

Webinar on
Orthopedics, Osteoporosis, Rheumatology
& Trauma Care

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Scientific Tracks & Abstracts



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Lateral Trochanteralgia: A new concept for an old concept

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Statement of the problem: Certain medical terms used to describe different syndromes for musculoskeletal conditions such as Greater Trochanteric Pain Syndrome (GTPS) can be long and large enough to need an acronym.

Objective of the study: The objective of the article is to propose a new concept using neologism to describe a broad spectrum of causes of lateral hip pain previously known as GTPS.

Methodology and Theoretical orientation: Literature review of medical terms including Greco-Latin words that are widely used to refer to different anatomical areas and specific symptomatology was performed. Use of neologism was performed to create new words that can be short, meaningful, and straightforward to describe the broad spectrum of causes of lateral hip pain.

Results: The medical terms facilitate scientific communication, standardized procedures, publication, and research. For this reason, medical terminology must be as short, simple, straightforward, but meaningful as possible. The Greco – Latin words were found to be broadly used in the medical terminology.

Discussion: The current term to describe the lateral hip pain syndrome is Greater Trochanteric Pain Syndrome (GTPS). and is large enough to need an acronym. This term is used to describe a broad spectrum of conditions that include disorders of the tendons, muscles, bursa, bones, and other structures surrounding the greater trochanter. The most common chief complaint is pain (“algia”) over the lateral aspect of the hip. The neologism Lateral Trochanteralgia is a shorter, simpler, clearer, and more meaningful term that can be used to describe this syndrome.

Conclusion: Lateral Trochanteralgia is a short, simple, clear, and meaningful term to describe the broad spectrum of musculoskeletal conditions involving the pain in the lateral aspect of the hip. The standardized and universal use of this neologism will favor all processes of medical publication, communications, and digital search of related topics

Biography

Aquiles Martinez has his expertise in Hip and Knee surgery after years of preparation, study, and practice in different countries of America. He has shared his passion for orthopedics and trauma surgery with his passion for teaching and administration in hospitals and educational institutions.

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Total hip arthroplasty after pelvic osteotomy for acetabular dysplasia: A systematic review

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The purposes were (1) to investigate and compare the findings of patients undergoing total hip arthroplasty (THA) following a corrective pelvic osteotomy (PO), to a control group of patients who underwent THA but not PO and (2) to evaluate the outcomes and complications for secondary THA after PO. Three studies recorded reduced cup anteversion in the osteotomy group. Two studies reported higher PROs for the control group. The most common complication after failed PAO was dislocations. PO may entail challenges on a subsequent THA, illustrated by higher intraoperative blood loss, lower consistency in cup positioning and compromised patients reported outcomes.

Biography

Jacob Shapira is currently working at American Hip Institute Research Foundation, Chicago, USA. His research interests include Arthroplasty, Hip replacement, Orthopaedics, Surgery.

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Simulation training in orthopaedic surgery: A systematic literature review

Riki Houlden

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Aim: While direct observations in the operating room have served as the educational approach of choice in acquiring orthopaedic skills, due to concerns regarding inconsistency of skills acquisition, increasing workload, higher patient expectations, greater complexity of procedures, and demands for increased efficiency of operating room time, simulation-based learning has recently been introduced in orthopaedic training. We aim to evaluate the findings of the studies that compare simulation-based undergraduate teaching to conventional styles of teaching and make recommendations on the role of simulation in undergraduate and postgraduate orthopaedic curricula.

Method: A systematic review was conducted according to PRISMA guidelines. A total of 604 articles were identified using Ovid Medline®, Books@Ovid, Journals@Ovid, and Embase (Ovid) databases, with 12 of these studies included in qualitative synthesis.

Results: A total of 370 participants were included across the 12 studies. Seven articles (58%) were randomised controlled trials, and five (42%) were cohort studies. Features associated with improved performance parameters included pre-assessment training modules by an expert, a period of simulation familiarisation, one-to-one training by a supervising expert, task repetition, and combination of different simulation types. Features that did not show improvement included pre-assessment teaching delivered by video or PowerPoint and the use of virtual reality simulation rather than physical models.

Conclusions: It is clear that simulation is an effective teaching adjunct in orthopaedic education, and that there are certain features that influence the magnitude of its effect. Further study is required to understand its expanding role in orthopaedic education, particularly in the transferability of the skills it teaches to real practice.

Biography

Houlden is on an orthopaedic-themed Core Surgical Training post at East & North Hertfordshire NHS Trust. He has a particular interest in paediatric orthopaedics and in medical education.

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Evaluation of the local scaphoid fracture pathway

Abdirahman Osman

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Aims: Identify clinical examination findings, initial imaging findings and stabilisation method in the emergency department for suspected scaphoid fractures.

Review the follow-up, repeat imaging and further investigations for these patients.

Identify the waiting time for further investigations / imaging.

Introduction: Scaphoid fractures are the most common carpal fracture and account for 2% to 7% of all fractures¹. These fractures are commonly missed through clinical and radiographic examination; it has been reported that up to 40% of scaphoid fractures are missed on initial presentation.

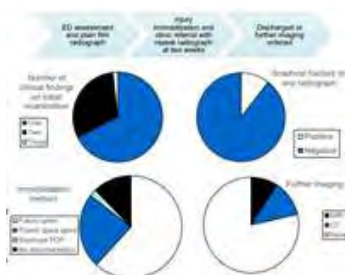
There are three clinical findings that can indicate a potential scaphoid fracture; anatomical snuffbox tenderness (AST), scaphoid tubercle tenderness (STT) and telescoping tenderness (TT). ASB, STT and TT all have 100% sensitivity but, in one study, specificities were 9%, 30% and 48% respectively. However, when these tests are combined, multiple studies have illustrated that the specificity does increase²⁻³. Current National Institute for Health and Clinical Excellence (NICE) guidance advises that MRI directly from the emergency department should be considered for suspected scaphoid fractures. Studies have shown that a minority of trauma centres currently offer further imaging from the emergency department⁴.

Misdiagnosis can increase patient morbidity; non-union, arthritis, deformity and instability. Early definitive diagnosis will not only prevent a missed scaphoid injury but can avert overtreatment for those without a scaphoid fracture and subsection to extended immobilization. A report by the NHSLA has highlighted the litigation cost of negligent scaphoid fracture management in the UK; 0.01% of all orthopaedic-related litigation were attributed to mismanagement of scaphoid fractures and the largest costs ascribed to a combination of failed diagnosis and delay in initiating appropriate management⁵.

Methods: This is a retrospective study of all patients identified on eTrauma (clinical platform for centralised orthopaedic trauma coordination) as referrals for a suspected scaphoid fracture from 01/04/21 – 01/08/21 at the Lister hospital. The following data was collected:

- Clinical presentation (anatomical snuffbox tenderness, scaphoid tubercle tenderness and telescoping tenderness)
- Initial plain film radiograph, method of immobilization and total time immobilised
- Follow-up and repeat plain film radiograph
- Further imaging modality and time from initial referral to further imaging.

Current local practice and pathway



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Results and discussion: I. 131 patients identified in this study

II. Total number of clinical findings on physical examination: 62% had 1 finding, 28% had 2 findings, 1.5% had 3 findings and 8.5% had none

III. Number of patient injuries immobilised, length of time and method of immobilisation: 115 (88%) patients had an immobilisation method. 81 in Futuro splint, 31 in thumb spina splint and 3 in scaphoid POP; more than 90% had a stabilisation method in place for at least two weeks

IV. Scaphoid fracture on initial radiograph at presentation: 6% confirmatory / high suspicion, 88% negative and 6% identified other bony injuries

V. Scaphoid fracture on repeat radiograph at two weeks: 68 patients had a repeat radiograph at two weeks; 5 (7%) confirmed a scaphoid fracture, 63 (93%) negative for scaphoid fracture

VI. Further imaging modalities and waiting time: 28 patients had further imaging requested; 16 for CT and 12 for MRI. The average waiting time from fracture clinic referral to CT and MRI were 5 weeks and 8 weeks respectively

Conclusion:

- 1) The most common reason for referral was from 1 clinical sign
- 2) 11% of patients had a scaphoid fracture identified on radiograph (on presentation AND at two weeks)
- 3) 21% of patients in had further imaging modalities requested (CT / MRI)

The gold standard investigation tool for identifying scaphoid fractures is MRI and, ideally, all patients with a query diagnosis of scaphoid fracture should have this imaging modality. However, the question remains; are the fracture clinic referrals appropriate with the low efficacy of reduced clinical findings?

A multi-pronged approach will be needed to decrease inappropriate referrals, increase the number of patients having further imaging and to reduce the time from presentation to CT / MRI:

- 1) Diagnostic algorithm education for emergency department
- 2) Review current pathway to incorporate MRI within 3-5 days from Presentation 6
- 3) Alternative dedicated imaging (cone-beam computed tomography)⁷

Further research is needed to fully investigate the facilitators and barriers to the implementation of NICE guidance.

Biography

Abdirahman Osman is currently working at Lister Hospital, Trauma and Orthopaedic Department, East and North Hertfordshire Trust, Stevenage, United Kingdom. His research interests include Trauma and Orthopaedic, Surgery.

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Does K-wire fixation improve outcomes in children with a Seymour fracture?

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Scenario: A 12-year-old boy presents to the emergency department with a painful and deformed right ring finger after jamming it in a door. The distal interphalangeal joint appears to be in slight flexion at rest, the nail plate appears longer than those of the other fingers with signs of bleeding from the nailbed, and plain films demonstrate a physeal fracture of the distal phalanx with volar angulation. The diagnosis of a Seymour fracture is made.

Aim: To determine whether in children with a Seymour fracture (patient), K-wire fixation (intervention) compared with no K-wire fixation (comparison) influences clinical findings, radiographic findings, and complication rates (outcomes).

Method: The research was carried out as a Best Evidence Topic. The search was conducted on 28th December 2021 in PubMed and the Cochrane library. Search strategies generated 69 references, of which eight were relevant to the question.

Results: A total of 206 Seymour fractures were included: 75 initially underwent K-wire fixation, 131 did not. K-wire fixation appears to be associated with a higher rate of physeal disturbance, but lower rates of infection, fracture re-displacement, and flexion deformity. However, only one study performed statistical analyses; these did not control for other factors such as severity of initial injury, administration of antibiotics, wound debridement, nor nailbed suture, all of which may have influenced outcomes.

Conclusions: Further research for Seymour fracture management is needed in the form of randomised controlled trials. Such a study will likely involve debridement, open reduction, nailbed repair, nail plate fixation and the administration of antibiotics for all Seymour fractures. In those that do not demonstrate instability after open reduction, a position of equipoise could be argued (risk of physeal disturbance with K-wire, risk of re-displacement without, and unclear association of infection), and such patients be entered into a randomised controlled trial.

Biography

Houlden is on an orthopaedic-themed Core Surgical Training post at East & North Hertfordshire NHS Trust. He has a particular interest in paediatric orthopaedics and in medical education.

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Evaluation of preoperative arthroplasty Near-Me clinics – clinicians’ perspective

Lokesh Chawla

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Introduction: Orthopaedic Near-Me clinic - a novel preoperative video interaction with patients online - was implemented with the idea of safe ‘hospital distancing’ care during the Covid-19 pandemic.

Methods: Between 14 July 2020 and 01 December 2020, questionnaire-based clinicians’ feedback (N=100) was prospectively collected from preoperative elective arthroplasty Near-Me consultations at our hospital.

Results: Feedback from 100 consultations included 43 males and 57 female patients with a mean age and consultation time of 67.55 years (46 to 89) and 22.87 minutes (10 to 80) respectively. 61% patients used either a tablet or a laptop (31% and 30% respectively), while 20% used a smart phone and 13% used a desktop. Only 3 consultations had clinic side set-back. 70% had no patient side set back while the rest had either audio (11), video (5) or both Audio Video (10) set back. No statistical correlation was found between setback and device used ($p=0.260$) or presence of assistance ($p=0.431$). However, patients aged over 80 years fared less well ($p=0.046$). 81 were added to waiting list, 1 was discharged, 2 were referred to allied speciality, 6 were called for a face to face review. Clinicians were very satisfied (21%) or satisfied (55%) in 76% of the consultations. No significant correlation was found between the device used and satisfaction rate ($p = 0.443$). Common reasons for poor satisfaction were technical issues, poor space, lighting, navigation during examination and need for clinical examination.

Conclusion: More than 3/4th of the consultations had positive clinician satisfaction. Majority of the dissatisfaction was due to technical issues at the patients’ end. We feel the discussed challenges may be addressed by prior vetting of clinic and addition of “dummy” demonstration video of a clinic consultation for patient education.

Biography

Lokesh Chawla is a Senior clinical fellow, trauma and Orthopaedics. He interests are Lower limb arthroplasty (including Robotics), advanced trauma Qualifications: MS Orthopaedics, DNB Orthopaedics. Previous employer: Aberdeen Royal Infirmary and Woodend Hospital, Aberdeen (August 2019 to July 2021). Current Employer: Golden Jubilee National Hospital, Glasgow.

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Evidence-based quality leadership in orthopaedics- A literature review

Geeth Silva

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Introduction: There is a paucity in the literature analysing the importance of leadership within Trauma & Orthopaedics. However, such skills are essential to make an orthopaedic surgeon proficient in their various roles. This literature review on leadership within orthopaedics enables an understanding of the current pressing matters.

Methods: A Narrative Literature Review (NLR) was used using PUBMED, MEDLINE & The National Centre for Biotechnology databases. The search string used to conduct the Narrative Literature Review was (orthopaedic) AND (leadership[Title]). The articles were screened by title, abstract and full text. A reference search was subsequently conducted on these papers using the same inclusion and exclusion criteria. The papers lastly underwent a thematic analysis to understand the issues surrounding leadership in orthopaedics.

Results: The critical themes recognised were quality improvement, training, women in leadership, inequality, and traits of a leader. Through reviewing the themes in this paper, a framework was developed to identify the current issues and potential avenues of advancing orthopaedic leadership.

Discussion: This narrative literature review has demonstrated a paucity of research in orthopaedic leadership. Further work would create a robust evidence base, outline ideal orthopaedic leadership, and standardise training to create better orthopaedics leaders.

Biography

I am a Core Surgical Trainee specialising in Trauma & Orthopaedics at Kettering General Hospital Foundation Trust. I have a background in Management with a fellowship from the Institute of Leadership and Management and use these skills in various quality improvement projects to improve my workplace and profession.

Alongside my passion for orthopaedics, I have a keen interest in medical technology stemming from previous work with Virtual Medics and Deep mind. I am currently studying for a Masters in Healthcare Informatics, and I am using this opportunity to innovate practice.

The NHS has become even more complex through this pandemic, necessitating the doctors to improve clinical Management. This led to my decision to pursue a strategic management career alongside surgery. I strongly believe in a 'work hard play hard' mind-set, and if I am not at work, you can find me either at the gym or the next Marvel movie.

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Inversed V-shaped high tibial osteotomy for severe varus deformity due to Blount disease

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Introduction: Blount disease is a growth disorder of the medial proximal tibial physis causing a multi-planar deformity of the lower limb. Several types of surgical approaches have been described for the correction of angular deformity including external fixation, opened-/closed wedge high tibial osteotomy (HTO), and tibial condylar valgus osteotomy. However, they are associated with various disadvantages such as limb length discrepancy, risk of infections, and delayed union at the osteotomy site, especially in cases of severe varus deformity.

Case presentation: We report a case of 16-year-old boy with unilateral severe genu varum caused by Blount disease. Although, several types of surgical approaches have been described for the correction of angular deformity of the knee, they are associated with various disadvantages such as limb length discrepancy, risk of infections, and delayed union or non-union at the osteotomy site, especially in case of such severe varus deformity. Considering that the current case patient was severely obese and a highly active young boy with severe unilateral genu varum, with the epiphyseal line almost closed, and with no abnormalities with respect to the intra-articular anatomical structures, inverted V-shaped HTO. After the treatment, the boy was not only able to perform his daily activities but was also able to participate in sports quite early. Although the required correction angle was quite large, inverted V-shaped HTO successfully correct the deformity with minimal disadvantages.

Conclusion: Inverted V-shaped HTO would be selected as one of the effective treatments for a severely obese, young, and highly active patient suffering from severe genu varum caused by Blount disease.

Biography

Seiju Hayashi is currently working in the department of Orthopaedic Surgery at the Graduate School of Biomedical and Health Sciences, Hiroshima University in Japan. His research interests include Osteoarthritis, Orthopaedics, Bone fracture, Knee replacement.

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Effect of physical activity on enhancing bone health among women

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Statement of the Problem: In India, about 46 million women are known to be suffering from osteoporosis. Numerous studies reported that as age progresses, the chance of getting osteoporosis increases. Since the visible physical parameters of the condition are non-recognizable, many a time, osteopenia and osteoporosis are overlooked. Physical activity is regarded as the standby for the prevention as well as management of osteoporosis. Still, there's a lack of evidence based on physical activity and bone. Thus, the current study was conducted to analyze the impact of physical activity and lifestyle changes in enhancing bone wellbeing among women.

Methodology & Theoretical Orientation: A literature search was carried out till 2021. The articles with titles on physical activity and osteoporosis were chosen from databases such as PubMed, Science Direct, and Elsevier. The paper is presented under the following heads- the prevalence of osteoporosis among Indian women. Secondly, interpret studies related to modifiable and non-modifiable factors for osteoporosis. Thirdly, the effect of physical activity and lifestyle changes in enhancing bone health.

Findings: Osteoporosis is a serious health condition that diminishes the quality of life. Although there are activities comparable to doing household tasks and staying active, studies state these aren't adequate to prevent osteoporosis. Studies report that physical activities, especially weight-bearing exercise are proven to enhance and maintain muscle and bone strength. As muscular endurance is achieved, it will promote coordination and prevent falls. And muscular endurance and balance activities will promote coordination and will prevent falls which may lead to fractures. Just indulging in household chores will not affect bone health, there have to be weight-bearing exercises to show any improvement in bone health.

Conclusion & Significance: Physical activity is a widely accessible and highly modifiable factor for overall health and bone health. The amount of regular physical activity at a moderate level could have a significant role in enhancing bone health.

Keywords: Physical activity, Osteoporosis, Women, Bone Mineral Density.



Fig. showing effect of physical activity in enhancing bone health

Biography

An INFS Expert Certificate and ESS certification holder and has been training online in Fittr for two years She is an Asst. Faculty at INFS and handles various papers at INFS.

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Intraepiphyseal osteoid osteoma of proximal tibial epiphysis treated by en bloc excision under CT guidance: A case report

Joe Davis

Baby Memorial Hospital, India

Intra epiphyseal osteoid osteoma is a very rare occurrence with only a few cases reported in literature. They present with nonspecific and atypical clinical features and often have subtle radiographic findings. As the growth plate is open, they can present with features of painful arthritis, further delaying the diagnosis. Serial plain radiographs and further imaging with CT scan forms an essential part of diagnostic work up. We report a case of intra epiphyseal osteoid osteoma, presented with typical findings of osteoid osteoma, but had subtle radiological findings. Hence the diagnosis was delayed but later confirmed with CT scan. As the lesion was very small, en bloc resection was done under CT guidance, which led to complete recovery of the lesion without development of any complications.

Key Words: Intra-epiphyseal, Osteoid osteoma, CT guided en bloc resection

Biography

Joe Davis did his graduation from Trivandrum Medical College, one of the most prestigious institutions of the state and is currently doing fellowship in Pediatric Orthopedics, from Baby Memorial Hospital, Calicut, Kerala. He has a very pleasant compassionate personality with special interest in Pediatric Orthopedics. This work was done after a lot of research and planning. CT guided excision could well be accepted as a treatment modality for very small osteoid osteoma lesions especially in intra epiphyseal locations.

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