injury. Twelve patients were subjected to reamed nailing and the rest to unreamed nailing. The mean control (patients undergoing total hip replacement) femoral IL-6 concentration was 9.6 pg/ml. In femoral canal samples from trauma patients, the initial IL-6 concentration at canal entry was significantly higher at 9348 pg/ml, and increased significantly following reaming to 17,925 pg/ml. At the same time points the IL-6 concentration in peripheral blood samples were significantly lower at 123.65 and 136.72 pg/ml respectively (p = 0.001). At 24 h, the peripheral IL-6 concentrations raised significantly from 162.7 to 799.8 pg/ml, illustrating the second hit insult. These values were also significantly higher than those measured in the unreamed group at all time points (p < 0.001).

Two patients in the reamed nailing group developed ARDS following the procedure. There was no mortality in any group.

Conclusion: This data illustrates that reaming of the femoral canal results in significantly higher local and peripheral IL-6 concentrations. Femoral canal instrumentation represents a significant source of inflammatory mediators, propagating a second hit effect as expressed systemically. In multiple injury patients, these findings should be considered when determining the treatment plan to avoid inflicting further harm.

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Osteotomy of the femoral neck for severe slipped capital femoral epiphysis
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Introduction: The management of severe slipped capital femoral epiphysis remains controversial. Slipped capital femoral epiphysis tends to occur at an age when the child has limited potential for remodelling. It is recognised that outcome of the disorder is related to the severity of the slip. Severe slips have a high risk of undergoing degenerative change within 15 years. Osteotomy of the femoral neck aims to reduce the deformity and improve function and long-term survival of the hip.

Aim: To assess the short-term outcome of patients who have had an osteotomy of the femoral neck at the level of the physis for severe slipped capital femoral epiphysis.

Materials and methods: From 2000 to 2005, 10 patients underwent a femoral neck osteotomy at the level of the physis for severe slipped capital femoral epiphysis. All presented with pain and inability to weight bear. Diagnosis was confirmed with anteroposterior and lateral radiographs of the hip. The procedures were all carried out via a Smith–Peterson approach and a subcapital osteotomy performed to allow reduction of the epiphysis. Fixation was with a single cannulated screw. Post-operatively the patients were non-weight bearing for 6 weeks then partial weight bearing for a further 6 weeks.

Patients were assessed clinically and radiographically at follow-up.

Results: To date patients have been followed up for a mean of 22 months (range 2–48 months). Two patients (two hips) suffered avascular necrosis (10%); the clinical outcome was unsatisfactory. Of the remaining eight patients (eight hips) there were no cases of chondrolysis. These patients considered their outcome satisfactory.

Conclusion: The rate of avascular necrosis of 20% is within the range quoted in other series of intracapsular osteotomies of various types (4.5–35%). In our series subcapital osteotomy gave satisfactory clinical and radiographic outcome in 80% at a mean of 22 months follow-up. We suggest this one satisfactory option in the management of severe slipped capital femoral epiphysis.

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Early active treatment of femoral shaft fractures in children—A proposed protocol
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The aim of this study was to compare the modern treatments for traumatic femoral shaft fractures in children to traditional treatments. We studied 66 children who had sustained a fracture, over a 6-year period. A protocol using early hip spicas (EHS) for under 5 year olds, flexible intramedullary nails for over 5 year olds, and external fixation (ExFix) for the polytrauma cases was started in 1999. Over a 3-year period, 25 children sustained a fracture (early active group) and were prospectively followed up for a minimum of 24 months. The outcome measures being, length of hospital stay, degree of mal-union, range of hip and knee movement, leg length discrepancy, pain and functional restrictions. This group was compared with all fractures in the 3 years prior to the new protocol (traditional group, n = 41) which were treated with in patient traction.
The mean length of hospital stay was 32 nights in the traditional group and 19 nights in the early active group \((p < 0.001)\). Excluding severely injured patients the mean stay was 29 nights and 10 nights \((p < 0.001)\), respectively. There was no significant difference in the mal-union rate between the two groups. Ten patients were short at 3 months \((0.5—3 \text{ cm})\) and eight of these had been treated by EHS. None were short at 2 years. Eight children were long at 2 years. Seven of these were treated with anatomical reduction. At 2 years they all had good clinical and functional results. Four cases (which were treated with an ExFix) had complications. In our population, a 40% reduction in the incidence of femoral fractures over the 6-year period was noted. The reduction has been in falls and sports injuries. These modern treatments have resulted in a shorter hospital stay that has many advantages for the child and family as well as financial savings.

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Ottawa knee rules in management of acute injuries to the knee in accident and emergency
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Introduction: Judicious use of radiographs is important to avoid unnecessary radiation and waste of resources.

Aim: The purpose of this study was to audit our practice against the Ottawa knee rules.

Materials and methods: A retrospective review of A&E notes with documented acute knee injuries was carried out over a period of three months. A total of 172 patients with acute knee injuries \((\text{injury-consultation} < 72 \text{ h})\) were identified. Patients \(< 16 \text{ years} \text{ and } > 55 \text{ years} \) were excluded. The notes of 138 patients were reviewed for adequacy of clinical examination and indications for knee radiographs. These were compared against Ottawa knee rules.

Results: There were 109 males and 29 females. The mean age was 33.1 years. Seventy three percent of the patients presented to A&E within 8 h of injury. Majority \((89\%)\) were seen by SHOs and ENPs. The most consistent clinical finding documented was site of tenderness \((90\%)\) followed by range of movement \((67\%)\). Ability to extend the knee \((18\%)\), ability to weight bear \((11\%)\) and walk four steps \((7\%)\) were poorly documented. The plain radiographs without adequate clinical examination were performed in 93% of patients. The radiographic findings were documented in only 24%. Only 8% of the patients required hospital admission.

Conclusions: Our audit showed that majority of knee radiographs were being carried out without adequate clinical examination. Unnecessary use of radiographs can be avoided by implementing clinical decision making rules such as Ottawa knee rules.

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Posterolateral corner reconstruction of the knee—A prospective study of clinical outcome
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The purpose of this study was to evaluate the outcome of posterolateral corner reconstruction of the knee, using prospective pre- and post-operative scoring and clinical evaluation.

We reviewed those patients who underwent posterolateral corner \((\text{PLC})\) reconstruction in our unit between October 2001 and October 2004. Seventeen patients were identified, all male. Mean age 35 years \((\text{range} 22—46)\). Mean follow-up 21 months. The commonest mode of injury was football. All patients had damaged other structures in the knee. Fifteen patients also underwent ACL reconstruction, five PCL reconstruction, six LCL reconstruction, six meniscal repair, eight meniscal debridement and two patients had microfracture, all performed at the same operation. Patients were prospectively scored pre-operatively and at 3, 6, 12 and 24 months post-op \((\text{depending on length of follow-up})\), using Lysholm, IKDC 2000 and KOOS scoring systems. The knee scores showed a significant improvement in all patients post-op. Post-operatively one patient developed a chronic pain syndrome, one patient developed osteopenia and is under investigation for RSD. Two patients subsequently requested removal of the screw used for PLC reconstruction.

Conclusions: Injury to the posterolateral stabilizing structures of the knee usually occurs in association with other ligamentous injuries, in particular either or both of the cruciate ligaments. The recognition and adequate management of this injury is crucial, particularly in order not to compromise any associated ligament reconstructions.

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Altered signal intensity in the posterior horn of the medial meniscus: An MR finding of questionable significance