Our experience suggests that this device is an excellent treatment option for the management of unstable pertrochanteric fractures without significant increase in operative time or complication rate.


Femoral reconstruction nail failures following fixation of extracapsular fractures of the hip—incidence, causes and prevention

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The proximal femoral nail is a valuable tool for fixation of extracapsular fractures of the hip. Its position in the mediullary canal imparts a biomechanical load sharing advantage over extra-medullary load bearing fixation devices. It can also provide stable fixation of subtrochanteric fractures whilst minimising soft tissue trauma, blood loss and risk of wound infections. However, the complication rate associated with this fixation method has been estimated in the literature to be 5–10%. This is associated with both significant patient morbidity and financial expense.

We conducted a retrospective audit assessment of all of the proximal femoral nails (PFN) performed at the Dorset County Trauma Centre based at Poole Hospital, UK. The audit period ran from June 2008 to May 2009. The hospital’s trauma database identified 56 patients who received PFNs for unstable, extracapsular hip fractures. The mean patient age at the time of surgery was 84 years. Approximately equal numbers of short (46%) and long (54%) PFNs were used. In total, 13 (23%) patients experienced complications relating to fracture fixation, including intra-operative breach of the anterior femoral cortex, peri-implant fracture, dynamic screw cut out, locking screw fracture and locking screw back out. 9 of these patients required further surgery with either conversion to total hip arthroplasty (6 patients) or removal of metal work (3 patients). The mean time to recognition of post-operative complications was 8 months.

The tip apex distance of failed PFNs was greater than 25 mm in 62% of patients, compared with only 26% for successful PFNs. Well reduced fractures had a greater success rate (91%), compared with imperfectly reduced (70%) and poorly reduced fractures (60%). There was no significant relationship between failure rates and fracture configuration according to the Seinsheimer classification.

In summary it is clear that in order to minimise the risk of PFN failure, both optimising fracture reduction and tip–apex distance is required, and these factors may have a greater impact on fixation failure than the fracture configuration.


1B.35
Correlation between MRI and arthroscopic findings in pathology of the menisci: closing the loop with a re-audit

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The purpose of this audit was to assess the sensitivity and specificity of MRI vs Arthroscopic findings for meniscal pathology and compare this to previous results in 2005. The changes with regards to reporter demographics, outsourcing and funding changes were taken into account.

A Retrospective data collection was done for period 01/01/2009–13/08/2009 for patients undergoing MRI pre-operatively (<3 months). The mean age was 41 ranging from 12 to 34. N = 212. Male to female ration 1.6:1. The results showed that the sensitivity had reduced from 94%(2005) to 88%(2009). Specificity however had increased from 90%(2005) to 94%(2009).

3 reports were non-committing of meniscal pathology in the 2009 sample compared to 6 in 2005. Of these 33% had pathology in 2009 and 50% had pathology in 2005. These changes were thought to be multi-factorial.

There was still a high sensitivity and specificity. The decrease in sensitivity could have been due to poor image quality relating to out sourcing scanners.

This study confirmed that MRI is still an excellent diagnostic tool for assessing menisci and that increasing SpR reporting in our region had no significant impact on accuracy.


1B.36
Establishing a new trauma and emergency medicine department in a level 1 hospital covering 3 million persons

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In the east of Tehran a level 1 referral university affiliated general hospital with 540 beds is covering about 3 million persons and taking care of about 220–250 patients every 24 h in the trauma and emergency department. It has been approved from 10 years ago that Anglo-American style for emergency medicine and trauma system should be used.

Reaching to this goal demanded changing pattern of management, treatment and education by building two separate sections, Trauma unit and Emergency department close to each other, therefore the medical staff were switched to Emergency Medicine Specialists who have been trained in the united states and another university in Tehran.

The trauma unit has the full facilities such as 2 operating rooms, radiology, sonography and CT scanning, laboratory, CPR and burn room.

The emergency department handles the non traumatized emergent patients, so it has a 6 bed ICU, 6 bed CCU, CPR and a 24-bed ward for managing the patients before discharge or transfer to related wards.

The curriculum for treatment and education has been copied from American models but had some modification to work in local situation, in the triage room the patients are sorted by a nurse and according to the etiology and manifestations are treated by a team of emergency medicine specialists and related speciality.

We were able to decrease the mortality rate in traumatized patients from 16% to 9% and increase the successful CPR rates for non injured patients from 42% to 64%.


1B.37
The fall of IM nail. The changing pattern of tibial shaft fracture surgical management and the impact on training

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Aim: The surgical management of an extra-articular fracture of the tibia can be done by internal fixation with plate, intramedullary (IM) nailing or external fixator. The decision of choosing what
device to use depends on a variety of factors, such as the fracture pattern, the soft tissue status, the surgeon's preference and availability of equipment.

In United Kingdom (UK), the Specialist Registrar trainee are required to perform at least 18 tibial IM nailing over 6 years to fulfil one of the key surgical procedural requirement. Failure to do so would result in delay in completing the training. However, this is not as straight forward as one believes.

Material and method: James Cook University Hospital (JCUH) is a level 1 trauma centre in NE of England. We have looked into the surgical treatment of extra-articular fracture from 2005. There is about 50 extra-articular tibial fractures per year presented to our unit. This is a retrospective review. Patient list is collected from theatre record and radiographs are assessed for the level of tibial injury. The treatment choice is recorded and analysed.

Union rate and follow-up length are also noted.

Results: The usage of IM nail has fallen from 62% to 51% over the years, while tibial locking plate has gone up from 13% to 42%. Another significant change is the drop of external fixator as a first line management technique, which has gone down from 20% to 5%. The increase in plating is particularly seen in the proximal and distal third portion of the tibia.

Conclusion: Our unit has 9 specialist registrars on the trauma rota. On average, each should just have 3 IM nailing performed per year, making the total of 18 over 6 years. In reality, the random fashion of trauma presentation would mean some missing out. If a busy unit could only provide enough opportunity for 1 year quota, a smaller quieter district general hospital is unlikely to do better. Together with the adoption of the 48-h working rule in UK, this could reduce the training opportunity further. The training issue has to be addressed sooner rather than later.


1B.38

Is “Softcast” (3M) strong enough for acute potentially unstable paediatric forearm fractures?

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Introduction: After orthopaedic assessment, the vast majority of paediatric forearm fractures are treated using a circumferential splint, with prior manipulation as necessary. Plaster of Paris is often chosen for its ease of application, cost and proven reliability.

Softcast is an attractive alternative, as it provides a comfortable and water-resistant splint that can be removed without a plaster saw. Patient satisfaction has been demonstrated when used to protect buckle fractures, and its cost may be offset by reducing the number and duration of hospital visits. Unreinforced Softcast has not, however, been recommended for acute potentially unstable fractures.

Objectives: To establish whether a Softcast splint can provide sufficient mechanical stability to control a potentially unstable paediatric forearm fracture, and protect the wearer from further injury.

Methods: A laboratory study was undertaken to compare the bending, kinking and torsion loads withstood by standardised POP, Softcast and reinforced Softcast splints at clinically relevant end-points.

Results: The load at clinical failure of a 6-wrap Softcast forearm splint was 504 N in bending, 202N in kinking, and 11 Nm in torsion (equalling 30.4%, 26% and 42.2% of the equivalent values for a circumferential 4-wrap POP). The 6-wrap Softcast was however stronger in all modes than a fibreglass-reinforced Softcast splint, such as has been recommended for acute fractures. Furthermore, the load to failure in all modes exceeds that which can be exerted by body weight in many paediatric patients.

Softcast demonstrated complete recovery of its original shape on unloading, where as POP was permanently deformed. POP splints were 4% heavier than 6-wrap Softcast.

Conclusion: A 6-wrap Softcast splint provides adequate mechanical stability and protection for paediatric patients up to 20 kg, not engaged in high-risk activities. The primary risk is not of fracture angulation and loss of position, but temporary indentation of the splint against a point or edge, causing discomfort or pain. Considering its ease of removal, Softcast may be preferable for younger paediatric patients.


1B.39

Preparation and outcome of the emergency medical services in the hospital and prehospital field during the EUFA Euro 2008 in Bern Switzerland

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The 2008 European Football Championship 2008 (Euro 08) has been the largest sporting event ever organised in Switzerland.

One Mio. visitors came to the city of Berne during the event and the local airport in Bern/Belp registered 261 extra flights. Per game 33,000 fans in the stadium and 100,000 fans in the public viewing zones were watching football.

The ambulance corps and the Department of Emergency Medicine (ED) at Inselspital, University Hospital Berne, were responsible for basic medical care and emergency medicine management. Injuries and illnesses were analysed by a standardized score (NACA-score). The preparation strategy as well as costs and patient numbers are presented in detail.

A total of 30 additional ambulance cars were used, 4723 additional working days (one third medical professionals) cumulated, 662 ambulance calls were registered and 240 persons needed medical care (62% Swiss, 28% Dutch, 10% other nationals). Among those 51 were treated in one of the four city hospitals. No injuries with NACA VI and VII occurred (NACA I: 4, NACA II: 17, NACA III: 16, NACA IV: 10 and NACA V: 4 patients). All together the city of Berne came up for 112,761.15 Euros extra medical care costs at the Inselspital Bern. The largest amount was spent for security measures (50,300 Euros) and medical staff (medical doctors 22,600 Euros, nurses 29,000 Euros). Because of the poor weather and the fans’ exemplary behaviour, the course of events was rather peaceful.

Our presentation will show the efforts, costs and benefits of an urban ED/EMS service preparing for such an event and will present lessons learnt for the future.