

12<sup>th</sup> International Conference on  
**Orthopedics,  
Osteoporosis & Trauma**

November 13-14, 2019 | London, UK



**Scientific Tracks & Abstracts**



# Sessions

Orthopedics: Diagnostic Techniques | Orthopaedic Trauma | Orthopedic Surgery | Arthroplasty | Fracture | Trauma | Orthopedics | Rheumatology | Pediatric Orthopedics | Osteoporosis | Exercise & Sports Medicine | Physiotherapy

## Session Chair

**Stephen Cavallino**

European School of Prolotherapy, Italy

## Session Co-Chair

**Karena Wu**

Active Care Physical Therapy, USA

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Ayiq Mahmud, Soepraoen Military Hospital, Indonesia

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## Comparison of 2 different methods to evaluate the ankle syndesmosis on lateral radiographs

**Atul Kamat**

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**Introduction:** Ankle fractures with syndesmotic injuries treated surgically have a high rate of syndesmotic malreduction, up to 52% in some series. Plain radiography may be misleading and intra operative imaging may not be accurate. Several methods have been described for assessment of the syndesmosis on ankle lateral radiographs. We compare 2 methods in our study.

**Aims:** 1. To compare 2 different methods of assessing the integrity of the ankle syndesmosis on lateral radiographs- the Anteroposterior Tibiofibular Ratio (APTF) described by Grenier et al 2013 and Anterior Tibiofibular Ratio (ATFR) described by Croft et al 2015.

2. To validate the above methods of assessing the syndesmosis in our series.

**Study design:** Retrospective review of notes and radiographs

**Method:** 200 ankle lateral radiographs from patients presenting to our A/E with suspected ankle injuries studied by 2 authors together in agreement. ATFR and APTFR calculated. Any patient who needed syndesmotic fixation was considered as having sustained a true syndesmotic injury.

**Results:**

**APTF:** 20 patients had normal syndesmotic values, 4 of whom underwent surgical fixation of the syndesmosis (20%). 93 patients had abnormal values, of whom 29 patients needed syndesmotic fixation (31%)

**ATFR:** 40 patients had normal syndesmotic values, of whom 10 underwent surgical fixation (25%). 73 patients had abnormal syndesmotic values, of whom 23 needed surgical fixation (31.5%)

**Discussion:** Assessment of the syndesmosis on lateral radiographs is not a commonly used technique in clinical practice. Several authors have attempted to describe radiological measurement techniques on the lateral radiograph including Summers Grenier Croft and Park. Grenier and Croft excluded ankle fractures in their reported series of patients. In our study we have attempted to assess the syndesmosis in all patients who presented with ankle injuries, including fractures. The low rate of diagnosis using these measurements makes both techniques unsuitable for routine clinical use.

**Conclusion:** The presence of displaced bony landmarks in a fractured ankle alters the measurements and hence the calculated values of APTF and ATFR are not reliable in the presence of displaced ankle fractures. Both techniques have a low rate of diagnosis in the presence of ankle fractures and hence cannot be used in routine clinical practice for the diagnosis of syndesmotic disruption.

### Biography

Atul Kamat currently working at The West Hertfordshire Hospitals NHS Trust in Trauma and Orthopedic Surgery Department. He has more than fifteen years of experience in Trauma & Orthopedic Surgery. He joined Goa Medical College and completed MBBS during this time I developed an interest in Trauma and Orthopedic Surgery. He decided to come to the United Kingdom to continue my pursuit and passed the PLAB examination. He has been working in the National Health Service has been a very satisfying experience and this has helped to gain valuable experience of working in a very diverse culture.

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## Predictors of meniscal allograft transplantation outcome: A systematic review

**Daniele Fanelli**

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This systematic review investigates factors associated with outcomes after Meniscal Allograft Transplantation (MAT). The PubMed, Scopus and Cochrane Central Register databases were used to search relevant articles in April 2018. Studies that evaluated at least 1 association between a factor and outcomes were extracted. Of 3381 titles, 52 studies were finally analyzed. Data about predictors, Patient Reported Outcome scores (PROMs) and failure rates were extracted for quantitative and qualitative analysis. A total of 3382 patients and 3460 transplants were identified. Thirty different predictors were reported in the current MAT literature, 18 of which by at least 2 studies. Subgroup analysis showed that lateral MAT had higher postoperative values than medial MAT in Lysholm ( $p=0.0102$ ) and IKDC ( $p=0.0056$ ) scores. Soft tissue fixation showed higher postoperative IKDC scores than bone fixation ( $p=0.0008$ ). Fresh frozen allografts had higher Lysholm scores ( $p<0.0001$ ) and showed significantly lower failure rates ( $p<0.0001$ ) than cryopreserved allografts. Age ( $p<0.015$ ,  $\beta=0.80$ ), sex ( $p<0.034$ ,  $\beta=-8.52$ ) and BMI ( $p<0.014$ ,  $\beta=-4.87$ ) demonstrated an association with PROMs in the regression model. Qualitative analysis found moderate evidence that a higher number of previous procedures in the same knee is an independent predictor of transplant failure. Conflicting evidence was found with regard to chondral damage, time from meniscectomy, smoke, sport level, worker's compensation status and preoperative Lysholm score as predictors of outcomes. Our review suggests that the ideal candidate to undergo MAT is a young male of normal weight with no previous knee surgeries, treated with a lateral isolated procedure.

### Biography

Daniele Fanelli is currently a Foundation Year 1 doctor at Aberdeen Royal Infirmary with a strong interest in Orthopaedic research. He has worked as a research collaborator for the Trauma and Orthopaedics department of the Magna Graecia University, Catanzaro, Italy. His research work has mainly focused on the area of foot and ankle surgery and meniscal transplantation. He is also a postgraduate student at the University of Glasgow, undertaking a MSc in Health-Professions Education.

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## Choice of nail diameter for acute diaphyseal tibial fracture at a Major Trauma Centre: An audit of practice

**Mansoor Chaudhry**

James Cook University Hospital, UK

**Background:** Bone healing depends upon an ideal mechanical and biological environment. Intermedullary nailing for diaphyseal fractures aim to provide an environment which is mechanically and biologically appropriate for bone healing. Conflict exist among the orthopaedic community about the ideal nail thickness with some advocating using a tight fitting nail<sup>1</sup>, while others suggest use of unreamed smaller diameter nails<sup>2</sup> because of the adverse effect of excessive reaming on blood supply<sup>4,5</sup>, leading some authors to. Donegan et al. showed that nails with an intramedullary nail to canal diameter ratio of less than 0.8 or greater than 0.99 are 4.4 times more likely not to heal than patients with a ratio of between 0.8 and 0.99.<sup>6</sup> The aim of this study is to determine the choice of nail diameter used for tibial shaft fractures at a Major Trauma Centre and also to evaluate various factors that could have contributed to the choice.

**Methodology:** A retrospective analysis of all tibial nails performed for acute diaphyseal fractures of tibia during one-year period from June 2018 to May 2019 was performed. Nail to canal diameter ratio was determined using post-operative X-rays. For comparative analysis nails were divided into two groups. Group A had nails with nail to canal diameter ratio of 0.8 or more and Group B had the nail to canal diameter ratio of less than 0.8. Group were compared for complexity of fracture (AO class), Open vs closed fracture, location of fracture, joint involvement, mechanism of injury (isolated vs. polytrauma), grade of surgeon performing surger, presence of consultant during surgery, single vs. multiple surgeries at the same setting and timing of surgery.

**Results:** A total number of 47 tibial nails for acute diaphyseal fractures were performed during the study period. 8 nails were excluded due to non-availability of post-operative X-rays. Out of the 41 nails assessed, 30 (73%) had the nail diameter to canal ratio of 0.8 or more and 11 (27%) had the nail diameter to canal ratio of less than 0.8. The results of other variables evaluated are tabulated.

**Conclusion:** Over a quarter of tibial nails performed at a major trauma centre for acute diaphyseal tibial fractures had a nail to canal diameter ratio of less than 0.8 exposing them to significant risk of non-union. Apart from the fractures being open, none of the other variables was seen to negatively influence the surgeon's choice.

### Biography

Mansoor Chaudhry is a Senior Trauma Fellow at James Cook University Hospital. He has worked through various orthopaedic roles in UK and abroad. His major interest lies in Trauma and has an extensive experience of orthopaedic trauma surgery that includes management of mass casualty situations.

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## Open reduction and internal fixation versus radial head arthroplasty for Mason III radial head fractures: Appraising the current literature evidence

**Shady Hermena**

Worcestershire Royal Hospital, UK

**Background:** Fractures of the radial head are common and account for one-third of elbow fractures. The management has evolved over the past few decades as have the techniques and implants used to treat them. However, no standardized treatment protocol exists because of the complexity with which these fractures may present. The complex, unstable, displaced and multi-fragmentary fractures, also known as Mason type III fracture, remains one of the most challenging fractures to treat, especially if associated with other elbow injuries. There are various surgical treatment options available, including open reduction and internal fixation or radial head arthroplasty.

**Objectives:** The purpose of this study was to systematically review the current literature that assessed open reduction and internal fixation compare to radial head replacement to identify the best surgical treatment protocol for the management of Mason type III radial head fracture.

**Study selection:** All published clinical trials claiming to evaluate or cited elsewhere as being authoritative regarding the surgical treatment of radial head fractures were identified and evaluated. Studies in foreign languages (not in English) were excluded.

**Conclusion:** Based on two randomized controlled trials, this review showed some weak evidence that arthroplasty results in better functional elbow outcome and less complication rate than open reduction and internal fixation. There is scarcity in good quality comparative studies, and consideration to multi-center randomized controlled trial should be considered.

### Biography

Shady Hermena is trauma and orthopaedic middle grade in Yeovil District Hospital NHS Foundation Trust. Shady was graduated from the faculty of medicine at Assiut University in Egypt in 2007. He completed his basic training in trauma and orthopaedic surgery in Egypt. He was awarded a master's degree in trauma and orthopaedic surgery from Assiut university (Egypt) after completing primary research evaluating the results of using the Triple Neurotization technique for reconstruction of upper trunk brachial plexus in adult injuries. In 2016, he was awarded the membership of the Royal College of Surgeons of England. In 2017 he moved his training to the UK and started to work in the NHS.

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## Open fractures: Should they be managed in centres with no orthoplastic service?

**Louai Abdeh, John McNamara**

Manchester Royal Infirmary, UK

**Background:** BOAST guidelines for open fractures (2017) recommend that open fractures should be managed by an orthoplastic team.

**Aim:** This study aims to evaluate how the absence of an on-site plastics service in a major trauma centre can impact the outcomes of open fracture management.

**Setting:** Manchester Royal Infirmary, NHS Major Trauma Centre, UK

**Methods:** A retrospective service evaluation exercise was conducted to assess the outcomes of open fractures managed at our centre over a 15-month period. This was audited against BOAST guidelines. The outcomes of patients with open fractures requiring plastics input was compared to those who did not require involvement of plastics.

**Results:** 57 patients were identified during the study's period. Initial management was carried out solely by Trauma & Orthopaedic surgeons. Following initial debridement, 10 patients were identified as requiring plastics input for wound closure. This was sought via an online referral system to another hospital which is part of our trust. The results of the study demonstrated that definitive wound closure within 72 hours, as advised by BOAST guidelines, was achieved in only 10% of cases that required plastics input compared to 77% of cases where plastics were not required. Definitive fracture management within 72 hours occurred in only 40% of cases that required plastics input compared to 81% in cases that did not. Infection was also recorded in 42 % of cases where wound closure was delayed beyond 72 hours, compared to less than 3% of cases where the wound was closed within the appropriate time period.

**Conclusion:** Lack of an onsite plastics service can have a negative outcome on the management of open fractures especially in relation to delayed wound closure and delayed fixation. We suggest that open fractures should only be managed in centres with an on-site orthoplastic service.

### Biography

Louai Abdeh is Trauma & Orthopedics Core Surgical Trainee at the Manchester Royal Infirmary. As a medical student and junior doctor, he have taken an active role in many clinical governance and research projects, and he have presented at a number of conferences including the ASiT International Conference 2018, Barts and London National Undergraduate Surgical Conference and Warwick Undergraduate Regional Medical Conference. He have also completed a Master of Research in Tissue Engineering for Regenerative Medicine, and he received a distinction grade for my dissertation "The Role of Macrophages and Mast Cells in Fibroblast to Myofibroblast Differentiation- An insight into the Relationship between Inflammatory Cells and Fibrosis".

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## The cost of unnecessary post-operative blood tests in trauma & orthopaedic surgery

**Louai Abdeh**

Manchester Royal Infirmary, UK

**Background:** Despite being one of the most efficient healthcare systems, the NHS remains under constant financial pressures in view of ever-increasing health care demands. Clinicians therefore have an important duty to identify areas where efficacy savings can be achieved to ensure that funds are utilised appropriately.

**Aim:** Identify savings that can be achieved by eliminating unnecessary post-operative blood tests for patients undergoing trauma and elective orthopaedic surgery.

**Setting:** Manchester Royal Infirmary & Trafford General Hospital, University of Manchester NHS Foundation Trust, UK

**Methods:** A retrospective service evaluation study was conducted to assess the cost of unnecessary post-operative blood tests for 50 patients who underwent trauma or elective orthopaedic surgery at 2 hospital sites. The patients' notes were examined with 3 aims: 1) Identify the operations that were undertaken 2) Identify blood tests done up to 5 days post-operatively 3) Whether there was any clinical indication for the blood tests.

**Results:** A cumulative of over 150 unnecessary blood tests were identified. The most common inappropriately ordered tests were CRP, Liver Function Tests, Bone profile and Coagulation screen. The total cost of these tests exceeded £750, a significant cost considering these figures are for only 50 patients. It was also noted that a higher number of unnecessary blood tests were carried out at Manchester Royal Infirmary, where most patients underwent trauma surgery, compared to Trafford General Hospital, where most patients underwent elective surgery.

**Conclusion:** This study identified that significant savings, amounting to at least thousands of pounds annually, can be achieved if the practice of ordering unnecessary post-operative blood tests is eliminated. We therefore recommend: 1) Education of medical and nursing staff about the financial/clinical implication of unnecessary bloods 2) A protocol is developed, potentially on the type of operation done, to order post-operative bloods so as to limit unnecessary tests.

### Biography

Louai Abdeh is Trauma & Orthopedics Core Surgical Trainee at the Manchester Royal Infirmary. As a medical student and junior doctor, he have taken an active role in many clinical governance and research projects, and he have presented at a number of conferences including the ASiT International Conference 2018, Barts and London National Undergraduate Surgical Conference and Warwick Undergraduate Regional Medical Conference. He have also completed a Master of Research in Tissue Engineering for Regenerative Medicine, and he received a distinction grade for my dissertation "The Role of Macrophages and Mast Cells in Fibroblast to Myofibroblast Differentiation- An insight into the Relationship between Inflammatory Cells and Fibrosis".

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## Antibiotic loaded calcium sulphate for the treatment of osteomyelitis and chronic soft tissue infections: Are regular serum assays required?

**Louai Abdeh**

Manchester Royal Infirmary, UK

**Introduction:** The management of osteomyelitis and deep soft tissue infections remains a significant challenge for orthopaedic surgeons. A relatively new and effective treatment options for these conditions is antibiotic loaded biodegradable calcium sulphate. One of the main advantages of this treatment method is its ability to deliver significantly high doses of antibiotics locally, therefore allowing for elimination of the infection. However, this also raises concerns about the systemic levels of these antibiotics which in theory can lead to significant complications in patients.

**Methods:** We analysed the serum levels of gentamicin and vancomycin in 22 patients who had gentamicin and vancomycin loaded calcium sulphate beads inserted following surgical debridement for the treatment of osteomyelitis or soft tissue infection. Antibiotic levels were then checked between days 0-3 following the procedure and the patients' renal function before and after the procedure were also noted.

**Results:** Patients with normal renal function were occasionally found to have high levels of gentamicin in the very early post-operative period but these levels decreased significantly within a short period of time. However, patients with significant renal dysfunction were noted to have high levels of gentamicin which persisted for a longer period.

**Conclusion:** The results of the study suggest that regular monitoring of serum levels of gentamicin and vancomycin in patients with normal renal function treated with antibiotic loaded calcium sulphate may not be required. However, in patients with renal dysfunction, antibiotic levels should be closely monitored, and the doses used may need to be significantly reduced to avoid complications associated with high systemic levels of gentamicin and vancomycin. Post-operative dialysis and removal of these beads may also be considered if high levels of gentamicin and vancomycin persists.

### Biography

Louai Abdeh is Trauma & Orthopedics Core Surgical Trainee at the Manchester Royal Infirmary. As a medical student and junior doctor, he have taken an active role in many clinical governance and research projects, and he have presented at a number of conferences including the ASiT International Conference 2018, Barts and London National Undergraduate Surgical Conference and Warwick Undergraduate Regional Medical Conference. He have also completed a Master of Research in Tissue Engineering for Regenerative Medicine, and he received a distinction grade for my dissertation "The Role of Macrophages and Mast Cells in Fibroblast to Myofibroblast Differentiation- An insight into the Relationship between Inflammatory Cells and Fibrosis".

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## Identification of indicators to assess the variation in Fragile Hip Fractures (FHF) recovery: A European pathway association study

### An Sermon

University Hospitals Leuven, Belgium

**Statement of the problem:** Fragile Hip Fractures (FHF) have a devastating impact on the elderly, are regarded as a major public health concern and remain to be associated with excessive short-and long-term mortality. McGlynn's landmark study showed that only 22.8% of recommended care was given to hip fracture patients. Surprisingly, there remains to be heterogeneity in adherence to clinical guidelines within and between hospitals, resulting in suboptimal patient care and patient outcomes throughout Europe even though it has been shown that optimal FHF care can result in improved patient outcomes and cost-savings. In addition, tailored multidisciplinary clinical pathways and programmes can improve patient outcomes. Nonetheless its potential to improve outcomes and adherence to guidelines, it remains unclear why improved compliance to evidence based key interventions does not always lead to improved patient outcomes. Therefore, this study aims to assess the variation within and between European organization that provide care for FHF patients.

**Methods:** A multimethod design was used by 15 European hospitals involved in FHF care, to develop a set of FHF care pathway indicators. The development process is supervised by the European Pathway Association.

**Findings:** A literature review was presented during a 2-day expert panel in May 2019. The outcome of this consensus meeting is a set of 16 process and 8 structure indicators. These indicators will help the teams in understanding, benchmarking and enhancing the rapid recovery pathway for FHF. The next step is a retrospective analysis of 450 patient records (30 in each of the 15 participating centres). This analysis will provide the necessary data to benchmark the organization of care within and between these 15 European trauma centres. Based on the feedback report the trauma centres will be able to further improve their organization of care.

### Biography

An. Sermon graduated as a general surgeon in 2004 and as trauma surgeon in 2006 at the Catholic University of Leuven, Belgium. From 2006 on, she has been working in the Department of Traumatology of the University Hospitals Leuven mainly performing hip and periprosthetic fracture surgery. She obtained her PhD at KU Leuven in 2014 entitled "Addressing the challenge of hip fracture fixation and prevention in old age - Preclinical and clinical studies assessing the osteoporotic femoral head" including biomechanical studies on the technique of implant augmentation. Today, both her research and clinical activities are focused on orthogeriatric fracture care. She has led numerous courses on this topic all over Europe. Within the European Pathway Association, she performed an importance-performance analysis showing guideline adherence for the treatment of geriatric hip fracture patients is remarkably suboptimal. Further research is aimed at defining intervention strategies that will improve patient outcomes.

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## Prospective study of needle fasciotomy for Dupuytren's contracture with four years follow-up

**Sinolichka Djambazova**

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**Objective:** The advantage of needle fasciotomy is a very short recovery combined with high cost effectiveness compared to open surgery. The purpose of this study is to report results, reduction of contracture, complications and early recurrence after four years.

**Methods:** The indication was contractures of the MCP joint in stages I, II, III and IV with well defined fibrosis. The contracted Dupuytren's tissue is divided longitudinally along multiple points so that the finger can stretch out straight again. The procedure is performed with a needle through the skin and the sharp, small bevel of the needle is used to cut the Dupuytren's tissue beneath the skin. We also administer a corticosteroid injection to the treatment area at the time of the procedure. Stretching, exercises and extension splinting during the recovery phase are important to gain maximum benefit from the procedure. The patients were evaluated preoperatively and per-operatively at one, eight, twenty-four weeks, after one, two, three, four years. 117 patients with 129 fingers were operated. Median age was 59 (44-74) with 114 men and 3 women.

**Results:** No cases of flexor tendons lesions, hematomas or infections were registered.

The patients were allowed to use the hand directly after the procedure.

**Conclusions:** Needle aponeurotomy does not involve incisions to the skin of the hand, so there is less tissue damage, less swelling, less pain, less down time and quicker healing. Needle fasciotomy is a good alternative in cases with well defined fibrosis because of these preliminary good results and low morbidity.

### Biography

Sinolichka Djambazova Zdravkovska is an Orthopaedic surgeon at the University clinic for traumatology, orthopaedics, anaesthesiology and intensive care in Skopje, Macedonia. She completed her Undergraduate Degree in Medicine as well as her Specialization in Orthopaedic Surgery at the Faculty of Medicine, Ss. Cyril and Methodius University in Skopje, Macedonia. At the Orthopaedic Surgery Clinic she has been considered a frontrunner and a champion in the application of novel techniques in microscopic hand surgery. Djambazova Zdravkovska has a long biography of completed courses as well as a large number of conferences and congresses attended worldwide, which greatly contributed to her close specialization in hand surgery, gave her a valuable opportunity to build lasting bridges between the Orthopaedic Surgery Clinic in Skopje and numerous renowned orthopaedic institutions and finally let her share her valuable experience in microscopic hand surgery and beyond. She has formed a lasting cooperation with the Acibadem Healthcare Group in Istanbul, Turkey, where she followed several Observer ship Programs in Hand Surgery.

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## Less invasive techniques in management of intra-articular calcaneus fractures

**Mohammed Al-Ahmady Abd El-Reheem Ali**  
Zagazig University, Egypt

**I**ntra-articular calcaneal fractures are commonly occurred after high-energy trauma. A variety of techniques exists for anatomic reduction and surgical fixation. The optimal management of displaced intra-articular calcaneus fractures is controversial and represents a topic of sustained interest and research for the past two decades.

Open Reduction and Internal Fixation (ORIF) via an extensible L-shaped approach has gained many soft tissue complications.

These complications include deep and superficial infections and wound sloughs, which reportedly occur in 1.8% to 27% of patients. This high frequency of infection is likely attributed to thin soft-tissue envelope around the calcaneus especially the lateral wall, which is exposed for surgery.

Recently, less invasive surgical techniques for treating displaced intra-articular calcaneus fractures have been undertaken in an attempt to reduce complication rates and promising clinical and radiographic outcomes. These recent techniques include limited-incision sinus tarsi ORIF, percutaneous stabilization with pins and /or screws, and Minimally Invasive Plate Osteosynthesis (MIPO).

**Objectives:** The purpose of our study is to improve functional outcome in patients with intraarticular calcaneus fractures.

**Methods:** This study was done in Zagazig University Hospitals, Egypt on 36 patients with displaced intraarticular calcaneal fractures including displaced Essex-Lopresti fractures, Sanders type II fractures, Sanders type III fractures in patients with multiple co morbidities.

### Results & Discussion:

**Results:** Collected data will be presented in tables and suitable graphs and analyzed by computer software (SPSS version 19) using appropriate statistical methods.

Discussion done on results compared to related relevant literatures and specific researches to explain the reasons for getting such results.

**Conclusion:** Less invasive surgical techniques for treating displaced calcaneus fractures are very effective and smart procedures to reduce complications and improve recovery when surgery is indicated.

### Biography

Mohammed Alahmady Abdel-Reheem Ali, MBBCH, MSc, is an Assistant Lecturer of Orthopaedic Surgery, Faculty of Medicine in Zagazig University, Egypt.

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## Functional and radiological outcomes following plating for displaced fractures of patella

**Vijay Sharma**

All India Institute of Medical Sciences, India

**Introduction:** Patellar fractures account for .5% to 1.5 % of all skeletal injuries. Operative treatment of displaced patellar fractures with TBW (Tension Band wiring) has been the standard treatment for a long time, but it is associated with high complication rates. The Patellar-plating construct is a newer operative-method for patellar fracture fixation which offers adequate stabilization of multi-fragmentary fractures.

**Methods:** We conducted a pilot-prospective study at an Apex-Trauma Centre.20 patients aged 18-65years with displaced patellar fracture AO type A2, A3, B2, B3, C1, C2, C3 less than 2-week-old were fixed with low-profile patellar plate. Follow-up was done by BKS (Bostman-Knee-Scale), X-rays and NCCT (Non-contrast Computed Tomography) scan of knee.

**Result:** Mean BKS score at 6weeks,3month and 6month was 26,28 and 29 respectively. Radiological union was observed in 90% patients at 3months. 2 patients had Surgical Site Infection (SSI) at 2weeks.Hardware impingement was found in 15%patients by 3months. None of the patients had failure of fixation at the end of the study.

**Conclusion:** Patients with plate-constructs have favorable clinical and radiological outcomes throughout the study with minimal complications.

### Biography

Vijay Sharma MS (Ortho), MRCSEd (UK) is working as Professor, Orthopedics in J P N Apex Trauma Centre attached to All India Institute of Medical Sciences, New Delhi, India. He became consultant in 2005 and His main area of interest is pelvic acetabular trauma and complex periarticular fractures. He has over 78 publications in international and national journals. He has taken over 100 lectures in various national and international conferences and courses. He is Faculty for AO and Zimmer for its various courses. He is Faculty for ACS for its ATLS course. He has organized various conferences and courses on complex orthopedic trauma. He is interested in cadaveric training and he has organized 7 cadaveric courses on pelvic acetabulum surgery as organizing secretary and course director. He has fellowship under his guidance for one year on pelvic acetabulum. He has been actively involved in research and he has been principle investigator for 3 funded projects and 8 candidates have done theses under his guidance MS (Orthopedics).

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## Evaluation of sagittal balance and the influence of spinopelvic on sagittal balance on the correction and stabilization of the pedicle screw rod system of patients with adolescent idiopathic scoliosis

**Ayiq Mahmud**

Soepraoen Military Hospital, Indonesia

**Background:** The use of pedicle screw rod system is believed to facilitate the correction of 3-dimensional deformity and maintain the results of the correction so that it is expected to get better sagittal balance correction results.

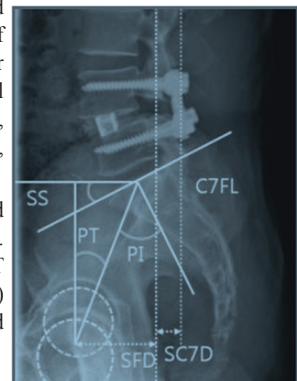
**Objectives:** We conducted a retrospective cohort study of 43 Adolescent Idiopathic Scoliosis (AIS) patients who performed correction, stabilization and posterior fusion to determine the effect of spinal and spinopelvic on sagittal balance correction.

**Patients and Methods:** 43 patients who met the criteria of Adolescent Idiopathic Scoliosis (AIS) were retrospective cohort. X-ray data were measured for thoracic kyphotic, lordar lumbar as a spinal component and Pelvic Incidence (PI), Pelvic Tilt (PT), Sacral Slope (SS) as spinopelvic components. Further evaluation of sagittal spinal balance (C7PL), sagittal global balance, Sacro femoral distance pre and post-surgery. Finally, a statistical evaluation is performed to determine the correlation of the spinal component and the spinopelvic component to the achievement of sagittal balance correction.

**Results:** TK / Sagittal modifier obtained a significant correction with an average of  $18.69^\circ (\pm 9.57)$ , while LL (Lordar Lordotic) at an average of  $44.58^\circ (\pm 11.94)$ . Sagittal spinal balance (C7PL) correction is achieved with an average of 0.68 cm ( $\pm 3.13$ ), Sagittal Global Balance is achieved with an average of -2.04 cm ( $\pm 3.24$ ) while SCFD is achieved with an average of 2.69 cm ( $\pm 2.48$ ). Increasing or decreasing the TK / LL degree does not significantly influence or weak influence on Sagittal Global Balance and C7PL. Addition or decrease in TK degree significantly affects SCFD, whereas LL does not significantly affect SCFD. Changes in each spinopelvic component (PT, PI, SS) are not significant in affecting sagittal global balance.

**Conclusions:** Spinal Components TK / Sagittal modifier and LL were successfully corrected significantly by achieving corrections of  $8.93^\circ (\pm 13.21)$  and  $7.51^\circ (\pm 12.8)$ , respectively. Sagittal global balance is not significantly affected by all components of Spinopelvic PT (Pelvic Tilt), PI (Pelvic Incidence) and SS (Sacral Slope), while sagittal spinal balance (C7PL) is only significantly affected by PT (Pelvic Tilt). For SCFD it is only significantly influenced by PT and SS, while PI does not significantly affect SCFD.

**Keywords:** Adolescent Idiopathic Scoliosis, Spinal Component, Spinopelvic Component, Sagittal Spinal Balance, Sagittal Global Balance, SCFD



Picture: Sagittal balance and spinopelvic component

### Biography

As an orthopaedic subspecialty of the spine that evaluates scoliosis cases and about surgical techniques interested in evaluating or researching various techniques and implants used.

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12<sup>th</sup> International Conference on  
**Orthopedics,  
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**Workshop**



12<sup>th</sup> International Conference on

# ORTHOPEDICS, OSTEOPOROSIS & TRAUMA

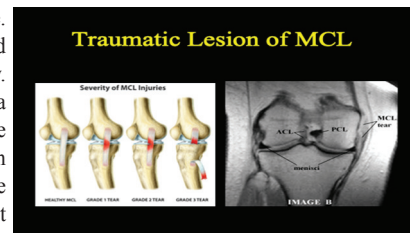
November 13-14, 2019 | London, UK

## Regenerative non-surgical therapy in post-traumatic knee lesion of the medial collateral ligament using a natural regenerative solution (Prolotherapy)

**Stephen Cavallino**

European School of Prolotherapy, Italy

Prolotherapy is a non-surgical injection therapy in regeneration medicine. Any acute trauma to the knee ligaments in the acute phase need rest and immobilization. The healing curve can improve dramatically using Prolotherapy. All weak ligaments in the chronic healing face may not heal well and cause a secondary weak joint. This can become a chronic pain syndrome because there is a less functional knee joint. Prolotherapy to the damaged connective tissue can accelerate healing and blood supply to regenerate the damaged tissue and increase the joint function. The objective in this presentation is to show how important it is to understand why joints become degenerative caused by weak ligaments and how we can correct this degenerative process by treating the connective tissues to strengthen the ligaments. The ligaments are the structure that have been forgotten and are so important in joint stability. Once the ligaments are treated with prolotherapy injection therapy using dextrose, the bio-tensegrity of the joint will function better. In conclusion, prolotherapy is a very safe, effective and easy treatment to improve the joint function, reduce pain, avoid surgery and to give the patient a better quality of life.



### Biography

Stephen Cavallino – Board Certified in Emergency Medicine in Italy. I have been involved in regenerative medicine for more than 20 years. I am now the Director of the European School of Prolotherapy in Italy. I participate in many different voluntary Prolotherapy Missions worldwide. My time is focused on helping people that have MSK problems and their pain by understand the cause of pain and treating the structure in orthopedic medicine to improve their quality of life. I am a member of the Hackett Hemwall Patterson Foundation (HHPF) in Wisconsin, USA and I am the Vice-President of the Italian Association of Prolotherapy (SIPRO) since 2003. Prolotherapy has grown now throughout Europe because I dedicated many years of teaching prolotherapy with the help of many clinical instructors from the SIPRO and HHPF. Currently I am a Clinical Instructor for Prolotherapy and Neuroprolotherapy (Perineural Injection Treatment).

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# ORTHOPEDICS, OSTEOPOROSIS & TRAUMA

November 13-14, 2019 | London, UK

## Audit of consent in hip fracture

**Victoria Beynon**

Frimley Health Foundation Trust, UK

**Background/Aim:** Following Montgomery v Lanarkshire (2015) issues surrounding consent are increasingly subject to litigation. The GMC is currently updating its guidance, emphasising a patient-centred approach, particularly in relation to peri-operative risk.

Consent in hip fracture is frequently undertaken by SHO grade doctors who may be unfamiliar with the procedure, potentially compromising quality of consent.

This audit-cycle's aim was to assess standard of consent in hip fracture and implement interventions to improve practice.

**Study Design:** The audit examined Consent Form 1 for NOF patients admitted over two months. Standards were taken from the BOA guideline 'OrthoConsent'. Data included; accurate completion of consent form, grade of health-professional and legibility.

The number of documented peri-operative risks were totalled, categorised into three ranges (0-4), (5-9), (10-16) and allotted a score (1, 2 or 3 respectively).

Following initial audit, intervention included education from medical and medico-legal professionals and provision of electronic guidelines. Re-audit followed intervention.

**Results:** Baseline assessment comprised 40 consent forms, 22 (55%) completed by SHOs & 18 (45%) by SpRs, with 100% legibility.

Patient demographics, indication, procedure & anaesthesia were documented in 95% of cases. Consultants confirmed consent in 7 (17.5%) cases. 2 (5%) provided patient copies. For risk documentation, 3 forms scored 1 (7.5%), 34 scored 2 (85%) & 3 scored 3 (7.5%).

Re-audit was conducted for 45 consent forms; 41 (91.1%) by SHOs & 4 (8.9%) by SpRs. Results were similar for all parameters bar risk documentation. No forms scored 1, 18 scored 2 (40%), 27 scored 3 (60%). The standard of SHO consent was similar to SpR.

**Conclusions:** Results showed overall improvement in documented peri-operative risk, with those scoring 3 increasing to 60%. The education intervention also had the unintended effect of improving SHO's confidence in consenting such that, at re-audit, only 9% of patients were consented by a registrar.

## Biography

Victoria Beynon is a post-foundation junior doctor and an aspiring surgeon. Her research interests include quality improvement for junior doctors, patient safety and medical education. She is currently a student at St. George's University of London undertaking a Post Graduate Certificate in Medical Education and has been made an Honorary Clinical Lecturer at the University. She works closely with multiple research groups and is currently involved in a number of ongoing projects collaborating with Orthopedic, Urology and General Surgical teams. She hopes to take up a Core Surgical Training post in the next year to further her career.

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November 13-14, 2019 | London, UK

## Effect of platelet rich plasma on healing of autologous graft following ACL reconstruction

**Kishor Munde**

All India Institute of Medical Sciences, India

**Statement of the Problem:** The Anterior Cruciate Ligament (ACL) is one of the most commonly injured ligaments of knee. Nowadays PRP is used in orthopedic surgery as a synergistic agent in the treatment of different bone pathologies, including bone repair, ligament reconstructions, and treatment of non-union of fractures of long bones. Platelets are renowned as the major sources of healing factors within blood clots, the idea that concentrating them at the injured site could somewhat accelerate and optimize the healing mechanisms set the rationale for the development of PRP.

**Methodology & Theoretical Orientation:** It is an on-going randomized control study started from July 2018 in which autologous PRP is being given to first group at graft bone interface intra-operatively and standard treatment without PRP will be given to second group after randomization. MRI findings are evaluated after 6 months by a consultant radiologist who is blinded to the study with observation of the synovial fluid at tunnel-graft interface and ligamentization: Graft signal pattern.

**Findings:** Till now 17 patients have been assessed with follow up MRI evaluation at 6 months following the ACL reconstruction, of which PRP was used for 9 patients. 55.5% (5/9) patients in which PRP was used showed adequate healing of the graft. 37.5 % (3/8) patients in which PRP was not used showed adequate healing.

**Conclusion & Significance:** PRP seems to be increasing the rate of ACL healing according to this study, though more research is needed to support the above outcome.

### Biography

Kishor Munde is working as a resident at AIIMS, Jodhpur. An avid reader and philanthropist by passion, he has worked in several medical camps for outreaching to poor people deprived of medical services. A voracious campaigner for blood donation camps, he aims at improving medical care standards in rural India and visions for healthy world.

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# ORTHOPEDICS, OSTEOPOROSIS & TRAUMA

November 13-14, 2019 | London, UK

## Safety and efficacy of Apixaban and Enoxaparin in patients undergoing total hip arthroplasty and total knee arthroplasty

**Kishor Kunal**

All India Institute of Medical Sciences, India

**Statement of the Problem:** Venous thromboembolism is very common after a major orthopedic surgery like arthroplasty. Even with thrombo-prophylaxis, subclinical DVT after THA is 15-20% and after TKA is 30-40%. According to ACCP, apixaban is preferred if parenteral therapy is to be avoided, in CAD patients and in patients having dyspepsia or GI bleeding while enoxaparin is to be preferred in liver diseases or those having pregnancy risk or pregnancy. NICE guidelines prefer enoxaparin, though it recommends use of apixaban where enoxaparin/ rivaroxaban / aspirin cannot be used.

**Methodology & Theoretical Orientation:** A prospective observational study was carried out with aim to observe the incidence of symptomatic and asymptomatic DVT and PE and safety profiles in patients of THA/ TKA managed with two different chemoprophylaxis regimes, apixaban and enoxaparin- for 2 weeks following TKA and 5 weeks following THA.

**Findings:** In the undergoing study, 54 patients were analyzed from Oct 2018 to July 2019 with 26 under Apixaban and 28 under Enoxaparin. Irrespective of the type of arthroplasty and duration of prophylaxis, none among them developed symptomatic or asymptomatic DVT/ PE, however, 7.69% (2/26) on Enoxaparin had episodes of fall in saturation and chest discomfort with CTPA showing normal reports. Also while Enoxaparin had a tendency for more local and systemic skin reactions (11.53%), local subcutaneous swelling(3.84%), Apixaban had more tendency to create wound complications such as soakage of dressing (12.5%), and increased drain collection leading to prolonged drain insertion periods which had a theoretical increased risk of infection. Also, apixaban was not found to be safe in patients with cardiac condition and induced AF post-op in a relatively young cardiac patient and was responsible for TIA (Transient Ischemic Attack) in one old patient.

**Conclusion & Significance:** Though both Apixaban and Enoxaparin is equally effective in thromboprophylaxis, Enoxaparin tend to have more skin and chest related complications and Apixaban tend to have more cardiac, nervous and wound related complications. Recommendations are made for thromboprophylaxis with either of them in view of patient profile.

### Biography

Kishor Kunal is working as a resident at AIIMS, Jodhpur. A writer, philanthropist and philosopher by passion, he endeavors not just for being a care- giver but also in finding the best and latest technology to help the mankind. He has worked in several organizations uplifting the current status of medical fraternity in India and continues to be a dynamic visionary in the field of medicine and social sciences.

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November 13-14, 2019 | London, UK

## A prospective study of surgical excision of calcaneal spur for relief of chronic heel pain

**Kishore Vellingiri**

Sri Devaraj URS Medical College, India

**Objectives:** To assess the subjective and functional outcome of calcaneal spur excision with respect to relief of chronic heel pain and to evaluate for possible complications following surgery

**Methods:** 30 patients attending inpatient and outpatient services of the Department of Orthopedics, RL JH Karnataka, diagnosed with calcaneal spur based on clinical suspicion and confirmed radiologically, were recruited for the study after obtaining informed consent. Routine blood investigations were performed. Severity of the condition was assessed by visual analog scale for the pain and Roles Maudsley score. Functional outcome of the surgery was assessed by ankle and hind foot scale estimated before and after surgery.

**Results:** 30 patients, sample population was predominantly female aged (60%). Symptom duration was more than 6 months in all patients with failed conservative management. All 30 patients underwent plantar approach for spur excision. All 30 patients were followed up at 6 months. Preoperative VAS pain score was  $7.07 \pm 0.82$  and mean VAS score at 6 months follow up was  $3.60 \pm 0.56$ . Mean ankle and hind foot scale preoperative and at 6 months were  $56.73 \pm 3.92$  and  $83.40 \pm 4.59$  respectively. Roles Maudsley score, showed mean score of 3 (significant improvement from pre- treatment).

**Conclusion:** Spur excision is found to be highly effective in relief of chronic heel pain in patients of calcaneal spur. More studies in larger population groups are needed to further validate this study.



*Pre and post-operative x-ray of right foot lateral view following medial approach for calcaneal spur*

### Biography

Kishore Vellingiri, second year of postgraduation in orthopedics. His interested in doing research work and nature lover and am good in playing kabaddi and cricket.

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