Management of children with both traumatic and non-traumatic Orthopaedic pathology differs from region to region within the UK. Some populations will have a dedicated Paediatric Orthopaedic service, but at present for the vast majority, and particularly for trauma, most patients continue to be managed by general Orthopaedic surgeons1. The true generalist who would be able to manage a host of pathologies is now a dying breed, and sub-specialisation amongst those treating mainly adults may be leaving a void for local care of children. One of the possible reasons for this change is the fear of litigation for those not regularly treating such pathology and the improvement in care and expertise that is expected with sub-specialisation. This combined with a similar problem in anaesthetic provision may be driving these changes.

Perusal of the number and types of claims is often a good guide to where errors continue to be made by those treating children. The NHS Litigation Authority (NHSLA) is a specialist health authority established in 1995 to deal with all claims excluding those arising in primary care and private practice. The incidence of claims managed by the NHSLA continues to increase, and within Orthopaedics we account for almost half of all surgical claims arising. Of course, the increase in claims is not directly proportionate to an increase in negligence, but rather reflects a number of issues such as cultural changes and changes in the way claims are funded. The cost to the health service is huge, with payments for the period 2008-2013 for Orthopaedic Surgery totalling £490 million2.

By far the most frequently encountered cause of litigation is the management of Paediatric Fractures, and specifically delayed diagnosis and inappropriate treatment. Missed injuries are the commonest encountered3. The most significant area is management of trauma around the elbow 4, 5 and treatment of Slipped Capital Femoral Epiphysis (SCFE)6. The strong association with elbow trauma is independent of the healthcare system, and is a problem reproduced around the world7.

Injuries around the elbow

Supracondylar fractures of the Humerus represent over 10% of all cases of paediatric orthopaedic litigation8. Common reasons are malunion, delayed or missed diagnosis and poor intra-operative fixation. Iatrogenic nerve injuries do account for some cases. Additional issues exist with other fracture types such as the Lateral Condyle fracture, an injury often difficult to diagnose and with poor outcomes following inadequate treatment (Figures 1a-d).

A number of cases will also result from simple factors that must not be underestimated as causes of harm.

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Figure 1a-d: Lateral condyle fracture treated in fracture clinic as an undisplaced supracondylar fracture (a, b). When seen at 4 weeks post injury, the fragment is displaced (c, d). Treatment requires fixing in situ to avoid osteonecrosis and leads to a poorer outcome that could have been prevented by recognition and correct treatment of the injury.
such as problems resulting from poor plaster application and use of plaster saws for cast removal.

Some NHS innovations, such as virtual clinics in which all cases receive senior Orthopaedic input may help with radiological diagnosis and reduce litigation. Injuries thought to be radiologically benign, without the benefit of subsequent clinical review may lead to delay in both diagnosis and treatment.

Surgical treatment by sub-specialists may decrease the incidence of poor intra-operative treatment, but with the current healthcare structure it is not feasible for all paediatric Trauma to be managed in this way, and will therefore result in treatment being carried out, particularly out of hours, by those who have less experience.

Changes to Orthopaedic training other than Sub-specialisation is also likely to have an impact that is, as of yet, not quantified.

Slipped Capital Femoral Epiphysis

With an incidence of 10 per 100,000, litigation should be rare in comparison to treatment of other Children’s Orthopaedic pathology, but we see high pay outs and rates of claims resulting from this condition in NHSLA data, as well as with other non-traumatic hip conditions such as sepsis and Developmental Dysplasia of the hip.

Management of SCFE has seen some changes over the last decade, particularly with treatment of severe deformities and increasing popularity of the Modified Dunn Procedure. In terms of general management the gold standard treatment for many remains pinning in situ with ‘gentle’ limited reduction for severe unstable slips, with the aim of reducing the risk of Osteonecrosis associated with open reduction. Historical studies have shown good functional outcomes for the majority of hips treated in this manner. The increasing understanding of Femoro-acetabular impingement however does raise concerns that pinning in situ may result in symptoms and poor functional outcomes that surgeons may then be held responsible for later in life (Figure 2a-b). This needs to be balanced with the 20% risk of osteonecrosis quoted for open reduction techniques. The role of pinning hips with devices that allow ongoing capital physeal growth (such as de-threaded screws) also has had a renewed surge of interest. This in itself raises concerns for harm, particularly if further slips develop as a result of their use. Even contralateral pinning can be associated with harm. Further prospective randomised studies are needed for this condition to help guide the best form of treatment.

Meanwhile, for those without the facility to treat by open reduction, pinning in situ for both acute and chronic slips with careful attention to a safe technique is recommended, but this must be combined with careful follow up, and early referral to a centre with necessary expertise for severe deformities and those that develop symptoms of pain and impingement. With regard to choice of open reduction technique, familiarity with a method and the frequency of its performance are more important factor than the actual technique. Consent is always important, and the high risk of osteonecrosis needs to be at the forefront of any discussion with patients and their carers.

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References can be found online at www.boa.ac.uk/publications/JTO or by scanning the QR Code.
References


