed selective remodeling of functional connectivity, particularly within the Alpha2 and Beta2 networks, with altered frontotemporal and frontoparietal interactions. Within the Default Mode Network, Alpha2 and Beta2 connectivity demonstrated reorganized coupling, whereas connectivity in the Theta, Beta3, and gamma ranges showed predominantly reduced or reorganized interactions.

Conclusions: The findings demonstrate multimodal individual dynamics in neuroendocrine and neurophysiological parameters during the period associated with the QUINTESENCE method. The endocrine profile was characterized by substantial reductions in cortisol (40.5%) and prolactin (45.8%), relative stability of ACTH and DHEAS, and a nonlinear BDNF trajectory. Concurrently, QEEG demonstrated frequency-specific reorganization characterized by a posterior redistribution from lower-alpha (Alpha1) toward upper-alpha (Alpha2), increased theta activity, and selective remodeling of large-scale functional connectivity, particularly within the Alpha2 and Beta2 networks and the Default Mode Network. These objective changes occurred alongside a self-reported emotional release followed by a subjective sense of greater emotional calm and stabilization. One possible interpretation is that the observed body-emotional process was accompanied by a transition from a state of pronounced emotional activation toward subsequent physiological regulation. The concurrent reduction in cortisol may be consistent with decreased activity of stress-related neuroendocrine mechanisms, while the change in prolactin may reflect alterations in hypothalamic neuroendocrine regulation. At the neurophysiological level, the observed redistribution of alpha activity and remodeling of large-scale functional connectivity may reflect changes in the coordination of networks involved in internal information processing, emotional regulation, and integration of subjective experience.

Biography

Olena Shcherban is a psychologist, sexologist, and psychotherapist, and the founder of Shanty Place, an ecosystem for human potential development. Shcherban is the creator of the QUINTESSENCE method, holds a degree in Psychology and Sociology from Oles Honchar Dnipro National University, trained as a practicing Gestalt psychotherapist and completed training as a supervisor and lead instructor for educational programs in the Gestalt approach at the Ukrainian Gestalt Institute. Shcherban is also a certified NLP Master and works as a trainer at the Kundalini Life-Force Activation Academy.



Olisemeka Eboka*, Sabrina Grace Goldberg-Brown, Abdelrahman El-Raghi, Tharusha Padukkage Don, Rohini Rao, Nicholas Champion, James White, S. Radha, D. Griffiths

Imperial College Healthcare NHS Trust, London, United Kingdom

Imaging adherence in shoulder dislocation: Evaluating compliance with rotator cuff tear guidelines in the NHS

Traumatic anterior shoulder dislocation is the most common large joint dislocation and is associated with a high risk of rotator cuff tears in patients aged 40–60 years. National guidelines recommend routine imaging in this cohort to guide management.

This re-audit evaluated adherence to imaging guidelines at St Mary's Hospital between 2018 and 2025, following earlier interventions including staff education and implementation of a standardised referral pathway via the Virtual Fracture Clinic.

Fifty-two patients met inclusion criteria. Overall imaging compliance was 23.1%, with 59.6% referred for orthopaedic follow-up. However, significant improvement was observed over time, with imaging compliance increasing to 100% in 2025 and follow-up rates also reaching full compliance.

These findings demonstrate that targeted interventions can significantly improve adherence to national guidelines. Sustaining these improvements will require continued reinforcement of standardised pathways and optimisation of electronic referral systems. Improved compliance supports earlier detection of rotator cuff tears, reduces missed injuries, and enhances patient outcomes within the NHS.

Biography

Eboka is an FY2 doctor working in the NHS with experience across Emergency Medicine, Trauma and Orthopaedics, and General Practice. Eboka has a strong interest in surgery, medical education, and public health, and has led quality improvement and teaching initiatives alongside clinical work.



Olisemeka Eboka

NHS, United Kingdom

Osteoporosis as a silent driver of fragility fractures: A narrative review of risk factors, management, and health system gaps in Nigeria with comparative insights from the United Kingdom

Osteoporosis is an under-recognised contributor to fragility fractures, particularly in low- and middle-income countries. In Nigeria, limited awareness, inadequate screening, and fragmented care pathways contribute to delayed diagnosis and increased fracture risk, whereas the United Kingdom demonstrates more structured approaches to prevention and management.

This narrative review synthesised evidence from 42 studies and policy documents published between 2010 and 2025. Data were analysed thematically, focusing on risk factors, diagnostic practices, management strategies, and health system capacity.

Findings demonstrate that osteoporosis in Nigeria is driven by demographic, hormonal, nutritional, and lifestyle factors, compounded by limited access to diagnostic tools and treatment. System-level challenges, including lack of screening programmes and coordinated care pathways, further worsen outcomes. In contrast, the UK benefits from structured risk assessment, improved access to diagnostics, and integrated fracture care services.

Addressing osteoporosis in Nigeria requires improved awareness, expanded access to diagnostics and treatment, and development of coordinated care pathways. Adapting context-appropriate elements from established systems such as the UK may offer practical solutions to improve fracture prevention and management in resource-limited settings.

Biography

Eboka is an FY2 doctor working in the NHS with experience across Emergency Medicine, Trauma and Orthopaedics, and General Practice. Eboka has a strong interest in surgery, medical education, and public health, and has led quality improvement and teaching initiatives alongside clinical work.



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Open Excision of the Anterior Process of the Calcaneus for Degan Classification Type II Fracture Non-union: A Retrospective Analysis of Patient-Reported Outcomes

Background: Fractures of the Anterior Process of the Calcaneus (APC) are often misdiagnosed as ankle sprains. Some patients develop symptomatic non-union. There is limited evidence evaluating Patient- Reported Outcome Measures (PROMs) before and after excision of symptomatic non-union of Degan type II APC fractures. This study aims to determine if excision of the APC for symptomatic non-union Degan II fractures results in a clinically relevant improvement in patient reported outcomes.

Methods: We undertook a retrospective analysis of a single surgeon series of patients undergoing open excision of the APC between February 2021 and June 2024. Inclusion criteria were adults with symptomatic non-union of Degan type II APC fracture who had failed conservative management for at least 6 months and completion of pre- and post- operative European Foot and Ankle Society (EFAS) score, EQ-5D index, and Manchester- Oxford Foot Questionnaire (MOXFQ).

Results: Six patients underwent surgery. Five completed pre- and post-operative PROMs and were included for analysis. Mean follow-up was 29.4 months (range 12–56). The mean EFAS improved from 7 to 15.2 ($p = 0.00037$). EQ-5D index improved from 0.632 to 0.809 ($p = 0.0501$). All MOXFQ domains improved: Pain decreased from 72 to 29 ($p = 0.0231$), Standing from 69.2 to 24.4 ($p = 0.0160$), and Social from 43.8 to 14 ($p = 0.0313$). The mean change exceeded the minimal clinical important difference (MCID) in EQ-5D index and all MOXFQ domains. There is no MCID stated for EFAS. No post-operative complications were reported.

Conclusions: Open excision of symptomatic non-union of Degan type II APC fractures demonstrated statistically significant and clinically relevant improvement in patient reported functional outcomes. Based on our findings operative management should be considered for patients suffering from pain and discomfort secondary to non-union of APC fractures when a trial of conservative management has failed.

Biography

Owen Morris is currently trauma and orthopaedic themed Core Surgical Trainee Year 2 working at WrexhamMaelor Hospital. He underwent his medical degree at the University of Leeds and completed his foundation training at the Royal Bolton Hospital. He completed both parts of MRCS and he is looking forward to pursuing a career in trauma and orthopaedics. He is currently applying for trauma and orthopaedic registrar posts to commence following completion of core surgical training this August.



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LL13 7TD

The impact of draping technique on radiation exposure during Dynamic Hip Screw (DHS) fixation for hip fractures

Background: Hip fractures are among the most prevalent injuries in the elderly population, accounting for an estimated 1.66 million emergency orthopaedic operations per year. 50% of all hip fractures are intertrochanteric, and current National Institute for Health and Care Excellence guidelines recommend the use of extramedullary implants such as Dynamic Hip Screws (DHS) for their management. There are two common draping techniques for DHS fixation that allow positioning of intra-operative fluoroscopy. Traditional opaque drapes over the patient and vertical transparent isolation drapes. Our study aims to determine if there is a difference in radiation exposure between the two draping techniques.

Methods: Data was collected retrospectively over an 18-month period (February 2023 - July 2024) prior to transition to vertical isolation drapes and a 13-month period following (September 2024 - September 2025). Only surgeons who were consistently using the vertical isolation drapes were included. All DHS operations identified by the hospital coding team were included and procedure confirmed on review of intra-operative imaging and patient records.

Results: There were 56 patients included who had tradition draping technique and 65 patients who had vertical isolation draping. The mean radiation exposure time for the tradition draping group was 101.4 seconds. The mean radiation exposure time for the vertical isolation draping group was 84.8 seconds. The reduction in mean radiation exposure time between tradition draping and vertical isolation draping was 16.6 seconds ($p=0.0736$).

Conclusions: There was a 16.4% reduction in mean radiation exposure time following transition to the vertical isolation draping technique; however, this was found not to be statistically significant. Vertical isolation draping techniques reduce the number of drapes required for the dynamic hip screw fixation compared to traditional draping technique however, it remains unclear whether it provides any benefit in reducing radiation exposure to both the surgeon and patient. Prospective studies with larger sample sizes are required to further evaluate this association.

Biography

Owen Morris is currently trauma and orthopaedic themed Core Surgical Trainee Year 2 working at Wrexham Maelor Hospital. He underwent his medical degree at the University of Leeds and completed his foundation training at the Royal Bolton Hospital. He completed both parts of MRCS and he is looking forward to pursuing a career in trauma and orthopaedics. He is currently applying for trauma and orthopaedic registrar posts to commence following completion of core surgical training this August.



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Benchmarking Early Unplanned Trauma Re-operations: A Five-Year Institutional Review of 7,400 Orthopaedic Cases

iTopic: Orthopaedic Trauma – Quality Improvement & Clinical Governance

Introduction: Early unplanned re-operations following trauma surgery are widely recognized as key indicators of surgical quality, postoperative complications, and institutional performance.

Methods: This five-year retrospective review analyzed 7,486 orthopaedic trauma operations performed at Luton and Dunstable University Hospital between January 2019 and June 2024 to benchmark the incidence, causes, and timing of early unplanned returns to theatre.

Results: A total of 53 cases (0.71%) required re-operation within 28 days, aligning with national UK benchmarks such as the NHFD's reported ~1% 30-day re-operation rate. Infection was the leading cause of re-operation, accounting for 40% of cases, followed by implant/fixation failure (26%) and prosthetic dislocation (19%). These complications disproportionately affected older patients, with dislocation cases demonstrating the highest mean age (81.4 years). ASA grade differed significantly across indication groups, with infection and dislocation occurring in physiologically higher-risk patients. Hip and femur procedures represented 43% of all re-operations and were significantly associated with older age groups. Most re-operations occurred during postoperative weeks 2–3 (72%), highlighting a critical surveillance window for early detection of complications. Microbiological analysis revealed culture positivity in 57% of infection-related cases, predominantly *Staphylococcus aureus*, and 33.3% of these patients experienced long-term complications or mortality within 24 months.

Conclusions: The findings reinforce the importance of targeted quality improvement initiatives, including enhanced infection control pathways, improved fixation strategies for osteoporotic bone, and optimized postoperative monitoring for high-risk populations. Despite the low incidence, early unplanned re-operations impose substantial clinical and economic burdens, supporting national initiatives such as GIRFT that emphasize reducing avoidable complications. This institutional benchmarking study provides valuable insights into modifiable risk factors and highlights priority areas for improving trauma care outcomes, resource allocation, and clinical governance.

Biography

Omer Kamal Ahmed Omer is a Trauma and Orthopaedic Clinical Fellow at Luton & Dunstable University Hospital, with a strong commitment to pursuing higher surgical training in orthopaedics. His work focuses on clinical audit, trauma research, and quality improvement, with active involvement in projects aimed at reducing postoperative complications and strengthening governance across orthopaedic services.



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Evaluating the outcomes of Surgical Hip Dislocation (SHD) for femoral head trauma: A systematic review

Topic: Hip Trauma – Surgical Approaches & Outcomes

Introduction: Femoral head fractures are uncommon but severe injuries typically resulting from high-energy trauma and frequently associated with hip dislocation. Surgical Hip Dislocation (SHD), particularly the Ganz approach, provides circumferential access to the femoral head while preserving vascularity, enabling accurate reduction and fixation.

Methods: This systematic review, conducted according to PRISMA 2020 guidelines, evaluated 10 studies comprising 267 patients treated with SHD for femoral head trauma.

Results: Across the included studies, functional outcomes were consistently favourable, with most patients achieving good to excellent scores on validated hip function scales. Rates of avascular necrosis were low (0–8.3%), supporting the vascular safety of SHD. Pipkin type IV fractures demonstrated the poorest prognosis, with high rates of posttraumatic arthritis and conversion to total hip arthroplasty. Heterotopic ossification was common but rarely symptomatic. Early hip reduction (<6 hours) was repeatedly associated with improved outcomes, underscoring the importance of timely intervention.

Conclusions: Overall, SHD appears to be a reliable and effective technique for managing femoral head trauma, offering excellent visualization, stable fixation, and favourable functional recovery. This review highlights prognostic factors influencing outcomes and supports SHD as a valuable option in selected complex hip injuries.

Biography

Omer Kamal Ahmed Omer is a Trauma and Orthopaedic Clinical Fellow at Luton & Dunstable University Hospital, with a strong commitment to pursuing higher surgical training in orthopaedics. His work focuses on clinical audit, trauma research, and quality improvement, with active involvement in projects aimed at reducing postoperative complications and strengthening governance across orthopaedic services.



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The integration of AI algorithms for autonomous decision-making during orthopaedic surgery

Artificial Intelligence (AI) is increasingly integrated into orthopedic surgery, with applications across diagnosis, preoperative planning, intraoperative guidance, postoperative monitoring, and rehabilitation. This literature review assesses the implementation of AI algorithms for autonomous decision-making in orthopedic surgery, focusing on technological developments, clinical applications, progression from assistive systems to semi-autonomous and fully autonomous systems, and considerations of cost, feasibility, ethics, and regulation.

A comprehensive literature search was conducted using PubMed/MEDLINE, Google Scholar, Scopus, Cochrane, and Web of Science. Peer-reviewed English-language studies published from 2015–2026 were considered, including studies of AI-based decision-making, autonomous or semi-autonomous surgical systems, robotic-assisted orthopedic procedures, imaging-based AI applications, clinical outcomes, and feasibility. Twenty-nine studies were included in the review.

Machine learning, deep learning, convolutional neural networks, computer vision, and deep reinforcement learning have been applied to fracture detection, osteoarthritis grading, imaging interpretation, surgical planning, implant positioning, and real-time intraoperative support. Deep learning has demonstrated strong performance in orthopedic imaging, while deep reinforcement learning has been proposed for automated femoral osteotomy planning. Most current orthopedic applications remain AI-assisted or semi-autonomous, with surgeons retaining a supervisory role.

AI-supported systems can improve decision-making, surgical planning, precision, repeatability, alignment, and patient outcomes. However, implementation is limited by high costs, maintenance requirements, data quality and generalizability, transparency of black box models, ethical and regulatory concerns, liability, automation bias, and the risk of reduced surgical skills through over-reliance on automated systems. Explainable AI and shared-control training are identified as important approaches for maintaining surgeon understanding and the ability to override systems when required. Overall, fully autonomous surgery remains distant; the most beneficial model described is human–AI collaboration, combining computational support with the essential human role in surgical care.

Biography

Dr Rabeeia Parwez is an Orthopaedic Core Surgical Trainee at Basildon University Hospital. Parwez's interests are general trauma and recent advances in AI and personalised medicine in orthopaedics.



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Three-Dimensional printing in orthopaedic surgery: A scoping review of technological innovations, clinical applications, cost-effectiveness, and regulatory challenges (2015-2025)

Three-Dimensional (3D) printing, or additive manufacturing, has emerged over the past decade as a transformative technology in orthopaedic surgery, offering personalised, anatomically accurate, and biologically integrated solutions across multiple subspecialties. This scoping review aimed to map significant technological innovations from 2015 to 2025, consolidate clinical applications, critically appraise cost and feasibility data, and identify regulatory and operational challenges that continue to limit widespread adoption.

A comprehensive search of PubMed/MEDLINE, Scopus, Cochrane, Web of Science, and Google Scholar was performed using terms related to 3D printing, additive manufacturing, rapid prototyping, and orthopaedics. Eligible peer-reviewed English-language studies published between January 2015 and 2025 - including randomised controlled trials, cohort and feasibility studies, scoping and systematic reviews, technical reports, and bibliometric analyses - were screened in duplicate, yielding 34 included studies from an initial 11,300 records. A descriptive synthesis was conducted, with data organised across four domains.

Major technological advances include the introduction of biodegradable metals (magnesium, calcium, zinc, and iron), metal-matrix composites, highly porous titanium scaffolds promoting osseointegration, and the deployment of point-of-care workflows enabling in-house production of patient-specific implants and bioresorbable devices. Clinical applications span trauma, paediatric orthopaedics, complex arthroplasty, oncology, external fixation, prosthetics, and orthotics, with consistent evidence of reduced operating time, intraoperative blood loss, and fluoroscopy exposure.

Reported costs vary widely, from under US\$10 to over US\$20,000, with economic modelling suggesting net savings when operative-time reductions are accounted for. However, persistent barriers include the absence of harmonised regulatory and quality-control frameworks, high upfront infrastructure and training costs, limited long-term outcome data, and underexplored environmental considerations. Future progress will depend on coordinated efforts between clinicians, engineers, and policymakers to standardise practice, advance multicentre trials, and ensure equitable, sustainable adoption.

Biography

Dr Rabeeia Parwez is an Orthopaedic Core Surgical Trainee at Basildon University Hospital. Parwez's interests are general trauma and recent advances in AI and personalised medicine in orthopaedics.



Rahim Nawaz Hussain

South Warwickshire Foundation Trust, United Kingdom

One-stage surgical outcomes for bilateral developmental dysplasia of the hip in walking children: A retrospective case series study from the post-war era in a tertiary care hospital at Kabul, Afghanistan

Purpose: Bilateral surgery for developmental dysplasia of the hip in a single stage represents a significant surgical challenge. The present study, therefore, aimed to evaluate the clinical and radiographic outcomes of one-stage surgical management of bilateral developmental dysplasia of the hip in children after the onset of independent walking.

Materials and Methods: This retrospective case series was conducted between 2020 and 2024 at the French Medical Institute for Mothers and Children in Kabul, Afghanistan. The study included 36 patients with a mean age of 32 months (range: 18–54 months), all diagnosed with bilateral developmental dysplasia of the hip, accounting for a total of 72 affected hips. Postoperative functional outcomes were assessed using the modified McKay's scoring system, while radiographic evaluation was performed by measuring the acetabular index. The mean follow-up duration was 9.6 months.

Results: In this study, functional outcomes assessed by the modified McKay's criteria demonstrated excellent results in 26 cases (72%), good results in six cases (16.7%), fair results in three cases (8.3%), and poor results in one case (3%). The mean reduction in the acetabular index between preoperative and postoperative evaluations was $13.78 \pm 3.5^\circ$ for the right hips and $17.29 \pm 5^\circ$ for the left hips. With respect to postoperative complications, the majority of hips (60, 83.3%) showed no adverse effects; however, subluxation occurred in three hips (4.2%), avascular necrosis of the femoral head in four hips (5.5%), and acetabular dysplasia in five hips (7%).

Conclusion: A one-stage open reduction combined with Salter's osteotomy, with femoral shortening when indicated, is recommended as an effective management strategy for bilateral developmental dysplasia of the hip in children aged 1.5–4.5 years.

Biography

Rahim Nawaz Hussain graduated from Cardiff University in 2020 and completed the foundation programme in the West Midlands South Deanery, after which Hussain worked as a clinical teaching fellow at Worcester Acute Hospitals NHS Trust, successfully completing a postgraduate certification in medical education during this time. Hussain has recently completed core surgical training in the West Midlands deanery and completed the MRCS during this time as well, and has an interest in pursuing higher surgical training in Trauma and Orthopaedics.



Rahim Nawaz Hussain

South Warwickshire Foundation Trust, United Kingdom

The association between pre-operative albumin levels and post-operative outcomes in Neck of Femur Fracture (NOFF) surgery: A single-centre retrospective study

Introduction: Neck of Femur Fracture (NOFF) are common presentations to the accident and emergency department. Timely intervention is essential to prevent further complications due to prolonged immobility. Guidelines have been developed over the years to help manage NOFF patients efficiently and to minimise complications. Recent studies have shown low albumin levels may correlate with a high mortality rate in the short term in NOFF patients. This study aimed to assess the correlation between hypoalbuminaemia, mortality and/or Length of Stay (LOS) in patients who underwent surgery for Neck of femur fracture.

Materials and methods: A retrospective study of patients with neck of femur fractures admitted to Kettering General Hospital between November 2024 and March 2025 was conducted. Data on patient demographics, comorbidities (including underlying dementia), ASA grade, pre-operative albumin levels, and outcomes (mortality, length of stay) were collected from CareFlow Connect and the National Hip Fracture Database.

Results: A total of 113 patients were identified. Mean age at presentation was 81 years (age range (yrs): 60-99). Three patients were excluded from the analysis due to being managed conservatively (n=1), dying before surgery (n=1) or no availability of pre-operative albumin levels (n=1), leaving a total cohort of 67 females (60.4%) and 44 males (39.6%). A minority of patients (n=6) were found to have low albumin levels pre-operatively, with the majority (n=104) having normal levels. Four patients with normal pre-operative albumin levels died within 30 days of their operation. The majority of these patients were known to have dementia (n=3). They also had underlying comorbidities such as cardiovascular (n=6), endocrine (n=1) and

renal problems (n=2). No patients with low albumin levels died within 30 days of their operation. Hypoalbuminaemia was associated with a longer LOS (44.2 vs. 20.1 days).

Conclusion: This study found no statistically significant association between hypoalbuminaemia and 30-day mortality in patients undergoing surgery for neck of femur fractures, supporting the null hypothesis that albumin level does not influence short-term mortality in this cohort. However, hypoalbuminaemia was significantly associated with a longer hospital length of stay, suggesting that while albumin may not directly predict early mortality, it may still reflect poorer physiological reserve and increased vulnerability to prolonged postoperative recovery. Further research with a larger sample size is required to clarify the relationship between albumin, postoperative outcomes, and potential confounding factors.

Biography

Rahim Nawaz Hussain graduated from Cardiff University in 2020 and completed the foundation programme in the West Midlands South Deanery, after which Hussain worked as a clinical teaching fellow at Worcester Acute Hospitals NHS Trust, successfully completing a postgraduate certification in medical education during this time. Hussain has recently completed core surgical training in the West Midlands deanery and completed the MRCS during this time as well, and has an interest in pursuing higher surgical training in Trauma and Orthopaedics.



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Is thromboprophylaxis appropriately prescribed in patients immobilised after lower limb injury – An audit based on national guidelines

Introduction: Venous Thrombo Embolism (VTE) post lower limb immobilisation is a well-known phenomena and one that causes significant morbidity. It can be prevent through appropriate prescribing of VTE prophylaxis. An audit was carried out at a major trauma centre using the Thromboprophylaxis In Lower Limb Injury (TILLI) guideline which is based on the NICE NG89 guideline. The guideline outlines steps that can be taken, crucially encouraging clinicians to calculate a TRiPCast score and prescribe VTE prophylaxis appropriately.

Methods: A single cycle of the audit was completed by retrospectively collecting data on patients presenting to Virtual Fracture Clinic (VFC). The dataset included patient demographics, type of injury, TriPCast score (if calculated), if TRiPCast score was calculated correctly, any applicable exclusion criteria for anticoagulation, type of anticoagulation prescribed and duration of anticoagulation.

Results: A total of 197 patients were found to have attended VFC between 1st May 2026 and 15th May 2026. 64 patients were found to have lower limb immobilisation post injury. 32 (52%) patients had TRiPCast scores documented in the notes. Of those patients, 29 (91%) patients were found to have correct TRiPCast scores documented. Majority of patients (60%) had the correct anticoagulation given, however only 25% were given the correct duration of anticoagulation. The exclusion criteria was applicable to 2 patients.

Conclusion: Majority of patients were being assessed for risk of developing VTE through appropriate use of TRiPCast score (52% vs 48%) with most patients having the correct scores documented (91%) and also being given the correct anticoagulation (60%). However, most patients did not receive the correct duration of anticoagulation (25% vs. 75%). Therefore, there is room for improvement. A further audit cycle is planned after the introduction of a poster in order to improve compliance. This poster will be disseminated to the trauma and orthopaedics department along with the Emergency department and Minor Injuries Unit.

Biography

Rahim Nawaz Hussain graduated from Cardiff University in 2020 and completed the foundation programme in the West Midlands South Deanery, after which Hussain worked as a clinical teaching fellow at Worcester Acute Hospitals NHS Trust, successfully completing a postgraduate certification in medical education during this time. Hussain has recently completed core surgical training in the West Midlands deanery and completed the MRCS during this time as well, and has an interest in pursuing higher surgical training in Trauma and Orthopaedics.



Rahul Hajare

Sandip University, India

Comparative effects of muscle energy technique, foam rolling, and ergon technique on hamstring flexibility: A simplified approach for young individuals in a modern rehabilitation study

This study aimed to evaluate the comparative effectiveness of three manual therapy techniques Muscle Energy Technique (MET), Foam Rolling (FR), and the Ergon Technique in improving hamstring flexibility. The effectiveness of static stretching and the M2T Blade was not included in this investigation. Participants of varying ages were recruited to enhance the generalizability of the findings. Results indicated that the Ergon Technique was more effective than foam rolling in increasing hamstring flexibility. Flexibility, the ability to move a joint through its full range of motion is a fundamental yet often overlooked component of physical fitness. Unlike other fitness elements such as strength and endurance, flexibility is joint specific; flexibility in one joint (e.g., the shoulder) does not necessarily translate to another (e.g., the hip). While females generally demonstrate greater flexibility than males, both genders experience a decline in flexibility with age. This reduction is not solely a consequence of aging but is also influenced by decreased physical activity. When joints are not routinely moved through their full range of motion, flexibility tends to diminish. This highlights flexibility as a potentially more fragile component of fitness, particularly sensitive to both aging and sedentary behavior. Further research is needed to explore the mechanisms behind this decline.

Biography

Dr Rahul Hajare is a PhD professor and an Indian scholar, a highly accomplished scholar who has achieved remarkable success in academic pursuits abroad. Dr Rahul Hajare is a scholar at the Hindu University of America, Florida, most aligned with the harmony and values of

ancient civilization and Hindu education, like mathematics, astronomy and architecture. Dr Hajare was mentored by Dr Ramesh S. Paranjape, a globally respected scientist and former director of the National AIDS Research Institute, and enjoyed every privilege as a student of Dr Ramesh S. Paranjape. Dr Rahul Hajare was reported to have good grades during the master's and doctoral studies, and is a postdoctoral student at ICMR, one of the oldest medical research organizations in the world, established in 1911 in New Delhi. Dr Rahul Hajare, who was training at ICMR-National AIDS Research Institute, Pune, reported having a biosafety I/II/III laboratory learning lesson.



Ranusha Ganapathy

Mersey and West Lancashire NHS Trust, United Kingdom

Implementation of an Enhanced Recovery After Surgery (ERAS) pathway for primary hip and knee arthroplasty

Background: Enhanced Recovery After Surgery (ERAS) pathways have consistently demonstrated reductions in hospital Length of Stay (LOS), complications, and healthcare costs while improving patient outcomes following primary hip and knee arthroplasty. Despite strong evidence and national guidance supporting ERAS implementation, variation in perioperative care remains. This audit aimed to establish baseline performance within our elective orthopaedic unit, identify factors contributing to delayed discharge, and inform the development of a local ERAS pathway.

Methods: A retrospective audit was undertaken of all elective primary hip and knee arthroplasty patients admitted to a dedicated elective orthopaedic ward during December 2025. Patient demographics, American Society of Anaesthesiologists (ASA) grade, procedure type, Total Length of Stay (TLOS), physiotherapy and medical reviews, postoperative investigations, mobilisation, discharge milestones, complications and readmissions were collected using a standardised data collection tool. Patients with a TLOS greater than two days were analysed to identify primary causes of discharge delay.

Results: The cohort had a mean age of 68 years; 62% were male, 38% female. Procedures comprised 53% Total Hip Replacements (THR), 46% total knee replacements (TKR) and 1% Unicompartamental Knee Replacements (UKR). The overall mean LOS was 3.3 days. Nearly all patients (99%) were mobilised on postoperative day one. Delays in postoperative blood tests occurred in 7% of patients, while delays in postoperative radiography affected 37%. Patients required a mean of 3.4 physiotherapy reviews and 2.3 medical reviews prior to discharge. The principal factors contributing to prolonged admission were postoperative medical or surgical

complications, therapy-related delays, and discharge processes including completion of paperwork. Four patients were readmitted with wound complications, one with hip dislocation, and one delayed hip dislocation was identified during outpatient follow-up. Overall, 84% of patients reported satisfaction with their new joint.

Conclusion: This baseline audit identified several modifiable factors contributing to prolonged hospital stay following primary arthroplasty. The findings support implementation of a multidisciplinary ERAS pathway focusing on earlier mobilisation, streamlined discharge processes, and optimisation of therapy resources. A pilot ERAS programme with prospective re-audit is planned to evaluate its impact on length of stay, patient outcomes, and service efficiency.

Biography

Ranusha Ganapathy, Mersey and West Lancashire NHS Trust, United Kingdom



Ranusha Ganapathy

Mersey and West Lancashire NHS Trust, United Kingdom

Mid-term functional outcomes following LockDown™ ligament reconstruction for Rockwood type III Acromioclavicular Joint (ACJ) disruption

Background: The optimal management of Rockwood type III Acromioclavicular Joint (ACJ) dislocations remains controversial. Synthetic ligament reconstruction using the LockDown™ (Surgilig®) ligament has gained popularity because of its biomechanical strength and favourable early outcomes; however, evidence regarding medium- to long-term functional results remains limited. This study evaluated the mid-term clinical and functional outcomes following LockDown™ ligament reconstruction for type III ACJ disruption.

Methods: A retrospective cohort study was performed of patients undergoing primary LockDown™ ligament reconstruction for Rockwood type III ACJ disruption between November 2013 and June 2018. Patients aged under 18 years, revision procedures, and those with associated glenoid, proximal humeral or neurovascular injuries were excluded. All procedures were performed by two senior shoulder surgeons using a standardised surgical technique followed by a uniform rehabilitation protocol. Primary outcomes were Oxford Shoulder Score (OSS) and University of California Los Angeles (UCLA) Shoulder Score. Secondary outcomes included patient satisfaction, return to work, return to sport, and postoperative complications.

Results: Eleven patients were available for final analysis, with a mean age of 43.4 years and a mean follow-up of 66.3 months (range 51–90 months). The cohort was predominantly male (77%). Excellent functional outcomes were achieved in 81.8% of patients according to the Oxford Shoulder Score and 63.6% according to the UCLA Shoulder Score. Overall, 81.8% of patients reported being very satisfied with their surgical outcome, and all participants stated they would choose to undergo the procedure again. Mean time to return to work was 120

days, while return to sport occurred at a mean of 157.5 days. One patient developed clinically insignificant heterotopic ossification. One patient died from postoperative sepsis requiring implant removal; this patient had significant medical comorbidities. No cases of ligament rupture or mechanical failure were observed during follow-up.

Conclusion: LockDown™ ligament reconstruction for Rockwood type III ACJ disruption demonstrates excellent mid-term functional outcomes, high patient satisfaction, and durable construct integrity at more than five years' follow-up. Although complications were uncommon, careful patient selection remains essential. Larger prospective studies are required to further establish the long-term efficacy and safety of this technique.

Biography

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Combined partial knee arthroplasty versus Total Knee Arthroplasty (TKA): A systematic review and meta-analysis of randomised control trials

Background: Total Knee Arthroplasty (TKA), the standard surgical treatment for knee OsteoArthritis (OA) which resurfaces all three compartments, has disadvantages including inferior kinematics and high patient dissatisfaction rates. Combined Partial Knee Arthroplasty (CPKA), which encompasses Bicompartamental knee arthroplasty (BCA) and Bi-Unicompartamental Knee Arthroplasty (Bi-UKA), is a tissue-sparing alternative for patients with bicompartamental disease. High quality evidence is limited, therefore this systematic review and meta-analysis aims to synthesise Randomised Controlled Trial (RCT) data comparing outcomes and complications between BCA or Bi-UKA and TKA.

Methods: A systematic review and meta-analysis were conducted following PRISMA guidelines, searching Medline, Embase, the Cochrane Central Register of Controlled Trials (CENTRAL) and the Cochrane Database of Systematic Reviews from inception to 14th July 2025. RCTs comparing CPKA with TKA were included. Seven publications (four unique RCTs) were selected: four comparing BCA-M (medial) to TKA and three comparing Bi-UKA to TKA. Data on patient-reported outcome measures (PROMs), range of motion (ROM), functional tests and complications were extracted and analysed. A random-effects model was used for meta-analysis of revision risk.

Results: TKA showed a statistically significant advantage compared to Bi-UKA in the total and clinical New Knee Society Score (NKSS) at two years. BCA-M patients had superior ROM but an increased incidence of patellar subluxation and meta-analysis found a significantly higher risk of revision compared with TKA (RR 1.75, 95% CI 1.17–2.61, $p = 0.007$). No other significant differences in PROMs, functional tests or gait analysis were identified.

Conclusions: Outcomes of CPKA are comparable to TKA with few statistically significant differences. While BCA-M showed a greater postoperative ROM, there was a higher incidence of patellar subluxation and meta-analysis found a higher risk of revision. However, current evidence is limited therefore larger long-term RCTs are needed to define the role of CPKA in managing bicompartamental knee OA.

Biography

Raven Joseph graduated from Cardiff University in 2022 and is currently a Core Surgical Trainee in Wales, United Kingdom. Joseph has been awarded Membership of the Royal College of Surgeons (England) and developed a strong academic portfolio in Trauma and Orthopaedics with intentions to pursue higher surgical training in this specialty.



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Virtual Fracture Clinics (VFCs) management of adult clavicle fractures: A retrospective observational study with implications for direct discharge protocols

Background: Clavicle fractures are common: up to 10% of adult fractures. Virtual Fracture Clinics (VFCs) are utilised across the UK to improve efficiency in trauma care, however, evidence guiding the safe direct discharge of adult clavicle fractures remains limited.

Aim: To determine the outcomes of adult patients with clavicle fractures reviewed in a VFC and whether specific patterns can be directly discharged without face-to-face review.

Methods: A retrospective review was conducted of all adult patients (≥ 16 years) referred to the VFC at a tertiary referral centre with a clavicle fracture between January 2022 and December 2023. Fractures were classified using the Robinson system. Discharge status, re-presentations, and subsequent requirement for surgical intervention were analysed.

Results: A total of 312 patients were included, aged 16–97 (median 51; IQR 42), of whom 65% were male. 170 (54%) were discharged directly and 26 (15.3%) re-presented, most commonly due to pain ($n=11$) or reinjury ($n=5$). Only 3 (1.8%) of these patients required surgical intervention. Overall, there were high surgical rates of 24.2% (24/99) in displaced midshaft and 13.2% (9/68) in displaced lateral compared to 0% (0/49) in undisplaced midshaft and 1.4% (1/74) in undisplaced lateral cases. Fracture displacement strongly predicted surgery ($p<0.001$): 18% (32/177) of displaced cases versus $<2\%$ (2/135) of undisplaced. Age was also significant ($p=0.001$): 2% of patients >60 undergoing surgery compared with 15–17% of younger patients.

Conclusion: Undisplaced midshaft and lateral clavicle fractures demonstrate negligible rates of operative intervention and may be suitable for direct discharge from VFC with appropriate safety-netting.

Biography

Raven Joseph graduated from Cardiff University in 2022 and is currently a Core Surgical Trainee in Wales, United Kingdom. Joseph has been awarded Membership of the Royal College of Surgeons (England) and developed a strong academic portfolio in Trauma and Orthopaedics with intentions to pursue higher surgical training in this specialty.



Sajid Ali

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Outcomes of non-operatively managed Achilles tendon rupture: A retrospective, single-centre study

Introduction: Achilles tendon ruptures can be managed surgically or conservatively. Due to the increased risk of postoperative complications, non-surgical management is often preferred. Evidence suggests that non-operative approaches can achieve outcomes comparable to surgical repair. One such approach is the Leicester Achilles Management Protocol (LAMP), which involves immobilisation in a VACOPed boot for eight weeks. Patient outcomes following non-operative management are commonly assessed using the Achilles tendon Total Rupture Score (ATRS). In this retrospective study, it is hypothesised that patients managed with the LAMP protocol will report favourable outcomes as measured by the ATRS.

Methodology: This retrospective cohort study analysed patients who presented and were managed for Achilles tendon rupture at a district general hospital in the West Midlands, UK, between January 2022 and October 2024. Patients aged 18 years and above with confirmed Achilles tendon injuries (ICD-10 code S86.0), managed through fracture or elective clinics, were included in the analysis. Data obtained from electronic health records included demographics, co-morbidities, management duration, time to rehabilitation, and patient-reported outcomes using ATRS. ATRS data were collected via telephone interviews conducted by local clinicians and analysed descriptively using frequencies, means, and ranges.

Results: A total of 53 patients were initially screened for inclusion. Eight patients were excluded following clinic reassessment due to misdiagnosis (no rupture or posterior tibial rupture) or death. Of the remaining 45 patients contacted by telephone, 16 did not respond after two attempts, and one declined participation. The final study cohort comprised 28 patients. The analysis showed that patients were mainly male aged average of 52.1 years (range 29–82).

PROMs showed the mean ATRS was 67.1 (range 26-100), reflecting a wide variation in self-reported recovery.

Conclusion: Despite a lower ATRS compared to previous studies with non-operative management, this retrospective study showed that LAMP provides satisfactory functional recovery whilst avoiding operative and post operative complications.

Biography

Dr Sajid Ali, based in the West Midlands, completed a rotation in trauma and orthopaedics during the foundation programme, developing a broad foundation in both trauma and elective orthopaedics. Before entering medicine, Ali qualified and worked as a pharmacist, giving a strong grounding in therapeutics, patient-centred care, and multidisciplinary practice. Ali has a growing interest in research, with a particular focus on evidence-based practice and improving patient pathways, and is committed to developing an academic profile alongside clinical work, continuing to engage in learning, audit, and quality-improvement activities.



Salim Hirani

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Refine Carpal Tunnel Syndrome (CTS) nerve conduction grading tool with case presentation

Background: The severity of Carpal Tunnel Syndrome (CTS) may be categorized in a number of ways utilizing one of a range of presently available grading tools. Detail grading system explained in this paper with case presentation.

The aim of this research is to establish, using the best available evidence, a clinically appropriate revision of the current CTS nerve conduction grading tool, and to give idea to improve the present grading system which is 25 years old. The revised grading system confirms the previously published research paper in 2019.

The proposed revised grading system is based on descriptive categories, ranging from Normal to Early Sensory, Mild Sensory, Mild Sensory Motor, Moderate Sensory, Moderate Sensory Motor, Severe Sensory Motor, Extremely Severe Sensory Motor, and Complete absence.

Method: One case of each grading category was introduced for the understanding of each grade. All previously raised questions and their answers were also included which were raised in different National and International Neurophysiology conferences.

Result: Each grade shows a clear information of each grading which was previously recommended in my research paper in 2019. This research paper was published in BMC Journal in 2019.

Conclusion: The revised grading tool clearly offers a more numerical grading to the Clinical Physiologist. This could help the surgeon to ascertain the level of severity in order to decide on either a conservative or surgical approach to treatment if they decide to use the proposed grading.

Biography

Salim Hirani studied a BSc at Karachi University, Pakistan in 1990, and is a Reg. Technologist from the ECNE board UK (1999). Hirani completed on-the-job training in the field of Physiological Measurement services of one year six months at The Aga Khan University Hospital, Karachi, Pakistan in 1989, and is registered with RCCP. Hirani has almost 28 years' experience in Neurophysiology and 5 years in the Cardiopulmonary field, has worked in three different countries in the field of Neurophysiology, and established a new Neurophysiology department in Torbay Hospital. Hirani's paper on Refine grading of CTS, published in BMC open access journal, achieved great welcome; a few other research papers have been published on ulnar nerve studies in different stages, across wrist and across elbow, and double crush syndrome, available on the Google website as open access.



Salim Hirani

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Bangor, North Wales, UK

Neurophysiological grading tool of ulnar nerve entrapment across wrist and across elbow with case presentation

Ulnar Nerve Entrapment Across the Elbow (UNEAE) and across wrist (UNEAW) is the second most common entrapment of the hand after carpal tunnel syndrome. There are few gradings available for UNEAE and lesser in UNEAW.

The aim of this research is;

1. To create a clinically appropriate ulnar nerve entrapment grading tool to covers both area of entrapment in one research paper.
2. To see the relation of sensory nerve involvement across wrist with the entrapment across elbow and to evaluate its effectiveness in terms of compatibility with previous research, without any invasive tests like needle EMG examination.
3. To identify the lesion below and across wrist as well as across elbow in order to support the Clinical Physiologist (CP) to grade them properly and also help the consultant in deciding to treat with conservative or surgical treatment.
4. To compare the recording from the First Dorsal Interosseous (FDI) muscles with the Abductor Digiti Minimi (ADM) muscle to see which muscle is more sensitive and shows early changes in ulnar nerve entrapment.

The proposed revised grading system is based on more nuanced, descriptive categories, ranging from normal, early, mild, moderate and severe. To create full grading system of UNEAW and UNEAE some additional category of clinical grading is therefore proposed.

Biography

Salim Hirani has worked in Neurophysiology for more than 30 years. Hirani did the Neurophysiology course from the United Kingdom, has worked in several different countries and can speak 4-5 languages. Hirani's three papers on this research — Refined Grading of Carpal Tunnel syndrome in BMC journal in 2019; Neurophysiological Grading tools of ulnar nerve entrapment across elbow in Journal of Neurology, Neurological Science and Disorders in 2023; and Neurophysiological Study for Ulnar Entrapment at Wrist in Journal of Psychiatry and Behavioural Sciences in June 2023 — have already been published.



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Prone positioning using longitudinal bolsters alone in paediatric spinal deformity surgery with pectus carinatum: A case series and literature review

Aim: To describe our experience and technique when positioning patients with PC for the purpose of spinal surgery. Longitudinal bolsters were used for positioning rather than chest pads.

Methods: Two paediatric patients with kyphoscoliosis and PC were selected as they required posterior spinal surgery in the prone position. An Allen table was used to position the patient. Rather than using the conventional chest pad, longitudinal bolsters were used to reduce high pressure areas. Intra-operative haemodynamic parameters, ventilatory mechanics, and positioning-related complications were reviewed. A focussed literature review prioritising studies from the last twenty years was performed.

Results: Procedures were completed without perioperative or positioning-related complications. No comparative or prospective studies evaluating bolsters-only prone positioning in patients with PC and scoliosis were identified. The contemporary evidence comprises isolated case report in pectus excavatum with scoliosis, where repositioning onto longitudinal bolsters alleviated suspected thoracic-or-cardiac compression.

Conclusion: Evidence guiding prone positioning in patients with combined PC and kyphoscoliosis is limited. Within the limitations of this series, it proposes that longitudinal bolsters alone may be a safe and effective method for positioning patients prone for the purpose of posterior spinal surgery. Further studies are required to define optimal positioning in this high-risk group.

Keywords: Prone Positioning, Spinal Deformity, Chest Wall Deformity, Pectus Carinatum, Paediatric Spine Surgery.

Biography

Dr Sana graduated from Brighton and Sussex Medical School in 2025, receiving the Greatest Contribution to the Community Award. Jaan is currently a Resident Doctor at Leeds Teaching Hospitals NHS Trust with a strong interest in research, quality improvement, and surgery, having received a regional award for Best Resident Quality Improvement Project. Jaan has a longstanding aspiration to pursue a career in surgery and is committed to building a strong academic and clinical portfolio through research, innovation, leadership, and quality improvement to advance surgical practice and improve patient outcomes.



Sana Jaan

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Improving post-operative length of stay following adolescent idiopathic scoliosis surgery through standardisation of ERAS protocol: A closed-loop audit

Aim: To reduce prolonged Length of Stay (LOS >6 days) in patients undergoing adolescent idiopathic scoliosis (AIS) surgery by improving consistency in post-operative care through standardised implementation of ERAS principles.

Introduction: Prolonged LOS following AIS surgery increases healthcare burden and reflects variation in recovery. Enhanced Recovery After Surgery (ERAS) protocols aim to optimise perioperative care; however, inconsistent application can limit their effectiveness. This project sought to identify modifiable factors contributing to prolonged LOS and implement a structured intervention to improve outcomes.

Methods: A Quality Improvement Project using a Plan–Do–Study–Act (PDSA) approach was undertaken. Baseline data from a retrospective audit identified key contributors to prolonged LOS, including pain control, bowel dysfunction, delayed catheter removal, and variation in ERAS use.

An intervention was introduced in the form of a standardised post-operative ERAS timeline embedded into operative notes, outlining expectations for analgesia, mobilisation, diet, bowel care, and catheter removal.

A second cycle involved retrospective data collection from 16/01/2026 to 03/04/2026 for AIS patients undergoing scoliosis surgery. Outcome, process, and balancing measures were assessed, with prolonged LOS defined as >6 days.

Results: In Cycle 2, 15 patients were reviewed, of which 3 surgeries were cancelled. Among completed cases, 16.6% of patients experienced prolonged LOS (6 and 10 days), representing an improvement of over 12% compared to Cycle 1 (28.8%).

The patient with a 10-day stay did not have ERAS documented in the post-operative plan. Key ongoing contributors to prolonged LOS included poor engagement with physiotherapy, suboptimal pain management, and delayed Trial Without Catheter (TWOC).

Conclusion: This project demonstrates that standardising ERAS implementation through inclusion in operative notes reduces prolonged LOS following AIS surgery. The reduction from 28.8% to 16.6% highlights meaningful improvement. Retrospective data collection confirms that lack of ERAS use is associated with longer stays, while consistent application improves recovery. Ongoing challenges include physiotherapy engagement, pain control, and catheter management. Further work should focus on multidisciplinary involvement and sustaining adherence to ERAS protocols to optimise patient outcomes.

Biography

Dr Sana graduated from Brighton and Sussex Medical School in 2025, receiving the Greatest Contribution to the Community Award. Jaan is currently a Resident Doctor at Leeds Teaching Hospitals NHS Trust with a strong interest in research, quality improvement, and surgery, having received a regional award for Best Resident Quality Improvement Project. Jaan has a longstanding aspiration to pursue a career in surgery and is committed to building a strong academic and clinical portfolio through research, innovation, leadership, and quality improvement to advance surgical practice and improve patient outcomes.



Sara Aziz Elsayed

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Obesity as a state of impaired energy accessibility rather than energy excess: A physiotherapy-led hypothesis supported by preliminary clinical findings

Background: Obesity is traditionally understood as a consequence of chronic positive energy balance. Although this concept remains fundamental, it does not fully explain why some patients demonstrate limited early response despite appropriate adherence to dietary intervention. We propose that, in a subgroup of patients, functional barriers may contribute to this early non-response and may represent modifiable targets within multidisciplinary obesity care.

Objective: To introduce a physiotherapy-led hypothesis that complements the traditional energy-balance model and to present preliminary clinical findings exploring whether addressing functional barriers may enhance responsiveness to dietary intervention in adults with central obesity.

Methods: A randomized pilot clinical study was conducted in adults with central obesity. Following a standardized two-week dietary run-in phase, participants achieving less than 1% reduction in body weight were classified as early non-responders and randomized to continue dietary intervention alone or to receive the same dietary intervention combined with a physiotherapy-led functional program. The physiotherapy pathway targeted clinically relevant barriers through pain modulation, tissue-mobility techniques, diaphragmatic breathing, and interventions aimed at supporting lymphatic function and tissue homeostasis. These interventions were not intended to directly induce fat loss, but to address functional factors that might limit response to nutritional therapy. Waist circumference was the primary outcome, with body-fat percentage assessed as a secondary outcome.

Results: Both groups improved following continued dietary intervention. However, the combined physiotherapy and nutrition group demonstrated a greater reduction in waist circumference (5 cm versus 3 cm) and body-fat percentage (4% versus 2%) than the diet-only group. The consistent direction of change across outcomes provides preliminary support for further investigation of the proposed functional hypothesis.

Conclusion: These preliminary findings suggest that functional barriers may contribute to early resistance to dietary intervention in selected patients with obesity. Physiotherapy is not proposed as a treatment for obesity or a replacement for nutrition; rather, it may serve as a complementary strategy to address pain, impaired tissue mobility, altered breathing mechanics, and tissue-fluid dysfunction that could influence treatment responsiveness. This physiotherapy-led hypothesis offers a complementary functional perspective on obesity management and warrants validation through larger, adequately powered randomized clinical trials.

Keywords: Obesity, Physiotherapy, Clinical Nutrition, Functional Barriers, Early Non-Response, Rehabilitation, Multidisciplinary Obesity Management.

Biography

Dr. Sara Aziz Elsayed is a Consultant of Physical Therapy and Clinical Nutrition and Founder of Sara Clinic in Egypt. Elsayed's clinical and academic interests focus on obesity rehabilitation, musculoskeletal disorders, and the integration of evidence-based physiotherapy with clinical nutrition. Elsayed's work explores functional factors that may influence treatment response and patient outcomes within multidisciplinary obesity care. Elsayed has presented scientific work at international meetings and is particularly interested in developing practical rehabilitation frameworks that bridge movement, recovery, and nutritional management.



Shajee ud Din

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Kinematic Alignment (KA) versus Mechanical Alignment (MA) in Total Knee Arthroplasty (TKA): A systematic review of mid-term functional outcomes

Total Knee Arthroplasty (TKA) is frequently performed for advanced knee osteoarthritis. Mechanical Alignment (MA) targets restoration of a neutral limb axis, whereas Kinematic Alignment (KA) aims to reproduce an individual's native pre-arthritic knee alignment. This systematic review evaluates comparative mid-term outcomes (≥ 2 years) following KA and MA in primary TKA. Electronic searches of MEDLINE (PubMed), Embase, and Cochrane CENTRAL were undertaken, with additional screening of Google Scholar. Following duplicate removal and eligibility assessment, 16 primary comparative studies were included. Evaluated outcomes comprised Patient-Reported Outcome Measures (PROMs), range of motion (ROM), radiographic alignment, gait parameters, postoperative complications, and implant survivorship. At the mid-term follow-up, ROM was comparable between KA and MA (mean difference = +2.8 degrees, 95% confidence interval (CI) = -1.5 to 6.9, $p = 0.21$). PROMs showed statistically significant improvements with KA, including Oxford Knee Score (mean difference = +6.2, 95% CI = 1.9 to 10.4, $p = 0.005$) and Western Ontario and McMaster Universities Osteoarthritis Index (mean difference = -9.8, 95% CI = -16.2 to -3.5, $p = 0.004$), though these differences may not consistently exceed minimal clinically important differences. However, multiple high-quality randomized trials reported no clinically meaningful differences between the techniques. Radiographic analyses demonstrated alignment patterns consistent with the KA philosophy without evidence of adverse clinical impact at the mid-term follow-up. Gait studies did not show reproducible differences between techniques. Revision rates were low in both groups (0-2%), though statistical power for survivorship comparison was limited. KA achieves mid-term clinical outcomes that are generally comparable to MA in primary TKA, with some studies reporting statistically significant PROM improvements that may not

consistently represent clinically meaningful benefits. Evidence regarding long-term durability remains limited, and concerns regarding aseptic loosening with certain alignment variations require further investigation.

Biography

Dr. Shajee ud Din is currently working as a Clinical Fellow in the Department of Trauma & Orthopaedics at Maidstone & Tunbridge Wells NHS Trust. Dr. Ud Din completed his medical degree at King Edward Medical University and subsequently completed his MRCS from the Royal College of Edinburgh. He has vast experience working as a General Surgery and ED middle grade doctor. Currently, he is pursuing a training number in Trauma and Orthopaedics.



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Doing more with the same: High-intensity hip arthroplasty lists at a ring-fenced elective orthopaedic centre

Background: Elective orthopaedic waiting lists remain a major NHS challenge, requiring models that increase surgical capacity without compromising safety. High-Intensity Theatre lists aim to reduce non-operative time, standardise peri-operative workflows and maximise throughput for high-volume procedures. We evaluated the implementation of High-Intensity Theatre lists and day-case total hip arthroplasty at a ring-fenced barn-style elective orthopaedic centre.

Methods: A prospective quality improvement project was undertaken using a PDSA framework. Data was collected for patients undergoing total hip arthroplasty across 12 High-Intensity Theatre lists. The pathway included pre-operative optimisation, standardised case selection, dedicated theatre teams, procedure-specific equipment, parallel processing, protocol-driven handovers, multimodal analgesia, early mobilisation and criteria-led discharge. Outcomes included throughput, turnaround time, length of stay, day-case discharge, complications, readmissions and multidisciplinary team feedback.

Results: 77 patients underwent total hip arthroplasty across 12 High-Intensity Theatre lists. Mean age was 70 years, mean BMI was 29 kg/m² and 74% were ASA grade 2. Surgical throughput increased from 1-2 to 3-4 cases per session, representing a 50-60% increase in capacity. Mean turnaround time reduced from 50-60 minutes to 23.5 minutes. Mean length of stay was 1 day. 18 patients were discharged on the day of surgery, 48 on Day 1, 9 on Day 2 and 2 on Day 3. There were no post-operative complications and no readmissions in the day-case cohort. Three patients attended the emergency department with non-surgical medical issues. Early mobilisation was achieved within 2-4 hours, and post-list debriefs demonstrated high team satisfaction.

Conclusion: High-Intensity Theatre lists combined with a day-case hip arthroplasty pathway increased operative capacity by 50-60% while maintaining safety. This ring-fenced barn-style elective centre model reduced turnaround times, enabled early mobilisation and supported safe same-day discharge. It provides a scalable, GIRFT-aligned approach to elective recovery across NHS orthopaedic services.

Biography

Sanjana Relwani is a Core Surgical Trainee currently working in Trauma & Orthopaedics in the Kent, Surrey and Sussex Deanery. Relwani graduated from Barts and the London School of Medicine in 2023 with an MBBS and completed an MSc in Global Public Policy and Health in 2021. Relwani completed her foundation training in London and was awarded the Barts Health Foundation Trainee Award in 2024. Relwani is interested in Trauma and Orthopaedics and is actively involved in surgical education and quality improvement.



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The changing face of elective arthroplasty: Day case by default at a new GIRFT-accredited regional elective orthopaedic hub

Background: Day-case arthroplasty rates are increasing, but national median length of stay remains 2.75, 2.91 and 1.91 days for Total Hip Replacement (THR), Total Knee Replacement (TKR) and unicompartmental knee replacement (UKR), respectively. GIRFT recommends a day-case by default model while avoiding restrictive selection criteria that artificially inflate success by excluding complex patients. We report early outcomes from a new GIRFT-accredited regional elective orthopaedic hub delivering high-volume arthroplasty without formal day-case exclusion criteria.

Methods: A retrospective service evaluation included all primary THRs, TKRs and UKRs performed over 9 months. All patients were counselled pre-operatively using a day-case by default model. Pathway measures included short-acting spinal anaesthesia, minimal soft-tissue handling, minimally invasive THR technique, optimised analgesia, immediate post-operative radiographs during recovery-to-ward transition, and Day 0 physiotherapy. Length of stay and discharge barriers were recorded.

Results: 865 primary joint replacements were performed: 381 THRs, 403 TKRs and 81 UKRs. Overall same-day discharge was 12.8% (n=111); 64.3% (n=556) were discharged on Day 1, giving a combined Day 0-1 discharge rate of 77.1%. Day 2 and Day 3 discharge rates were 13.9% and 5.0%: 4.0% stayed beyond Day 3. Day 0 discharge was achieved in 8.9% of THRs, 5.2% of TKRs and 69.1% of UKRs. Mean length of stay was 1.48 days for THR, 1.36 for TKR and 0.35 for UKR. Combined Day 0-1 discharge was 73.5% for THR and 76.4% for TKR. Common barriers to discharge were pain, complex discharge, postural hypotension and delayed physiotherapy clearance.

Conclusion: A high-volume GIRFT-accredited elective orthopaedic hub can deliver strong Day 0-1 discharge rates using a day-case by default model without formal exclusion criteria. With 77.1% discharged within 24 hours and mean length of stay below national medians across all procedure groups, these findings support wider adoption of this model across elective arthroplasty hubs.

Biography

Sanjana Relwani is a Core Surgical Trainee currently working in Trauma & Orthopaedics in the Kent, Surrey and Sussex Deanery. Relwani graduated from Barts and the London School of Medicine in 2023 with an MBBS and completed an MSc in Global Public Policy and Health in 2021. Relwani completed her foundation training in London and was awarded the Barts Health Foundation Trainee Award in 2024. Relwani is interested in Trauma and Orthopaedics and is actively involved in surgical education and quality improvement.



Santosh Kumar Mishra

Independent Researcher (Scholar), retired from Population Education Resource Centre, Department of Life Long Learning and Extension, S. N. D. T. Women's University, Mumbai, Maharashtra, India

An investigations into cardiac rehabilitation and quality of life

Cardiac Rehabilitation (CR): Defined as medically supervised program designed to help recover after heart attack, heart failure, or heart surgery offers people have enhanced quality of life. It is an important part of recovery in case of heart attack or other heart health-related complications. This work is primarily aimed at presenting scientific and evidence-based discussion on how CR is an intervention for ensuring better quality of life among men and women. It touches upon potential long and short-term benefits of comprehensive CR programs. Appropriate examples have been quoted in support of research statements made. The author has used secondary data ('qualitative' in nature), collected from sources such as journal articles, books, book chapters, etc. Method of data analysis is 'descriptive'. It involves desk-based research approach.

Analysis of data in this research indicates that CR envisages comprehensive approach, offering short and long-term health benefits. This approach emphasises exercise, education, counselling, and lifestyle adjustments among people recovering from cardiac events or procedures. The author of this research is of the considered view that after complications, such as heart attacks, heart failure, angioplasty, or heart surgery, people need to undergo multifaceted CR program, overseen by a team of medical professionals specializing in cardiac care in order to have better living. It is pertinent to note that comprehensive and multifaceted CR initiatives are aimed at:

- a)Optimizing recovery.
- b)Improving overall heart health.
- c)Offering personalized guidance to manage stress.
- d)Encouraging people adopt heart-healthy habits.

In terms of expected outcomes, CR programs offer holistic benefits by addressing physical, psychological, social, and functional aspects of health. This strategy, thus, aims to promote overall well-being for individuals enabling them to more effectively manage their cardiovascular diseases. In a broader and more meaningful terms, CR is considered as a supervised program that includes:

- a) Physical activity
- b) Education about healthy living, including how to eat healthy, take medicine as prescribed, and quit smoking.
- c) Counselling to find ways to relieve stress and improve mental health.

Findings of several research studies are indicative of the fact that CR programs result in enhancements in physical well-being, including (a) improved physical fitness, and (b) enhanced management of symptom during treatment of heart diseases. Most importantly, people experience psychological benefits. There are reductions in anxiety and depression levels. CR programs foster positive outcomes in social well-being, thereby facilitating the return to work and engagement in previous lifestyle activities. This comprehensive approach emphasizes the importance of CR in enhancing overall quality of life for individuals undergoing recovery. CR in Australia, for instance, envisages multidisciplinary programs designed to improve cardiovascular health, encompassing (a) supervised exercise training, (b) risk factor modification, and (c) heart health education. Men and women of all ages with mild, moderate, or severe heart problems benefit from CR.

This research briefly concludes that CR has potential to help people both recover from a heart problem and prevent future heart problems. Referral from a healthcare provider is required to initiate participation of those in need in CR programs.

Keywords: Cardiac Rehabilitation (CR), Quality of Life, Counselling, Lifestyle Adjustments, Cardiac Events, Personalized Guidance, Stress Management.

Biography

Dr. Santosh Kumar Mishra is an Independent Researcher (Scholar), retired from Population Education Resource Centre, Department of Lifelong Learning & Extension, S.N.D.T. Women's University, Mumbai, India. With a Ph. D. qualification, Mishra has authored 6 booklets, 4 books, 31 book chapters, 109 journal articles, 2 monographs, 7 research studies, and 119 papers for national and international conferences. Mishra has been awarded a Certificate of Excellence in Reviewing in 2017, 2018, 2021, 2022, and 2024, and was a Judge for IHA's 20th Annual Virtual Health Literacy Awards, including the Edson Awards for 2025 and 2026 seasons.



Santosh Kumar Mishra

Independent Researcher (Scholar), retired from Population Education Resource Centre, Department of Life Long Learning and Extension, S. N. D. T. Women's University, Mumbai, Maharashtra, India

Nutritional Therapy (NT) in addressing joint disorders: Overview and way forward

Nutritional Therapy (NT) for joint disorders (defined as diseases or injuries that affect joints) focuses on mitigating chronic inflammation, supplying essential cartilage-building blocks, and supporting a healthy body weight through adequate nutritional supplements. Another term used in this context is joint health which refers to overall condition, mobility, and structural integrity of the parts of the body where bones meet (such as knees and hips). NT implies treatment that uses personalized diet changes, nutrition education, and behavioural counselling for preventing and treating specific medical conditions. It is pertinent to note that there are 7 primary types of joints in human body. Author of this research argues that a nutrient-dense diet can significantly relieve symptoms for conditions like Osteoarthritis (OA) and Rheumatoid Arthritis (RA).

This work primarily aim to present evidence-based discussion on relevance of NT therapy in addressing joint disorders (or illness). Also, practical strategies in nutritional planning for treating joint health has been looked into. Appropriate examples have been quoted by the author in support of statements made. The author has used secondary data ('qualitative' in nature), collected from sources such as journal articles, books, book chapters, etc. Method of data analysis is 'descriptive'. It involves desk-based research approach.

Analysis of data in this work indicates that a diet rich in whole foods (including fruits, vegetables, fish, nuts and beans) is not only helpful in ensuring better health outcomes, but can also help manage joint disorders. It is pertinent to note that whole foods are foods that are unprocessed or minimally refined. This practice keeps foods as close to their natural state as possible, thereby ensures that they retain their inherent nutrients. Further, managing joint disorders

through nutrition focuses on (a) anti-inflammatory diet to reduce swelling, and (b) nutrient-dense whole foods to protect cartilage and preserve bone density. In terms of NT, adequately addressing joint disorders requires increased focus on following foods:

Dairy Products: Milks, yogurts, and cheeses are some of the most well-known sources of calcium, which is vital for building and maintaining strong bones.

Leafy Green Vegetables: Plant-based options (like spinach) are rich in calcium and magnesium.

Seafood: They provide vitamin D and omega-3 fatty acids, which support joint health and reduce inflammation.

Cruciferous Vegetables: Such vegetables (such as broccoli) are excellent source of calcium.

Whole Grains and Legumes: Such foods are rich in minerals like zinc and copper, which assist in bone formation and repair.

Fruits: Fruits such as oranges, strawberries, and pineapples play a role in overall bone maintenance.

Fatty Fish: Fatty fish are some of the foods best suited for joint health.

Nuts and Seeds: Walnuts are anti-inflammatory.

Spices and Herbs: Turmeric and ginger are two spices that have for their anti-inflammatory properties.

This abstract briefly concludes that healthy joints are essential for staying active at every age. Diet plays a meaningful role in managing arthritis, recovering from injury, and protecting mobility, now and at all times. Right food choice enables people retain joint health.

Keywords: Nutritional Therapy, Joint Disorders, Joint Health, Nutritional Supplements, Behavioural Counselling, Bone Density, Nutrient-Dense Diet.

Biography

Dr. Santosh Kumar Mishra is an Independent Researcher (Scholar), retired from Population Education Resource Centre, Department of Lifelong Learning & Extension, S.N.D.T. Women's University, Mumbai, India. With a Ph. D. qualification, Mishra has authored 6 booklets, 4 books, 31 book chapters, 109 journal articles, 2 monographs, 7 research studies, and 119 papers for national and international conferences. Mishra has been awarded a Certificate of Excellence in Reviewing in 2017, 2018, 2021, 2022, and 2024, and was a Judge for IHA's 20th Annual Virtual Health Literacy Awards, including the Edson Awards for 2025 and 2026 seasons.



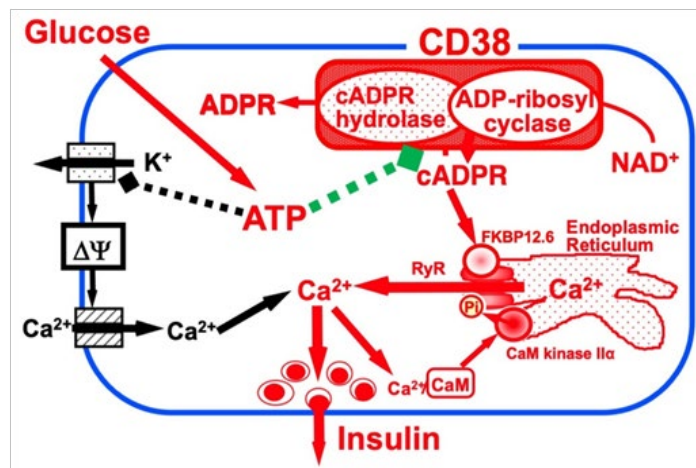
**Shin Takasawa*,
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Molecular mechanisms of cardiovascular complications in intermittent hypoxia

Sleep Apnea Syndrome (SAS), characterized by recurrent episodes of oxygen desaturation and reoxygenation (Intermittent Hypoxia (IH)), is a risk factor for hypertension and insulin resistance. We have reported a correlation between IH and insulin resistance/diabetes. However, the reason why hypertension is induced by IH is elusive. Here, we investigated the effect of IH on the expression of catecholamine-metabolizing enzymes using an in vitro IH system. Human and mouse neuroblastoma cells (NB-1 and Neuro-2a cells) were exposed to IH or normoxia for 24 h. Real-time RT-PCR revealed that IH significantly increased the mRNA levels of Dopamine β -Hydroxylase (DBH) and Phenylethanolamine N-Methyltransferase (PNMT) in both human NB-1 and Neuro-2a neuroblastoma cells. Western blot showed that the expression of DBH and PNMT in the NB-1 cells was significantly increased by IH. Reporter assays revealed that promoter activities of DBH and PNMT were not increased by IH. The microR (miR)-375 level of IH-treated cells was significantly decreased relative to that of normoxia-treated cells. The IH-induced up-regulation of DBH and PNMT was abolished by the introduction of the miR-375 mimic, but not by the control RNA. These results indicate that IH stress increases levels of DBH and PNMT through the inhibition of miR-375-mediated mRNA degradation, potentially playing a role in the emergence of hypertension in SAS patients.

SAS is characterized by recurrent episodes of IH, and it is a risk factor for CardioVascular Disease (CVD) and insulin resistance/type 2 diabetes. However, the mechanisms linking IH stress and CVD remain elusive. We exposed rat H9c2 and mouse P19CL6 cardiomyocytes to experimental IH or normoxia for 24 h to analyze the mRNA expression of the components of Cd38-cyclic ADP-ribose (cADPR) signaling. We found that the mRNA levels of cluster of differentiation 38 (Cd38), type 2 ryanodine receptor (Ryr2), and FK506-binding protein 12.6

(Fkbp12.6) in H9c2 and P19.CL6 cardiomyocytes were significantly decreased by IH, whereas the promoter activities of these genes were not decreased. By contrast, the expression of phosphatase and tensin homolog deleted from chromosome 10 (Pten) was upregulated in IH-treated cells. The small interfering RNA for Pten (siPten) and a non-specific control RNA were introduced into the H9c2 cells. The IH-induced downregulation of Cd38, Ryr2, and Fkbp12.6 was abolished by the introduction of the siPten, but not by the control RNA. These results indicate that IH stress upregulated the Pten in cardiomyocytes, resulting in the decreased mRNA levels of Cd38, Ryr2, and Fkbp12.6, leading to the inhibition of cardiomyocyte functions in SAS patients.



Biography

Shin Takasawa has completed Takasawa's MD at the age of 25 years from Yamagata University, and PhD at the age of 30 years from Tohoku University, Takasawa moved Nara Medical Univ. as a Professor & Chairman in 2007. Takasawa has published more than 300 papers in reputed journals and has been serving as an editorial board member of Life Sci. and Int. J. Mol. Sci.



Shanen Emmanuel

Royal Berkshire Hospital, United Kingdom

A clinical audit of compliance with BOAST standards for post-operative weight-bearing documentation in hip fracture patients

Background/Aim: Early mobilisation after hip fracture surgery has shown to reduce morbidity and mortality. The 2024 British Orthopaedic Association Standards for Trauma guidance recommended immediate mobilisation unless contraindicated and requires documentation using standardised terminology: non-weight bearing, limited weight-bearing, and unrestricted weight-bearing. This audit assessed compliance with BOAST standards for post-operative weight-bearing documentation.

Methods: We conducted a single-centre retrospective review of patients undergoing hip fracture surgery over 12 months, identified via the National Hip Fracture Database. Operative, post-operative, and physiotherapy notes were analysed to assess compliance of documented weight-bearing terminology with updated BOAST guidance.

Results: 466 operations were identified from the National Hip Fracture Database. Post-operative weight-bearing status was documented in all cases. Full weight bearing (FWB) was recorded in 381 patients (81.8%), weight bearing as tolerated (WBAT) in 31 (6.7%), and unrestricted weight bearing in 49 (10.5%). In four cases (0.9%), weight-bearing status was documented only in physiotherapy notes. Restricted weight bearing was rare: three patients (0.6%) were prescribed partial weight bearing and two (0.4%) toe-touch weight bearing for six weeks, all following fixation with cannulated hip screws.

Conclusion: This study highlights the importance of standardised terminology for post-operative weight-bearing status in accordance with the updated BOAST guidelines. Post-

operative management after hip fracture surgery largely aligns with BOAST recommendations favouring unrestricted weight bearing; however, documentation remains inconsistent due to non-standard terminology and variable recording practices. We propose standardising operative note templates to include approved WB terminology which represents a pragmatic, low-cost intervention to improve multidisciplinary communication and patient safety.

Biography

Dr Shanen Emmanuel graduated from the University of Aberdeen and is currently a Clinical Fellow in Trauma and Orthopaedics at the Royal Berkshire Hospital, UK. Emmanuel has a keen interest in hip arthroplasty, hip fracture management, and clinical research, with a particular focus on quality improvement initiatives that enhance patient care and outcomes. Emmanuel's work centres on evaluating adherence to national standards and implementing practical changes to improve multidisciplinary communication, patient safety, and evidence-based orthopaedic practice.



Shanen Emmanuel

Royal Berkshire Hospital, United Kingdom

Compliance with Venous Thromboembolism (VTE) risk assessment in trauma and orthopaedic inpatients: A clinical audit

Background and Aim: Hospital-acquired venous Thromboembolism (VTE), comprising deep vein thrombosis and pulmonary embolism, is a common and potentially preventable complication of hospital admission. Trauma and orthopaedic patients are particularly vulnerable because of factors including injury, surgery and reduced mobility. NICE guideline NG89 recommends that all surgical and trauma patients undergo assessment of both VTE and bleeding risk as soon as possible following admission or by the time of first consultant review.

This audit aimed to assess compliance with VTE risk-assessment requirements among Trauma and Orthopaedic inpatients on Hurley Ward and identify opportunities to improve adherence to national and local standards. The audit standard was 100% of eligible patients having a documented VTE risk assessment.

Methods: A retrospective clinical audit was conducted at three time points between 7 July and 5 August 2026. Adult Trauma and Orthopaedic inpatients on Hurley Ward were identified using ward admission lists and the Electronic Patient Record (EPR). Day-case patients, patients aged under 18 years and those with insufficient documentation were excluded.

Electronic patient records were reviewed using a standardised data collection tool to determine whether a VTE risk assessment had been completed and documented. Twenty-eight patients were reviewed on 7 July, 30 on 18 July and 27 on 5 August, giving 85 patient assessments across the three audit dates. Compliance was compared with the target standard of 100%.

Results: On 7 July, 12/28 patients (42.9%) had a documented VTE risk assessment. Compliance increased to 19/30 (63.3%) on 18 July before decreasing to 14/27 (51.9%) on 5 August. Across all three audit dates, 45/85 patient assessments (52.9%) had a documented VTE risk assessment, while 40/85 (47.1%) did not. Compliance on the final audit date was 9.0 percentage points higher than at baseline, although it remained substantially below the target standard of 100%.

Conclusion: This audit identified suboptimal compliance with VTE risk-assessment documentation among Trauma and Orthopaedic inpatients, with only 52.9% overall compliance. Although there was some improvement from the first to final audit date, the target standard was not achieved. The findings highlight the need for targeted measures to improve VTE risk assessment and documentation, including staff education, incorporation of VTE assessment into routine admission processes and regular monitoring. A further audit following implementation of these measures would help determine whether improvements can be sustained.

Biography

Dr Shanen Emmanuel graduated from the University of Aberdeen and is currently a Clinical Fellow in Trauma and Orthopaedics at the Royal Berkshire Hospital, UK. Emmanuel has a keen interest in hip arthroplasty, hip fracture management, and clinical research, with a particular focus on quality improvement initiatives that enhance patient care and outcomes. Emmanuel's work centres on evaluating adherence to national standards and implementing practical changes to improve multidisciplinary communication, patient safety, and evidence-based orthopaedic practice.



Sk Murad Ahmed

Hand Surgery Division, Department of Orthopaedic Surgery,
Bangladesh Medical University, Bangladesh

Flexion contracture in finger following repair or reconstruction of zone II flexor tendon injury in hand: How we manage it in Bangladesh

Hypothesis: Hypothesis: What is the functional outcome of flexion contracture release in case of flexion contracture in fingers following flexor tendon repair/reconstruction in Zone II?

Methods: This quasi-experimental study was conducted in SIBL Foundation Hospital, Green Road, Dhaka, from March 2018 to September 2025. A total number of 20 patients with 25 fingers involved in flexion contracture were selected as per selection criteria as study subjects. Contracture was released by multiple Z plasties, and flexor tendon was reconstructed (either grafted or Z lengthened) in the same sitting for all patients. Data were compiled and sorted properly and analyzed by Statistical Package for Social Science (SPSS-26). Numerical data were analyzed using an unpaired t-test and categorical data using a chi-square test. A p-value < 0.05 was considered as the level of significance.

Results: The mean age of the patients was 28.05 (+11) years. Males (75%) were predominant. Most involved finger was index (40%). Right hand was involved more (75%). Two patients (10%) developed superficial infection which recovered with antibiotics, but one of them developed contracture again. Excellent results were achieved in 10 patients (50%), good results in 6 patients (30%), fair results in 3 patients (15%), and poor results were seen in 1 patient (5%).

Summary: According to the study findings, it can be concluded that the functional outcome of single-stage tendon reconstruction with release of flexion contracture by multiple Z plasties in the same sitting for flexion contracture of fingers is a good procedure with satisfactory results. Adequate postoperative rehabilitation is needed to get good results.

Biography

Dr. Sk Murad Ahmed completed an M.B.B.S from Chattagram Medical College, Bangladesh, followed by postgraduate training (D'Orth & MS) in orthopaedic surgery from Bangladesh Medical University. Ahmed completed a fellowship in hand surgery and reconstructive microsurgery from Ganga Hospital, Coimbatore, India in 2016, received a travelling fellowship in hand surgery from Singapore Society for Surgery of Hand in 2018, and obtained basic wrist arthroscopy training from IRCAD, France in 2024. Ahmed has spoken at numerous international conferences and published multiple papers, with a clinical focus including tendon surgery, peripheral nerve surgery, and brachial plexus surgery. Since 2016, Ahmed has served as a consultant in the Hand Surgery division of the Orthopaedic Surgery department at Bangladesh Medical University and as Chief Hand Surgeon at Dhaka Hand Surgery Centre in Dhaka, Bangladesh.



Soniya*, Sarah Kelly, Preetam Upadhyaya, Khizar, Nabi, Hasan

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Improving time to theatre: Reducing avoidable cancellations and delays to surgery in trauma - a quality improvement project

Background: Timely surgery is among the strongest determinants of outcome in trauma and orthopaedics. Hip fracture fixation within 36 hours is mandated under the NHS Best Practice Tariff; for many other injuries, early intervention reduces pain, complications, and length of stay. When cases are cancelled or delayed, patients fast repeatedly, occupy acute beds, and experience avoidable distress. Repeated observation by the on-call team at Queen's Hospital, BHRUT, indicated that many delays arose from fixable ward-level causes - missing pre-operative bloods, outstanding echocardiograms, or unresolved anticoagulation - yet no systematic prospective data existed to quantify or categorise these events.

Aim: To measure the scale and modifiable causes of cancellations and delays to trauma surgery at Queen's Hospital, and to implement simple, ward-owned changes that the trauma team could sustain.

Methods: A retrospective service evaluation was conducted from November 2025 to March 2026 across Theatre 5 and Theatre 6 (main trauma theatres) at Queen's Hospital. After records proved unreliable, a bespoke data-capture tool was developed. Every cancellation and delay event across 683 consecutive trauma theatre cases was recorded. Of 166 total events, 57 were identified as same-day re-booking artefacts (wrong procedure or side, rescheduled the same day, with surgery proceeding) and excluded. The remaining 109 genuine cancellation events were categorised by cause and modifiability. A further 100 cases were recorded as delayed beyond their clinical target time.

Results:

Three modifiable priority causes accounted for most genuine cancellations and delays:

- Administrative and process errors (n = 34) genuine booking and listing mistakes.
- Theatre time and list-access failures (n = 21) overbooking, displacement of urgent cases by emergencies, and absence of a protected slot for time-critical Expedited trauma.
- Patient not ready for theatre (n = 19) pre-operative bloods, echocardiogram, or anticoagulation management not completed at admission. communication and handover failures were a cross-cutting theme across all categories. Together these three causes accounted for approximately 80% of avoidable events.

Interventions: Three low-cost, team-owned changes were designed and are being tested through a single PDSA cycle over eight weeks: (1) a pre-operative readiness routine completed by the admitting registrar/SHO on arrival (bloods, ECG, early echo flag for ASA 3–4, documented anticoagulation plan); (2) an overnight pre-operative check by the night on-call team confirming all results are back and valid by midnight; and (3) a reliable pre-list handover including a daily theatre brief, ward notification the evening before, and a 'ready for theatre' check before any patient is listed.

Targets: Genuine avoidable cancellations: ↓ 30% from baseline (~109 cases) • Cases delayed beyond target time: ≤ 55% (from 85%) • Avoidable pre-operative causes: ≤ 1 in 10 events (from ~1 in 4).

Conclusion: The majority of genuine theatre cancellations and delays in this cohort were avoidable and attributable to three modifiable causes. Simple, ward-owned interventions targeting pre-operative readiness, overnight verification, and list discipline are now under active PDSA testing. This QIP offers a replicable model for trauma theatre efficiency improvement across NHS Trauma & Orthopaedic departments, with a planned second cycle across King George Hospital.

Biography

Ms Soniya Chauhan is a Clinical Fellow in Trauma & Orthopaedics at Barking, Havering and Redbridge University Hospitals NHS Trust, working across Queen's Hospital Romford and King George Hospital. Chauhan holds the degrees MBBS and MRCS (Ed) and is pursuing specialty training in Trauma & Orthopaedics. Alongside her clinical role, Chauhan coordinates the SHO-level teaching programme at BHRUT and serves as UK Moderator for AO Trauma NextGen UK. Chauhan's academic interests include trauma, surgical education, quality improvement, and theatre efficiency in trauma surgery.



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Barking, Havering and Redbridge University Hospitals NHS Trust (BHRUT), UK

The silent fracture crisis: Secondary prevention following upper limb fragility fractures – a 24-month audit against national FLS standards at BHRUT

Background: Fragility fractures of the distal radius and proximal humerus are sentinel events indicating significant osteoporosis risk. Without appropriate secondary prevention, patients face a two- to fivefold increase in baseline fracture risk within the first year. Despite clear national guidance from the Royal Osteoporosis Society Fracture Liaison Service (FLS) – mandating DEXA scanning in 80% of eligible patients within 90 days – and NICE CG146 recommending bone health assessment following all fragility fractures, a substantial proportion of patients fail to receive secondary prevention.

Aim: To determine the proportion of patients aged ≥ 65 years sustaining distal radius or proximal humerus fragility fractures who received DEXA scanning following their injury, and to benchmark performance against national FLS standards at BHRUT.

Methods: A retrospective cohort study was conducted over a 24-month period (March 2024 – February 2026) at BHRUT. A total of 173 patients were included. Inclusion criteria: age ≥ 65 years with confirmed distal radius or proximal humerus fracture. Exclusion criteria: high-energy trauma and pathological fractures. Post-fracture DEXA uptake, timing, and compliance with FLS and NICE CG146 standards were assessed.

Results: 173 patients were identified (mean age 80.5 years): 69 distal radius (39.9%) and 104 proximal humerus (60.1%) fractures. Only 11% ($n=19$) received post-fracture DEXA scanning, representing a 69% shortfall against the 80% FLS standard (122 patients missed). Of the 19 who received scans, 84% were completed within 90 days; however, overall, 90-day compliance

across the full cohort was 9.2% (16/173). No significant difference in DEXA uptake was identified between fracture types (distal radius 11.6% vs proximal humerus 10.6%; $p>0.05$), suggesting a systemic rather than fracture-specific failure. A total of 8,558 DEXA scans were performed at BHRUT over the same period, confirming adequate imaging capacity.

Conclusions: Secondary prevention following upper limb fragility fractures at BHRUT is critically inadequate: only 11% of eligible patients received post-fracture DEXA scanning against a national standard of 80%. Over the 24-month study period, an estimated 154 high-risk patients missed secondary prevention, representing significant preventable morbidity, mortality, and economic cost (estimated £420,000 annually). The findings indicate a systemic absence of referral infrastructure rather than a capacity issue. Urgent implementation of a Fracture Liaison Service, electronic referral pathways flagging ICD-10 codes S52 and S42, and structured bone health discharge protocols is required to meet national standards and prevent subsequent fractures.

Biography

Ms Soniya Chauhan (MBBS, MRCS Ed) is a Clinical Fellow in Trauma and Orthopaedics at Barking, Havering and Redbridge University Hospitals NHS Trust, working across Queen's Hospital Romford and King George Hospital. Chauhan has a specialist interest in orthopaedic trauma, quality improvement, surgical education, and fragility fracture care.



**Soniya*, Imobhio Okhifun,
Nelson Bua**

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Trust (BHRUT), UK

Getting the side right: Consent and pre-operative site marking compliance in trauma & orthopaedics — a prospective near-miss audit against NatSSIPs 2 standards at BHRUT

Background: Wrong-site surgery remains an NHS Never Event and is wholly preventable. The National Safety Standards for Invasive Procedures (NatSSIPs 2, NHS England 2022) require the operative site and laterality to be documented on the consent form and confirmed by indelible pre-operative site marking for every procedure with a definable side. Missing or incorrect laterality on the consent form or theatre booking list are recognised precursor (near-miss) events that erode the safety barriers protecting against wrong-site surgery, yet compliance is rarely measured objectively against imaging.

Aim: To assess compliance of consent form and theatre booking list laterality documentation with NatSSIPs 2 standards across trauma operating at BHRUT, to quantify the frequency and pattern of errors using the pre-operative radiograph as the objective reference standard, and to identify targeted interventions to achieve full compliance.

Methods: A prospective observational near-miss audit was conducted across trauma theatres at Queen's Hospital Romford. All consecutive trauma and orthopaedic cases with a lateralised procedure were included. Documented laterality on the consent form and on the theatre booking list was compared against the pre-operative radiograph, used as the objective gold standard for correct side. Data were analysed using descriptive statistics in Microsoft Excel.

Results: Seventy-one cases were reviewed. Consent form laterality was correct in 50 cases (70.4%), giving a documentation error rate of 29.6% (21/71): wrong side subsequently corrected

in 9 cases (12.7%) and incomplete laterality documentation in 12 (16.9%). Booking list laterality was correct in 64 cases (90.1%), an error rate of 9.9% (7/71). Two cases (2.8%) contained errors on both the consent form and the booking list, the highest-risk near-misses that would not have been challenged by cross-checking documentation alone. Errors occurred on 13 of 14 operating days, and all were identified only through informal pre-list radiograph review. No case met the NatSSIPs 2 target of a 0% error rate.

Conclusions: Consent and booking list laterality documentation fell substantially short of the NatSSIPs 2 standard, with errors distributed across nearly all operating days - indicating a systemic failure rather than isolated lapses. The only safeguard preventing these near-misses reaching theatre was non-standardised, individual radiograph checking, leaving the pathway vulnerable in the two cases where both documents were wrong. Recommended interventions include consent taken by a clinician familiar with the procedure in the patient's presence, a mandatory pre-list cross-check of consent and booking laterality against imaging, targeted junior-doctor teaching on laterality documentation, and a structured Datix near-miss reporting pathway, for sustained improvement.

Biography

Ms Soniya Chauhan (MBBS, MRCS Ed) is a Clinical Fellow in Trauma and Orthopaedics at Barking, Havering and Redbridge University Hospitals NHS Trust, working across Queen's Hospital Romford and King George Hospital. Chauhan has a specialist interest in orthopaedic quality improvement, patient safety, and surgical education. Chauhan is UK Administrator for AO Trauma NextGen UK and organises the departmental Junior Clinical Fellow teaching programme at BHRUT.



Soniya*, Khizar Masood, Preetam Upadhyaya, Aamir Hussain, Sarah Kelly, Nirav Valand

Barking, Havering and Redbridge University Hospitals NHS Trust (BHRUT), UK

Improving weight bearing status documentation after orthopaedic surgery: A closed-loop audit against BOAST 2024

Introduction: Clear postoperative Weight Bearing Status (WBS) instructions are essential for safe rehabilitation. In August 2024 the British Orthopaedic Association Standard for Trauma (BOAST) on Mobilisation and Weightbearing revised the accepted lexicon, permitting only three terms – Non Weightbearing (NWB), Limited Weightbearing (LWB) and Unrestricted Weightbearing (UWB) – attributed to the affected limb, and retiring ambiguous descriptors such as touch, partial and percentage- or weight-based limits. We audited WBS documentation against this standard and implemented a targeted intervention.

Methods: A prospective single-centre closed-loop audit was undertaken at a major trauma unit. Operatively managed limbs on the trauma list over a consecutive seven-day window were assessed from the operation note and postoperative plan, one record per affected limb, using a standardised proforma. Core compliance was defined as a documented status that was attributed to the affected limb and used an approved BOAST term; full compliance additionally required, for restricted plans, clinical justification, a functional description, an intended duration and any walking aids. Following Cycle 1, a two-component intervention (departmental teaching and a point-of-documentation prompt with a BOAST lexicon poster and writing-station cards) was delivered, and the audit was repeated.

Results: In Cycle 1, 42 limbs were analysed. A weight bearing status was documented in 90.5% of cases, but only 21.4% met core compliance and 14.3% full compliance. A retired term was used in 52.4% and the status was attributed to the affected limb in only 28.6%. Compliance was lowest in hip fragility and femoral fixation cases (5.6%). The predominant failure was continued use of legacy terminology rather than absence of documentation.

Conclusion: Baseline WBS documentation was frequent but rarely met the BOAST 2024 standard, with terminology and limb attribution the principal deficits. A low-cost educational and point-of-documentation intervention was introduced to address these, targeting the highest-risk hip fracture group, with re-audit undertaken to close the loop.

Biography

Ms Soniya Chauhan (MBBS, MRCS[Ed]) is a Clinical Fellow in Trauma and Orthopaedics at Barking, Havering and Redbridge University Hospitals NHS Trust, working across Queen's Hospital and King George Hospital. Chauhan organises the junior fellows' teaching programme and is actively involved in orthopaedic quality improvement, audit and surgical education, with a particular interest in improving the safety and clarity of perioperative documentation. Chauhan is working towards a career as a Trauma and Orthopaedic consultant.



Srdjan Andjelkov

Manual Physical Therapy, Belgrade, Serbia

Orthopaedic manual therapy for Temporomandibular Disorders (TMD): Integrating osteopathic techniques with physiotherapy

Background: Temporomandibular Disorders (TMD) affect up to one-third of adults across the lifespan and are a leading cause of non-dental orofacial pain. While patient education, self-management, and physiotherapy are core components of care, many clinics now combine physiotherapy with Osteopathic Manual Therapy (OMT). Evidence suggests manual interventions can reduce pain and improve mouth opening and jaw function when delivered as part of a multimodal program; however, clinical integration strategies vary and real-world implementation details are often under-reported.

Objective: To present a pragmatic, clinic-tested integration model in which orthopaedic manual therapy and targeted osteopathic techniques are combined with guideline-based physiotherapy for TMD, and to share feasibility, safety, and early outcome data from an outpatient practice.

Methods: We outline a structured care pathway used at a specialized clinic: (1) triage and red-flag screening; (2) stratified education (sleep hygiene, parafunction awareness, diet modification); (3) manual therapy package tailored by phenotype—joint-dominant, muscle-dominant, or mixed. Techniques include gentle mobilizations, muscle energy techniques, balanced ligamentous tension for the TMJ and cervical segments, cranial and diaphragm-cervico-thoracic interventions where indicated. Exercise therapy emphasizes jaw relaxation, controlled opening with deviation correction, deep cervical flexor training, scapular control, and graded exposure. Outcome tracking uses pain intensity (NRS), Jaw Functional Limitation Scale (JFLS-8/20), maximum mouth opening (MMO), and patient global impression over 4–6 weeks. Safety is captured through standardized adverse-event logs.

Results: (practice experience): In routine care, the program has demonstrated high feasibility and good adherence, with most patients reporting meaningful short-term improvements in pain and function alongside increased MMO. Adverse events have been minor and transient (e.g., short-lived soreness). Case vignettes will illustrate decision-making for joint- vs muscle-dominant presentations, the role of diaphragm work in patients with bruxism and stress-linked hyperventilation patterns, and coordination with dentistry (e.g., splints) and psychology when indicated.

Conclusions: A structured integration of OMT with physiotherapy for TMD is feasible, safe, and clinically useful in day-to-day practice. Standardized screening, phenotype-guided technique selection, and consistent outcome tracking are key to reproducibility. Further controlled studies are warranted to quantify effect sizes and identify responders.

Clinical Implications: Clinicians can adopt a phase-based pathway that blends TMJ-specific manual therapy with cervical/thoracic and diaphragm interventions, targeted exercise, and education—while monitoring outcomes and safety using simple clinic-friendly tools.

Keywords: Temporomandibular Disorders, Manual Therapy, Osteopathy, Orofacial Pain, Rehabilitation.

Biography

Srdjan Andjelkov is a specialist physiotherapist in Orthopaedic Manual Therapy and a certified osteopath (D.O.), founder of MANUAL Physical Therapy in Belgrade. At the University of Belgrade, Andjelkov works as a lecturer of Diagnostic methods in manual therapy, Manipulative therapy techniques in therapeutic practice and Manual therapy techniques in therapeutic practice on postgraduate specialisation studies for physiotherapists. With over 20 years of clinical and teaching experience, Andjelkov focuses on spine and TMJ rehabilitation, integrative osteopathy-plus-physiotherapy models, and dry needling. Andjelkov has delivered invited lectures and workshops nationally and internationally, including a talk at PHYSIO 2025 in London, and has written 28 scientific papers presented at various seminars, congresses, and symposiums for medical doctors, physiotherapists, and dentists. Andjelkov's clinical interests include phenotype-guided manual therapy, neurodynamic mobilization, and diaphragm-posture interactions in musculoskeletal pain.



**Tamara Lababneh*,
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How well does prehabilitation preserve pre-surgery cardiorespiratory fitness for lung cancer patients? Systematic review and meta-analysis

Background: Exercise prehabilitation (Prehab) for cancer patients awaiting surgery has shown to be effective for both surgery tolerance and recovery but its effect in lung cancer is limited. This systematic review and meta-analysis have therefore aimed to assess the effect of Prehab on Cardiorespiratory Fitness (CRF) and Quality of Life (QoL) in people with lung cancer.

Method: MEDLINE, AMED, CINAHL Plus, PEDro, and Cochrane data-bases were searched for eligible studies published up to 16 April 2026. Studies evaluating exercise-based prehabilitation with cardiorespiratory fitness outcomes were included.

Results: Twenty-nine studies totalling 1616 participants (44-79 years, 54.3% male) met the inclusion criteria, of which 17 were Randomised Controlled Trials (RCTs) included in the meta-analysis. CRF was measured either by 6-minute walk test (18 studies), incremental shuttle walk test (two studies) or cardiopulmonary exercise tests (CPET nine studies).

From baseline to pre-surgery, baseline to post-surgery and pre- to post-surgery in intervention vs control), 6MWT distances achieved were: +44.44m vs +30.19m; -96.43m vs -135.81m; and -117.69m vs -169.32m, respectively. For CPET, baseline to pre-surgery were reported, respectively for intervention vs control: +2.08 mL·kg⁻¹·min⁻¹ vs -0.17 mL·kg⁻¹·min⁻¹). Those studies which combined aerobic and resistance/strength training reported the greatest improvements in CRF.

Random-effects meta-analysis showed a significant pooled effect for the overall CRF (SMD = 0.48, 95% CI 0.15 to 0.80, $p = 0.007$) and the 6MWT (SMD = 0.39, 95% CI 0.03 to 0.76, $p = 0.038$), whereas the pooled CPET effect was not significant (SMD = 0.74, 95% CI - 0.42 to 1.90, $p = 0.134$). QoL were inconsistent across studies because of mixed outcomes measures used, although several studies reported improvements in specific QoL domains.

Conclusions: Exercise-based prehabilitation improves cardiorespiratory fitness in lung cancer patients awaiting for surgery, with improvements or preservation across the preoperative period. While these results are encouraging, the evidence remains limited by different CRF assessment and the lack of studies reporting at baseline, pre-surgery, and post-surgery, highlighting the need for more trials assessing fitness across the full treatment pathway.

Biography

Lababneh is a physiotherapist from Jordan. Working with refugee communities showed Lababneh the impact of accessible, evidence-based rehabilitation and sparked an interest in research and academia. After completing a master's degree in clinical Rehabilitation, Lababneh worked as a clinical supervisor and research assistant, and now focuses on cancer prehabilitation, exploring how exercise before surgery can support recovery and improve patient outcomes.



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Social deprivation and mortality after primary hip and knee arthroplasty: Implications for inequalities in elective orthopaedic care

Aims: To examine whether neighbourhood-level socioeconomic deprivation, measured using the English Index of Multiple Deprivation (IMD), is associated with revision surgery and all-cause mortality after primary Total Hip Arthroplasty (THA) and Total Knee Arthroplasty (TKA).

Methods: This population-based retrospective study used a prospectively maintained regional arthroplasty database. All primary THA and TKA procedures performed between 1 January 2015 and 5 June 2025 were included. Postcode at surgery was used to derive the IMD deciles. Multivariable cause-specific Cox models estimated associations between IMD decile and time to revision, and between IMD decile and time to death, adjusting for age, sex, American Society of Anesthesiologists (ASA) grade and year of surgery. Five-year cumulative revision by IMD quintile was estimated using Kaplan–Meier method and the cumulative incidence function, treating death as a competing event.

Results: 8,144 procedures were analysed, including 8,038 primary arthroplasties and 106 revisions. Of these, 4,219 were THA (52.5%) and 3,819 TKA (47.5%). There were 1,036 deaths and mean follow-up was 5 years. Five-year revision rates were low and similar across IMD quintiles (1.31% Kaplan–Meier, 1.25% cumulative incidence; $p \geq 0.73$). In contrast, higher IMD decile (less deprivation) was associated with lower mortality, with a 5% reduction in the hazard of death per decile (all procedures HR 0.95, 95% CI 0.93–0.97; $p < 0.0001$), and similar gradients for THA and TKA.

Conclusion: Neighbourhood-level socioeconomic deprivation was not associated with early- to mid-term revision after primary hip or knee arthroplasty but was independently associated with mortality, supporting deprivation-informed optimisation and follow-up within elective orthopaedic services.

Biography

Tomas Poliacik (MUDr, MRCS Ed, PGCert Surg Ed) is a Trauma and Orthopaedics Trust Doctor at the Countess of Chester Hospital NHS Foundation Trust, with more than five years of NHS experience across a range of orthopaedic and surgical posts. Poliacik graduated in medicine from Masaryk University in Brno, Czech Republic, and gained additional undergraduate training experience in Denmark and Belgium. Poliacik has previously worked in West Yorkshire and Merseyside, and has a strong interest in arthroplasty outcomes, surgical education, and quality improvement, currently preparing for entry into higher surgical training in Trauma and Orthopaedics in the UK.



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Compliance with the BOAST guidance in the management of distal radius fractures: A single-centre audit

Introduction: Distal radius fractures are among the most common orthopaedic injury presenting to emergency departments. The British Orthopaedic Association Standards for Trauma (BOAST) have defined standards for their assessment and management. This audit aimed to determine compliance of local practice at a district general hospital with key BOAST standards, focussing on: standard 4, fracture clinic review within 72 hours of injury, standard 9, fractures with volar angulation should be considered for fixation, and standard 11, intra-articular fractures should be operated on within 72 hours from injury.

Methods: The audit was registered with the local audit department. Fifty patients presenting with distal radius fractures in March to April 2026 were identified using electronic patient record systems. Details pertaining to time from attendance to Virtual Fracture Clinic (VFC), face-to-face clinic, radiographic features, management, and time to surgery were recorded. Two patients were excluded from the fracture analysis as they did not have a bony injury. Microsoft Excel was used for the data analysis.

Results: Out of the 48 fractures, 38 (79%) and 10 (21%) were intra-articular and extra-articular respectively. 11 (23%) were managed operatively and 37 (77%) conservatively. All operative cases were intra-articular fractures. Compliance with the timing of VFC review was 97.9% (46/47) (standard 4). All five (100%) volar fractures were considered for fixation (standard 9). For surgical timing, none of the intra-articular fracture were operated on within 72 hours of injury (0%), with the median time being 13 days (range 5–43) (standard 11).

Conclusion: This audit demonstrated excellent adherence of fracture clinic review through

the VFC pathway, and operative decision-making to the BOAST guidance. However, the audit captured that no intra-articular fractures which required fixation were operated within 72 hours of injury. A proposal of providing an additional hand trauma list with a subsequent re-audit is required.

Biography

A Core Surgical Trainee training in the Northwest of England, with a specific interest in trauma surgery relating to upper limb. In addition to his medical degree, Nadeem has obtained a bachelor's in Clinical Anatomy (First Class) and a PGCERT in Medical Education.



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Effectiveness of yoga therapy in improving quality of life after hip fracture in older adults: A randomized controlled trial

Background: Hip fractures in the elderly significantly impair mobility, quality of life, and bone health. Conventional physiotherapy remains the cornerstone of post-surgical rehabilitation, yet adjunct therapies such as yoga may enhance outcomes. Yoga integrates gentle physical movement, breathing techniques, and relaxation, which may enhance recovery, emotional well-being, and social engagement in elderly patients. This study is to evaluate the effect of a structured yoga program on the World Health Organization Quality of Life (WHOQOL-BREF) scores among elderly patients recovering from hip fractures over a nine-month period.

Methodology: A randomized controlled study was conducted with 126 post-surgical hip fracture patients aged above 65 years. Participants were randomly assigned to Group A (intervention, n=63) or Group B (control, n=63). The intervention group received a structured yoga program during hospital stay, followed by biweekly sessions for nine months, in addition to standard care. The control group received standard care alone. After attrition, 48 participants remained in Group A and 45 in Group B. WHOQOL-BREF scores across physical, psychological, social, and environmental domains were assessed at baseline and at nine months.

Results: After nine months, the intervention group demonstrated significantly greater improvements in total quality of life, particularly in physical and psychological health domains ($p < 0.001$), compared to the control group.

Discussion: The findings suggest that integrating yoga into rehabilitation may enhance recovery outcomes by improving mobility, reducing stress, and supporting emotional regulation. The combined physical and mental components of yoga likely contributed to better adherence and holistic recovery.

Conclusion: Structured yoga programs can be an effective adjunct to conventional rehabilitation, improving quality of life and promoting healthy aging among elderly hip fracture patients.

Keywords: Hip Fracture, Yoga, Rehabilitation, WHOQOL, RCT.

Biography

Prof. Vijay Sharma is Professor of Orthopaedics at Jai Prakash Narayan Apex Trauma Centre, AIIMS, New Delhi, where Sharma has served since July 2015, having joined AIIMS faculty in October 2005. Sharma completed postgraduate training in Orthopaedic Surgery from PGIMS Rohtak in 1999 and received advanced training in the UK and Germany. With over 20 years of clinical teaching experience, Sharma has guided 15 postgraduate students and published over 155 papers in reputed journals, including The Lancet and BMJ. Sharma has presented at 160 conferences, conducted 6 international cadaveric courses, and organised eight conferences. Sharma leads four national and international funded research projects.



Yana Edelstein

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A hypothesis on the neurophysiological and neuroendocrine mechanisms underlying fundamental psychophysiological needs

Background: Chronic stress is associated with prolonged activation of the Hypothalamic–Pituitary–Adrenal (HPA) axis, autonomic dysregulation, reduced neuroplasticity, and alterations in neurotransmitter and neuroendocrine systems. Despite extensive research on individual mechanisms of stress adaptation, there is still no unified neurophysiological model explaining how the sequential fulfillment of fundamental psychophysiological needs may contribute to the restoration of brain function and psychological well-being.

Objective: To propose a conceptual neurophysiological and neuroendocrine model describing the sequential mechanisms underlying the restoration of central nervous system function through the fulfillment of fundamental psychophysiological needs.

Methods: A theoretical integrative model was developed based on an analysis of contemporary evidence in neurophysiology, neuroendocrinology, psychophysiology, cognitive neuroscience, and stress adaptation research. The model integrates current knowledge on HPA axis regulation, autonomic nervous system function, neuroplasticity, circadian rhythms, neurotransmitter systems, and functional brain networks into a unified sequential framework of psychophysiological homeostasis restoration.

Results: According to the proposed model, chronic stress is characterized by sustained activation of the Hypothalamic–Pituitary–Adrenal (HPA) axis, increased secretion of cortisol and catecholamines, reduced activity of the dopaminergic and serotonergic systems, decreased production of Brain-Derived Neurotrophic Factor (BDNF), impaired DHEA/cortisol

balance, and disruption of circadian regulation. The model suggests that psychophysiological recovery occurs through seven sequential stages.

(1) Establishment of internal safety is achieved through psychophysiological training and is accompanied by reduced HPA axis activity, decreased secretion of Corticotropin-Releasing Hormone (CRH), Adreno CorticoTropic Hormone (ACTH), cortisol, and catecholamines, together with enhanced parasympathetic regulation.

(2) Restoration of neuroplasticity continues during the same psychophysiological training and is characterized by increased BDNF expression, normalization of hippocampal and prefrontal cortex function, restoration of the DHEA/cortisol balance, and stabilization of circadian rhythms, thereby creating favorable conditions for the formation of stable adaptive neural connections.

(3) Formation of stable neuroendocrine homeostasis also continues during the same psychophysiological training, during which a sustained balance of the dopaminergic, serotonergic, and oxytocinergic systems is established while reduced HPA axis activity is maintained, resulting in the development of a new stable neuroendocrine homeostatic state.

(4) Formation of personal identity is implemented using separate psychotherapeutic techniques after stable neuroendocrine regulation has been achieved and is associated with stabilization of dopaminergic and serotonergic activity involved in motivation, self-confidence, emotional resilience, and awareness of personal resources.

(5) Formation of life goals supports the activity of the mesolimbic dopaminergic system, reduces subjective uncertainty, and decreases the likelihood of stress reactivation, thereby promoting maintenance of the adaptive state.

(6) Formation of sustained motivation for action is accompanied by activation of the intrinsic reward system, additional dopamine release, and reinforcement of adaptive neural pathways through the achievement of intermediate goals.

(7) Consolidation of adaptive behavior is characterized by stabilization of neuroendocrine balance, maintenance of dopaminergic, serotonergic, and oxytocinergic activity under conditions of reduced HPA axis activation, thereby supporting long-term psychological resilience, social adaptation, and preservation of the newly established functional brain state.

It should be noted that the first three stages are implemented through a single psychophysiological training process aimed at establishing internal safety, restoring neuroplasticity, and consolidating neuroendocrine homeostasis. Once this state has been achieved, the subsequent stages are carried out using separate psychological and behavioral interventions designed to develop personal identity, life goals, sustained motivation, and adaptive behavior. The proposed stages constitute a unified sequential process in which each subsequent stage reinforces the previous one.

Conclusions: The proposed model conceptualizes the fulfillment of fundamental psychophysiological needs as a sequential cascade of interconnected neurophysiological and neuroendocrine processes, including normalization of hypothalamic–pituitary–adrenal axis activity, restoration of neuroplasticity, optimization of neurotransmitter regulation, and stabilization of circadian rhythms. It is proposed that the sequential implementation of these stages promotes the establishment of stable neuroendocrine homeostasis, which is subsequently maintained through the development of personal identity, life goals, sustained motivation, and adaptive behavior that collectively support the ongoing fulfillment of fundamental psychophysiological needs.

Biography

Yana Edelshtein is a psychologist and founder of the Brain Programming School, a researcher and author of methods for the conscious control of the brain and hormonal system, and the creator of the brain programming method and conscious modulation of consciousness. Edelshtein's work studies neuroendocrine effects across large groups, encompassing over 2,500 research subjects and more than 20,000 training participants.



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Clinical outcomes of Intra-Medullary Hindfoot Nailing (IMHN) for traumatic ankle fractures: A six-year experience from a UK tertiary centre

Introduction: Intra-Medullary Hindfoot Nailing (IMHN) is utilised for complex ankle fractures in frail patients where conventional fixation is unsuitable. However, outcome data in trauma populations remains sparse.

Aim: To evaluate short-term outcomes, complications, and mortality following IMHN for traumatic ankle fractures in a UK tertiary centre.

Methods: A retrospective review of IMHN for traumatic ankle fractures between December 2018 and August 2025, was performed using Bluespier coding. Demographics, injury characteristics, surgical timing, complications, radiographic outcomes, and mortality were collected.

Results: Seventy-five patients were included (median age 79 years, IQR 72–86); 62 (82.7%) were female and 57 (76.0%) classified as frail. Median body mass index was 31.3. Injury severity was high, with 37 (49.3%) open fractures and 43 (57.3%) tri-malleolar injuries. Median time to surgery was 8 days, with 47 (62.7%) delayed beyond 72 hours. Immediate full weight-bearing was advised post-operatively in 65 patients (86.7%). Complications occurred in 14 (18.7%), seven (9.3%) metalwork related, six (8.0%) infection related, and one (1.3%) periprosthetic fracture. Ten (13.3%) cases required re-operation. Radiographic follow-up was available in 55 (73.3%), demonstrating union in 36 (65.5%) and malunion in two (3.6%); 17 patients (30.9%) had no evidence of union. Eleven patients (17.5%) returned to baseline mobility. Mortality was one (1.3%) at 30 days and 11 (17.7%) at one year. There was no statistically significant difference in 1-year mortality between open vs closed fractures (11% vs 26%; $p=0.137$, Fisher's exact test).

Conclusion: IMHN is an effective stabilisation strategy in frail patients with complex ankle fractures, allowing early mobilisation. However, complication rates remain considerable, with limited functional recovery and high mortality. Outcomes parallel hip fracture cohorts, supporting the need for careful patient selection, early surgery where feasible, and orthogeriatric optimisation, though findings are limited by small sample size.

Biography

Zara Sharif is a Year 2 doctor currently working in a major trauma centre where Sharif has rotated through several specialties, allowing Sharif to gain broad clinical experience managing acutely unwell and complex patients within a multidisciplinary environment. Sharif has a strong and growing interest in Trauma and Orthopaedic Surgery, particularly in the management of musculoskeletal trauma and improving patient outcomes through evidence-based practice. Sharif is keen to further develop clinical and academic experience within the specialty, with interests in research, teaching and quality improvement.

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POSTER
PRESENTATIONS





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Skilled aquatic interventions for improving upper extremity function in those with adult-onset neurological conditions—A scoping review

Evidence-based clinical interventions and outcomes are necessary to support skilled Aquatic Therapy (AT) for individuals with adult-onset neurological conditions, and there is a paucity of research supporting Upper Extremity (UE) performance. We conducted CINAHL, Medline, Embase, Scopus, Sport Discus, and Google Scholar searches without language or year limitations using the following terms: Occupational Therapy (OT) or rehab AND aquatic or water or pool therapies AND upper extremities (arm, elbow, hand, wrist, etc.) AND post neuro events (stroke, seizure, brain injuries, etc.). Steps to ensure trustworthiness included an agreed upon pilot screening process successfully trialled by three team members, independent screens conducted by two screeners, and all tie decisions determined by a third, objective team member. Our team conducted a scoping review following a multi-stage screening process. After removal of 3 duplicates, 106 records were screened, yielding 17 full-text articles assessed for eligibility. Four reports were excluded (1 duplicate; 3 lacking relevant upper extremity outcomes), and 1 additional reference was identified through secondary manual review, resulting in 13 studies included in the final scoping review. Across neurological populations including Multiple Sclerosis (MS), stroke, Acquired Brain Injury (ABI), and Parkinson's Disease (PD), AT showed positive effects on UE performance as measured by upper extremity or grip strength, dexterity, hand function, or Activities of Daily Living (ADL) participation.

Interventions commonly incorporated Ai-Chi, Halliwick methods, aerobic and strengthening exercises, swimming, balance activities, and task-oriented movement in warm-water environments over 5–12 weeks. Several studies reported statistically significant

improvements in grip strength, shoulder strength, dexterity (e.g., 9-Hole Peg Test), upper extremity power, and ADL performance following skilled aquatic intervention, even when interventions were not directly targeting fine motor skills. Evidence base was limited by small sample sizes, heterogeneous intervention protocols, short study durations, and a lack of high-quality randomized controlled trials focused specifically on upper extremity functional outcomes. This scoping review advances understanding of AT's impact on UE functional recovery within physical rehabilitation. By examining AT approaches across neurological populations—including intervention types, intensity, duration, and functional outcomes—the review supports interprofessional collaboration in identifying evidence-informed strategies to promote UE participation and performance. The findings also highlight the limited availability of high-quality research focused on skilled AT for UE recovery, underscoring the need for further research in this area.

Biography

Dr. Amanda C. Wise, OTD, MS, OTR/L, BCPR, NBC-HWC, is an Assistant Professor in the Occupational Therapy (OT) Program at Creighton University with more than 26 years of clinical and academic experience. Wise earned a BS in Biology from the University of Nebraska at Omaha and a BSOT, MS in Integrated Health and Wellness, and Post-Professional Doctorate of OT from Creighton University. Wise's teaching, research, and scholarship focus on holistic health and wellbeing, community-based services, preventive care, and physical rehabilitation. An active leader in the profession, Dr. Wise is dedicated to advancing evidence-based practice through education, scholarship, mentorship, and service.



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Retrospective analysis of ultrasound-guided Stellate Ganglion Blocks (SGB) for CRPS

The Stellate Ganglion Block (SGB), also known as the cervicothoracic sympathetic block, is a perineural injection of local anesthetic at the C6-C7 level that interrupts sympathetic outflow to the head, neck, and upper extremity. For nearly a century, the SGB has remained an established intervention for many conditions, including Complex Regional Pain Syndrome (CRPS) types I and II. Ultrasound guidance for SGB allows real-time visualization of pertinent surrounding vascular, neural, and visceral structures as well as the direct observation of needle placement and spread of injectate. Despite the expansion of SGB indications and the increasing adoption of ultrasound guidance, contemporary data describing real-world ultrasound-guided SGB practice remain limited. This study aimed to characterize patient demographics, procedural characteristics, patient-reported treatment outcomes, and procedure-related side effects among patients undergoing ultrasound-guided SGB.

This is a single-center retrospective cohort study prepared in accordance with the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) reporting guidelines. All blocks were performed by the first author (AK) in an office-based suite at his private pain clinic, located in Tampa, Florida and some at an ambulatory surgery center. Patients treated from May 17, 2021, to July 1, 2026, were included in the analysis. All consecutive ultrasound-guided SGBs performed during the study period were identified through the Electronic Medical Record (EMR) and procedure log. For each patient, variables such as demographics (age, gender), block characteristics (right/left/bilateral, anesthetic agent, volume, nitrous oxide use), complications, and follow up communication (successful, unsuccessful, non-responder) were recorded. The primary outcome studied in this cohort was effectiveness. Block success was determined from free-text clinical documentation, as standardized outcome measures

were not routinely collected. Safety of the block was studied as a secondary outcome where complications per block were separated into procedure-related adverse events and expected pharmacologic effects.

Within a larger cohort of 125 patients, 22 were identified to have undergone a SGB for CRPS or generalized pain syndromes. Shortly after the procedure, 22.7% patients experienced Horner's Syndrome, which is an expected pharmacological effect. Examination of follow up communication with patients revealed that 18.1% successfully experienced a decrease in their symptoms, 40.9% did not experience a decrease in symptoms, and 41% did not provide a post-procedure follow up.

This variability in response may reflect differences in underlying disease mechanisms. Conditions characterized by sympathetic or amygdala-linked hyperactivity may be better targeted by SGB's mechanism of action, whereas conditions involving more diffuse or systemic autonomic dysregulation may be less consistently affected by a single, unilateral block. The comparatively lower CRPS response rate observed in this cohort is consistent with prior literature. Systematic reviews have concluded that evidence supporting sympathetic blocks for CRPS remains limited and of low certainty. This may reflect the heterogeneous pathophysiology of CRPS, in which it is not uniformly sympathetically mediated. As a result, not all patients with CRPS would be expected to experience a meaningful response to SGB. Higher response rates reported in smaller studies combining SGB with adjunctive occupational therapy may reflect differences in patient selection, adjunctive rehabilitation, or identification of patients with a greater sympathetic pain component, rather than differences in block technique alone.

Future studies should prioritize prospective, multicenter, indication-specific cohorts using validated, condition-appropriate outcome measures collected at standardized follow-up intervals to improve comparability across studies and minimize missing outcome data.

Biography

Ashvika Bandaru is a second-year medical student at the University of Central Florida College of Medicine. Bandaru earned an undergraduate degree in Biology and Medical Anthropology from Case Western Reserve University, graduating summa cum laude. Bandaru's research interests include cardiovascular medicine, health disparities, and improving patient outcomes through clinical research. Bandaru is currently involved in cardiology research investigating the spontaneous closure of iatrogenic atrial septal defects following left atrial appendage occlusion. Bandaru hopes to pursue a career in medicine that combines clinical care, research, and advocacy.



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Association between eccentric knee flexor–extensor performance and knee proprioception in para-athlete runners with cerebral palsy

Background: Cerebral palsy is associated with neuromuscular impairments such as muscle weakness, spasticity, altered muscle-tendon properties, and impaired selective motor control, including alterations in flexor-extensor muscle synergies. Proprioceptive deficits have also been described and may affect the sensory information required for postural control, locomotion, and movement regulation. In para-athlete runners, these alterations may be particularly relevant because running requires continuous integration between muscle force production and joint-position information. At the knee, the hamstrings and quadriceps contribute to flexion and extension control, respectively; however, the relationship between their eccentric performance and proprioceptive accuracy in para-athlete runners with cerebral palsy remains insufficiently characterized.

Objective: To investigate the association between eccentric knee flexor and extensor performance and knee proprioceptive accuracy in para-athlete runners with cerebral palsy, with emphasis on differences between these muscle groups.

Methods: This observational, analytical, cross-sectional study included 17 male and female para-athlete runners with cerebral palsy evaluated at the Brazilian Paralympic Training Center in São Paulo, Brazil. Muscle performance was assessed using an isokinetic Biodex dynamometer. Eccentric knee flexor and extensor torque were analyzed at an angular velocity of 60°/s. Knee proprioception was assessed using a joint position sense test with a target angle of 45°, and proprioceptive accuracy was expressed as the absolute repositioning error. For participant-level analysis, torque and proprioceptive measurements were summarized

as mean values per participant. The flexor-extensor torque difference was calculated as flexor torque minus extensor torque. Associations with proprioceptive error were examined using Spearman's correlation coefficient. Flexor and extensor torque values were compared using the Wilcoxon signed-rank test, with statistical significance set at $p < 0.05$.

Results: Median eccentric knee flexor torque was 182.1 Nm (IQR 131.1–223.0), compared with 120.1 Nm (IQR 100.1–155.4) for eccentric knee extensor torque ($p < 0.001$). Eccentric flexor torque showed a significant negative correlation with absolute proprioceptive error ($\rho = -0.626$; $p = 0.007$), indicating that greater flexor torque was associated with lower repositioning error and, consequently, greater proprioceptive accuracy. In contrast, eccentric extensor torque was not significantly associated with proprioceptive error ($\rho = -0.280$; $p = 0.277$). The flexor-extensor torque difference was also significantly correlated with proprioceptive error ($\rho = -0.521$; $p = 0.032$), indicating that a greater difference in favor of flexor torque was associated with lower repositioning error.

Conclusion: Eccentric knee flexor performance was significantly associated with proprioceptive accuracy in para-athlete runners with cerebral palsy, whereas eccentric extensor performance was not. The significant association between the flexor-extensor torque difference and repositioning error further suggests that differences in eccentric performance between these muscle groups may be related to knee joint position sense. Given the small sample and cross-sectional design, these findings should be interpreted as exploratory and do not establish a causal relationship.

Biography

Catarina Chatì is a medical student and undergraduate researcher at Faculdade São Leopoldo Mandic, Campinas, Brazil. Chatì's academic and research interests include sports medicine, rehabilitation, neuromuscular function, and proprioception, with particular interest in the evaluation of para-athletes. Chatì has participated in undergraduate research involving isokinetic muscle performance and knee proprioception in para-athlete runners with cerebral palsy.



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Progressive myelopathy in a 51-year-old Female due to cervical spondylosis

A 51-year-old Female with a history ground-levels falls from June 2025 to November 2025. These falls only stopped with the onset use of a rolling walker. In efforts to improve her lower extremity pain and weakness she was referred to PM&R pain management in July 2026 for lumbosacral evaluation by her current Physiatrist. This referral was due to progressive lower extremity pain and weakness in consideration of a L5-S1 Epidural Steroid Injection. Since April 2025, Pt endorsed onset of right lower extremity pain and weakness developing causing recurrent falls, dysesthesia and gait difficulties with varying intermittent pain in the lumbro-sacral area and lower extremities not related to any cause.

At an Emergency Room visit due to a fall in August 2025, she noted numbness initially in her pinky toe in April 2025, has now progressed in the entire right lower extremity, and as well as to the left lower extremity and both fingers. Formal strength testing of limbs was not recorded. Pt was ruled out for CVA. In an Emergency Room visit in September 2025 for another fall, she reported ongoing lower extremity numbness and having anesthesia to her perineum for the prior 3 mos. Weakness in all extremities noted in history, however, strength for all extremities was noted 5/5. A lumbar MRI was ordered at time of this September 2025 ER visit. A third ER visit was in Dec 2025 for worsening heaviness of right lower extremity and bilateral low back pain, denying fecal and urinary incontinence. MSK strength testing was not noted in this encounter. Her oral pain medications were refilled and a wheeled walker was provided at discharge from the ER.

The Lumbar MRI noted degenerative disc and facet disease. Moderate central canal stenosis of L4-L5, with foraminal narrowing to mild-moderate in L5-S1. MRI findings noted not to match

her symptoms. Along with an Ortho Spine consult, she was given a prescription for Gabapentin and a Medrol steroid dose pack.

A bilateral lower extremity EMG/NCS performed in March 2026 had shown evidence of peripheral neuropathy without showing evidence of radiculopathy, plexopathy, myelopathy. The PM&R physician ordered a Head, Cervical & Thoracic MRI. The Cervical MRI was significant for severe canal stenosis at C4/5 of only a 2mm AP distance.

At time of presentation to the PM&R pain clinic on 7/24/26 and with prior encounters, she had denied cervical pain. However, in the past 4 to 6 mos, she reported developing progressive bilateral upper extremity weakness, along with changes in bowel and bladder patterns consistent with upper motor neuron lesions. She was promptly referred for neurosurgical evaluation. At time of this report, the patient was placed on bed rest and scheduled for surgery on 8/21/26 for a C4-7 ACDF.

Biography

CDR James Jowdy, DO is a physician and Commander in the United States Coast Guard and US Public Health Service. Jowdy is a fourth year PM&R resident at EVMS at ODU, Norfolk, Virginia, USA, completed medical school in 2007 and a General Surgery Internship in 2008, and served the US Navy as an Undersea Medical Officer till 2013. Prior to starting service in the USPHS / USCG in 2021, Jowdy was a general practicing physician at the only federal women's prison hospital, initiating the federal bureau of prison's first multi-disciplinary pain management program.



Lisa A. Chase

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Physical self perceptions and activity involvement in the older population: Motivation toward a improved quality of life

Purpose: The purpose of this study was to investigate the relationship of activity involvement to physical self-perceptions in people 55-75 years of age.

Subjects: Fifty-two males and 48 females responded to a modified physical activity questionnaire.

Methodology: Using a physical activity questionnaire that quantified activity (frequency, activity&duration) and grouped activities into categories (sports, fitness, recreational and practical), an activity Index (AI = frequency, mean intensity+mean duration) was calculated to identify activity patterns. Comparisons of total and type of activity involvement were made for all sex and age groups. Stepwise multiple regressions were used to investigate the extent to which physical self-perceptions were associated with the type of activity chosen.

Results: Overall, males tended to be more active than females (AI=133 -vs- 121, respectively), with males between 55-59.9 years of age being most active (AI=221.6). Both show largest participation in the fitness activities (50%). There was a general trend toward less activity with age. Using the Physical Self-Perceptions Profile-Adults (PSP-P-A), the categories of activities underwent a stepwise multiple regression to determine which sub-domain sub-scale emerged as the best predictor of involvement in that given activity category. Perceived Sport Competence was a predictor of sports activity in males and females. Perceived Appearance and Health/Disease sub-domains were predictors of activity involvement in females (R=.58, .65, respectively). For males, perceived Functional Capacity and perceived Sport Competence

occurred more often as predictors of activity involvement ($R=.397, .54$, respectively) Gender comparisons of PSPP-A sub-scale scores show that, in males, Appearance sub-scale scores decreased, and Functional Capacity and Health/Disease sub-scale scores increased with age. In females, Sports sub-scale scores decreased, and Functional Capacity and Health/Disease sub-scale scores increased with age.

Conclusions: As the average age of the population increases, healthcare professionals will be dealing with an older population, on average, than they are now. Knowledge of the older population's current activity patterns & choices may provide understanding into what patients comprehend and/or value. Those interrelationships to physical self-perception can give health care workers valuable tools to motivate their clientele to an improved quality of life.

Biography

Dr. Lisa Chase has a Master of Physical Therapy from the Institute of Physical Therapy in St. Augustine; a PhD in Exercise and Wellness from Arizona State University; and a Master of Science in Exercise Science from the UNC-Chapel Hill. Chase has presented and/or published nationally and internationally on this research. Currently, Dr. Chase both teaches and practices physical therapy in St. Augustine, Florida.



Maxime Schilliger

Geneva University Hospitals (HUG), Switzerland

How should bacteriological sampling be stratified in paediatric septic arthritis? A narrative review

Introduction: Joint aspiration remains the gold-standard and an urgent step in the diagnosis of paediatric Septic Arthritis (SA), conferring both diagnostic and therapeutic value, in contrast to its role in acute haematogenous osteomyelitis. The bacteriological profile of paediatric SA is highly age-dependent: *Kingella kingae* predominates in children younger than 4 years, whereas *Staphylococcus aureus*—including Panton–Valentine Leukocidin (PVL)-producing and methicillin-resistant (MRSA) strains—predominates thereafter. No previous review has specifically addressed when bacteriological sampling is essential and when it may reasonably be omitted. This narrative review critically appraises the evidence through nine clinical questions and proposes a risk-stratified conceptual framework integrating emerging data on bacterial virulence factors.

Methods: A structured literature search was conducted in PubMed/MEDLINE, Embase, and the Cochrane Library (January 1997–March 2026), following the recommendations of Pai et al. and with support from an experienced research librarian, limited to English- and French-language publications. Guidelines from the Pediatric Infectious Diseases Society/Infectious Diseases Society of America (PIDS/IDSA, 2021 and 2023) and the European Society for Paediatric Infectious Diseases (ESPID, 2017), together with national guidance (Health Protection Agency, Groupe de Pathologie Infectieuse Pédiatrique), were specifically sought. The search identified 299 publications; after abstract screening (91 excluded), 208 articles underwent full-text review, and 90 were ultimately retained. As a narrative review, no formal PRISMA-compliant protocol was followed, given the heterogeneity of study designs across the nine clinical questions addressed.

Results: This review proposes a risk-stratified framework for bacteriological sampling in paediatric SA. In children older than 4 years, in whom *S. aureus* predominates (33–37% of confirmed European cases), arthrocentesis under general anaesthesia with culture, antibiogram, and toxin profiling (PVL, TSST-1) remains the standard of care. In children younger than 4 years with a positive oropharyngeal *K. kingae* PCR and a stable clinical presentation, non-invasive confirmation may be sufficient, although this strategy depends on a cluster of concordant clinical, biological, and molecular findings rather than the PCR result alone—given a 10–12% asymptomatic carriage rate and the limited reliability of the Kocher–Caird criteria in this age group (only 6.5% of children with confirmed *K. kingae* hip SA met all four Kocher criteria in the multicentre cohort by De Marco et al.). In severely ill children of any age, comprehensive sampling with planned joint lavage is recommended from the outset. Culture-negative SA (30–60% of cases) is generally associated with a favourable prognosis under empirical treatment.

Conclusion: The dual diagnostic and therapeutic value of joint aspiration justifies systematic bacteriological sampling in paediatric SA, with the sampling modality tailored to age-dependent epidemiology, oropharyngeal PCR results, and clinical severity. This risk-stratified framework requires prospective multicentre validation prior to clinical implementation.

Biography

Maxime Schilliger is present working at Geneva University Hospitals (HUG), Switzerland

Characteristics of the management of spastic foot in adult vascular hemiplegic patients: About 102 cases

Introduction:

- Spasticity of the lower limb occurs in nearly 20% of cases.
- In hemiplegic patients, progression to equinovarus foot is the most frequent neuro-orthopedic deformity.
- The frequency is estimated at 20%,
- 80% of patients recover walking ability within 6 months following the vascular accident.

Material and Methods: Our retrospective clinical study included subjects who suffered an ischemic vascular accident, aged between 30 and 87 years, coming from different specialized consultations in physical medicine and rehabilitation, cardiology, neurology, and neurosurgery, during the period from March 2014 to December 2022.

Several parameters were studied, namely:

- Age, sex, level of education, place of residence, housing;
- Caregiver
- Risk factors and medical history
- Side of motor deficit
- Time to management
- Patients' complaints
- Impact on activities of daily living (ADL) (FIM/FAC) before treatment
- Therapeutic means
- Impact on ADL (FIM/FAC) after treatment

Discussions: The mean age of our patients was 61.76 years. In our study, we noted that 80% of patients live in a more or less urbanized area. 63% of patients have accessible housing. 92% of patients had medical history, the most important being arterial hypertension and diseases. 80% of patients followed a well-codified physiotherapy protocol including: muscle strengthening, stretching, and inhibitory postures. All patients benefited from a Guided Self-rehabilitation Contract (GSC) explained and illustrated with images.

Conclusion: Spastic foot in hemiplegic patients is the most frequent type of spastic foot. In its functional component, it disrupts activities of daily living, because although 80% of patients recover walking within 6 months following the vascular accident, the quality of walking is not satisfactory. This condition is related to foot spasticity, which evolves independently throughout recovery. Initially flaccid, it progresses to equinovarus, causing problems for standing, footwear, and walking, pain, claw toes, and calluses due to foot–shoe or foot–orthosis conflict. All these problems have been the subject of various studies for the management of spastic foot, but no consensus exists.



Mustafa Al Saedi*,
Cynthia Sprenger

University of Washington School of Medicine, USA

Optimizing hip fracture surgery outcomes with geriatric patients with cognitive decline

Introduction: The prevalence of dementia is projected to rise to 139 million worldwide by 2050. Geriatric patients with mild cognitive decline or dementia have been found to have an increased rate of hip fractures, as well as a 180-day postoperative mortality rate of 26.5% or more after undergoing hip fracture surgery. The present study, therefore, evaluates the current literature regarding optimal surgical and treatment approaches to inform best practice and improve outcomes.

Methods: A comprehensive narrative review of 13 included studies was utilized to identify optimal surgical and treatment approaches in patients ≥ 65 years with cognitive decline or dementia, who underwent hip fracture surgery. Studies evaluating preoperative care, surgical approaches, pain management, postoperative care, rehabilitation, and overall function were analyzed to synthesize outcomes.

Results: Key domains identified. Assessment: validated tools for cognition (IQCODE, MMSE), functional status (BI), delirium (CAM), depression (GDS), nutrition (GNRI), co-morbidities (CCI), and palliative care discussions (PPS) for holistic clinical decision-making. Surgical approach: direct anterior total hip arthroplasty with a dual mobility cup yielded comparable outcomes in dementia and FNF patients; Pain management: femoral nerve block reduced opioid use but did not significantly lower delirium risk. Care coordination: family-centered care models improved patient health ratings and caregiver self-efficacy.

Conclusion: Standardized assessments are essential before surgery and palliative care discussions. Postoperative delirium was a consistent cause of accelerated cognitive decline. Further research is needed on delirium prevention, non-opioid analgesia, rehabilitation adherence, and surgical technique comparison across all hip fracture types in this population. Multidisciplinary collaboration, care models, and family caregiver education are essential to maximize surgical outcomes, overall function, patient safety, and quality of life.

Biography

Mustafa Al Saedi is a medical student at the University of Washington in the United States. Originally from Baghdad, Iraq, Al Saedi is deeply interested in trauma and sports orthopedics, musculoskeletal health, quality improvement, and expanding care for underserved communities. Al Saedi is committed to advancing evidence-based orthopedic practice and contributing to impactful research in the field, and in free time enjoys spending time with family and weightlifting.



Mustafa Al Saedi*, Ian Craig-Scott

University of Washington School of Medicine, USA

Preoperative GLP-1 receptor agonist use on postoperative complications in adults with Type 2 Diabetes Mellitus (T2DM) undergoing operative ankle fracture repair: A systematic review

Introduction: Ankle fractures in adults with Type 2 Diabetes Mellitus (T2DM) are associated with increased postoperative complications. Glucagon-like peptide-1 receptor agonists (GLP-1RAs) have been found to mitigate complications and optimize surgical outcomes. To date, no systematic review of evidence on preoperative GLP-1 RA use and postoperative complications in this population currently exists.

Methods: A systematic review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines. Data sources included PubMed, MEDLINE, Embase, and Cochrane Library from 2016 to 2026. Studies that reported on preoperative GLP-1 RA use and non-use on postoperative outcomes in adults with T2DM undergoing operative ankle fracture repair were included. Data quality was examined using the Newcastle-Ottawa Scale (NOS) for cohort studies, and the Grading of Recommendations Assessment Development and Evaluation (GRADE) framework. A narrative synthesis was completed due to study heterogeneity.

Results: Three cohort studies met inclusion criteria and were analyzed. Preoperative GLP-1 RA use was associated with reduced Surgical Site Infections (SSI) in two studies, a 90-day decrease in cardiovascular events in one study, and reduced all-cause mortality in two studies; however, one study evaluated a combined GLP-1 RA/SGLT2i exposure, limiting attribution of SSI outcomes to GLP-1 RA alone. One study reported an association between GLP-1 RA use and fall-related injuries. Evidence for non-union, malunion, implant failure, and amputation was insufficient across studies.

Conclusion: Preoperative GLP-1 RA use may reduce postoperative infection, cardiovascular events, and mortality risk in adults with T2DM undergoing surgery for an ankle fracture, although evidence is limited and remains of low certainty. Further research is needed to evaluate the association between GLP-1 RA and fall-related injuries. Prospective high-quality studies with follow-up periods beyond one year are also warranted to further assess postoperative complications and long-term outcomes.

Biography

Mustafa Al Saedi is a medical student at the University of Washington in the United States. Originally from Baghdad, Iraq, Al Saedi is deeply interested in trauma and sports orthopedics, musculoskeletal health, quality improvement, and expanding care for underserved communities. Al Saedi is committed to advancing evidence-based orthopedic practice and contributing to impactful research in the field, and in free time enjoys spending time with family and weightlifting.



Nihal A Basha*, Lokesh Sharoff, Charlie Brooks

East Suffolk and North Essex NHS Foundation Trust, UK

Adherence to BOAST guidelines on early management of the paediatric forearm fracture – lessons to learn for a digital future

Introduction: An audit was undertaken at East Suffolk and North Essex NHS Foundation Trust, Ipswich Hospital, with the aim of identifying where there were deficiencies in implementation of British Orthopaedic Association Standards (BOAST) guidelines on the early management of paediatric forearm fractures. A further aim was to harness the advent of our new Electronic Patient Record (EPR) 'Epic' to highlight potential pitfalls, strengths, and novel solutions that could be generalised for application to other centres, as there is a growing trend to move away from paper-based and disparate record systems to unified EPRs. Possible avenues for multi-centre collaboration are highlighted.

Methods: Data was collected retrospectively using Epic EPR. The inclusion and exclusion criteria were taken from the BOAST guidelines.

Inclusion Criteria: Skeletally immature patients seen in Emergency Departments following angulated (but not off-ended) forearm fracture

Exclusion Criteria: Fractures that following interdisciplinary discussion require management in the operating theatre due to either patient or injury related factors. The search returned all relevant patient presentations between 02/10/2025 and 25/03/2026.

Results: A total of 138 patient records were returned by the search and reviewed, of which 8 met inclusion criteria for further analysis. This is in-keeping with the sample size from the previous audit on this topic at Ipswich Hospital. A number of key areas for improvement were identified:

- There was a tendency for neurovascular status pre- and post-manipulation to be documented simply as 'NVI', meaning neurovascularly intact, rather than specifically detailing the status of the radial pulse, digital capillary refill time, and the individual functions of the radial, median, and ulnar nerves. Complete documentation was only achieved 50% of the time prior to manipulation and 25% afterwards.
- Documentation of pain scores was inconsistent, only occurring in 13% of cases.
- Formal consent was only documented in 50% of cases.
- Provision of TTO analgesia and leaflets was not documented.

Overall adherence was greater when assessment and management was undertaken by specialists in trauma and orthopaedics. Adherence was otherwise 100%.

Conclusions: These results highlight two overarching issues. The first is that paediatric forearm fractures severe enough to require manipulation i.e., not the commonly observed torus fractures, but not so severe as to require theatre, are uncommon. This creates challenges in obtaining large sample sizes, especially across a recent enough timeframe to maintain relevance. This could be overcome through multicentre data sharing that will be augmented by emerging digital unified EPRs, such as Epic. The above points may also be comprehensively addressed through creation of an automatically generated interactive digital proforma encompassing assessment, consent, treatment, and discharge planning, via the 'smart text' function in Epic. This could be supplemented with teaching for residents and allied healthcare professionals in the emergency department. Re-audit will be done in 4 months. Multi-centre collaboration could be considered based on the results.

Biography

Nihal A Basha recently graduated from the University of Cambridge and is now a Foundation Year 1 doctor undertaking a Specialised Foundation Programme at Ipswich Hospital. Basha is an aspiring academic paediatrician with an interest in research and teaching.



Rachel Wallice^{1*}, Dafydd Pearce²,
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Management and outcomes of paediatric lower limb open fractures across two tertiary centres over a 13-year period

Aim: To review the management and outcomes of paediatric lower limb open fractures across two tertiary centres — A Major Trauma Centre and a regional orthoplastic unit — over a 13-year period, benchmarked against BOAST 4 guidelines.

Methods: Retrospective review of lower limb open fractures in children aged 0–16 years at University Hospital Wales, Cardiff (MTC) and Morriston Hospital, Swansea. Data were collected on wound management, fixation, plastic surgery involvement, and complications. Adherence to BOAST 4 principles — including timely debridement, orthoplastic decision-making, and definitive soft tissue cover within 72 hours — was assessed.

Results: Sixty-five lower limb open fractures were identified. At University Hospital Wales (n=36), 75% were managed with direct closure; soft tissue reconstruction was required in 19%, with one amputation. Plastic surgery involvement was documented in 42% of cases. At Morriston Hospital (n=29), 45% underwent direct closure, 38% required free tissue transfer, and three patients underwent amputation. Plastic surgery involvement was documented in 93% of cases.

Conclusions: This study demonstrates a significant difference in reconstructive complexity and documented plastic surgery involvement between centres, reflecting centralisation of orthoplastic services at Morriston following service development in 2020. The higher free flap rate is consistent with the severity profile managed within a dedicated orthoplastic unit. BOAST 4 compliance, particularly regarding early plastic surgery involvement in all lower limb

open fractures, improved following MTC designation at Cardiff. These findings support plastic surgery integration from first presentation and reinforce the case for centralised orthoplastic care in paediatric lower limb trauma.

Biography

Miss Rachel Wallice is a Senior Clinical Fellow in Plastic Surgery, working within the Orthoplastics Team at Morriston Hospital, Swansea. Wallice graduated from Aston University with a degree in Applied and Human Biology, including a research year conducting clinical trial research with the Ministry of Defence, and subsequently completed an MRes at the University of Birmingham before obtaining a medical degree from Swansea University. Following Core Surgical Training in South Wales, Wallice developed a specialist interest in major trauma and lower limb reconstruction, and is committed to advancing reconstructive surgery through clinical practice, research, and quality improvement to improve patient outcomes.



Zhang Jun

The Affiliated Hospital of Xuzhou Medical University, China

Clinical outcomes of soft-tissue stabilization combined with Medial Patello Femoral Ligament (MPFL) reconstruction for recurrent patellar dislocation in children: A retrospective cohort study

Recurrent patellar dislocation in skeletally immature patients remains a challenging condition, frequently leading to persistent instability, pain, and functional limitations. Medial Patello Femoral Ligament (MPFL) reconstruction combined with soft-tissue stabilization has been increasingly applied to restore patellar stability while minimizing the risk of physeal injury. However, clinical evidence regarding its effectiveness in pediatric populations is still limited.

This study aimed to evaluate the clinical outcomes and safety of soft-tissue stabilization combined with MPFL reconstruction for recurrent patellar dislocation in children and adolescents.

A retrospective cohort study was conducted including 47 consecutive pediatric patients with recurrent patellar dislocation treated surgically at our institution. The mean age at surgery was 13.3 years. All patients underwent soft-tissue stabilization combined with MPFL reconstruction. Clinical outcomes were assessed using the Kujala and Lysholm scores. Postoperative redislocation, complications, and functional recovery were recorded. The mean follow-up duration was 28.6 ± 6.4 months.

At final follow-up, the Kujala score improved significantly from 54 preoperatively to 88 postoperatively ($p < 0.001$). The Lysholm score increased from 61 to 91 ($p < 0.001$). Redislocation occurred in 2 patients (4.3%). No major complications, growth disturbance, or physeal injury were observed. Most patients returned to their pre-injury activity levels with satisfactory knee function.

In conclusion, soft-tissue stabilization combined with MPFL reconstruction provides reliable patellar stability and significant functional improvement in pediatric patients with recurrent patellar dislocation. The procedure demonstrated a low recurrence rate and excellent safety profile, suggesting it is an effective surgical option for skeletally immature patients.

Biography

Dr. Zhang Jun is a Chief Physician in the Department of Orthopedic Joint Surgery at the Affiliated Hospital of Xuzhou Medical University, China. Zhang specializes in arthroscopic treatment of shoulder, ankle, and knee disorders, as well as hip and knee arthroplasty, performing over 500 surgeries annually. Zhang's research focuses on pediatric patellar instability, rotator cuff injuries, and joint preservation. Dr. Zhang has authored several peer-reviewed articles, including a recent publication in *International Orthopaedics (SICOT)*. Zhang is an active member of multiple orthopedic professional committees in China.

Zou Shihua

Chongqing University Three Gorges Hospital, China

Feasibility of medial parapatellar approach in unicompartmental knee arthroplasty for moderate to severe varus deformity

Research background and purpose: Unicompartmental Knee Arthroplasty (UKA) is well-established for mild varus deformity, but its application in moderate to severe varus cases remains technically challenging. This study aims to preliminarily evaluate whether adopting the traditional medial parapatellar approach in UKA procedures for these complex deformities can yield acceptable early outcomes.

Methods: A retrospective study was conducted. Between January 2023 and March 2024, 9 patients with moderate to severe varus deformity underwent medial UKA using a cemented fixed-bearing Link prosthesis by medial parapatellar approach. The cohort included 1 male and 8 females with a mean age of 65.3 years and mean weight of 60.6 kg. All procedures were performed by a single surgeon. Preoperative and final follow-up assessments included bilateral full-length standing radiographs for Hip-Knee-Ankle angle (HKA). The Angle between the femoral mechanical axis and the tibial mechanical axis (Hip-Knee-Ankle angle, HKA) was measured by software and recorded. The Hip-Knee-Ankle (HKA) angle was reported directly as the angle between the femoral and tibial mechanical axes. The normal alignment range was defined as 178° to 182°, with values below 178° indicating varus deformity and those above 182° indicating valgus deformity. knee Range of Motion (ROM), Hospital for Special Surgery (HSS) score, and Knee Society Score (KSS). Statistical analysis was performed using SPSS 26.0, with $P < 0.05$ considered statistically significant.

Results: The follow-up of 15.20 ± 1.95 months, all patients demonstrated primary wound healing without perioperative complications. Significant improvements were observed in all measured parameters: HSS score improved from 50.11 ± 3.41 to 92.11 ± 2.37 95% CI: (40.12, 43.88); KSS score

from 59.89 ± 3.55 to 88.78 ± 2.49 95% CI: (27.65,30.13); KSS function score from 44.44 ± 6.82 to 76.67 ± 7.07 95% CI: (28.33,36.12); ROM from $94.22 \pm 1.92^\circ$ to $122.67 \pm 2.83^\circ$ 95% CI: (26.60,30.29); and HKA from $164.58 \pm 4.16^\circ$ to $176.64 \pm 2.20^\circ$ 95% CI: (10.16,13.98). All improvements were statistically significant ($P < 0.001$). No cases of aseptic loosening, unexplained pain, or polyethylene liner dislocation were observed during follow-up.

Conclusion: This preliminary experience suggests medial parapatellar approach for UKA in moderate to severe varus deformity may represent a technical option for carefully selected cases. However, these observations are limited by the small sample size and relatively short follow-up. Further validation through larger-scale studies with extended follow-up is warranted to establish long-term efficacy and safety.

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