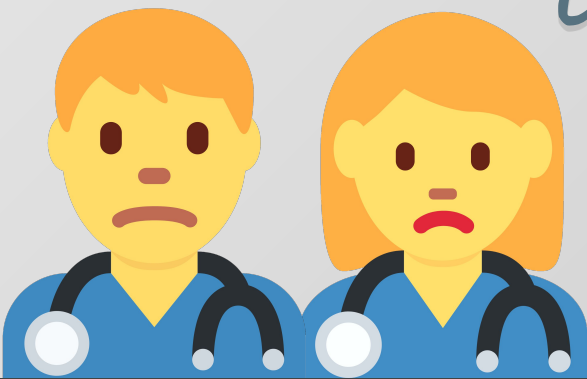


Mismanaged Minors?

Major

Implications

*...and how to avoid
them!*





The Patient Scenario

Brief introduction and description of a case, key history and examination findings.



The Management

Summary of investigations performed and management decisions.



The Patient Journey

What happened to the patient – included repeated visits, further tests, diagnosis, concerns of family, time off school etc.



What would you do differently?



The Medicolegal Outcome

What happened – using MPS casebooks or other medicolegal source is useful. Consider why the complaint was made.



Replaying the Scenario

Retell the story – including important changes which would alter the outcome. Try and incorporate references to departmental or national guidelines. Add images if needed.



Key Learning Points

- ★ Up to THREE bullet points

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Patient Scenario ONE

Emily (aged 14) attended the ED with right knee pain and clicking over the last 2 months causing her to limp. There was a history of a twisting injury playing football 3 weeks before. No intercurrent illness or fever at home.

Observations in the ED were stable with no fever, weight 80kg. Examination demonstrated a right-sided limp. Although she complained of generalised knee pain when walking, there was no swelling or focal tenderness on examination. She achieved 90° flexion of the knee and could fully straighten her leg.



The Management

- Right knee X-ray (normal)
- Discharged home as soft tissue injury right knee



The Patient Journey

Emily returned to the ED one month later with ongoing limp and pain - now severe - in the right groin. Examination showed limited flexion and internal rotation in the hip with pain. X-ray diagnosed Slipped Upper Femoral Epiphysis (SUFE) of the right hip requiring surgical pinning.



What would you do differently?



The Medicolegal Outcome

The family took legal action against the original doctor in ED for inadequate examination. This had led to a month of pain, time off school and the potential for Avascular Necrosis (AVN) requiring hip replacement due to diagnostic delay. They settled for a moderate sum.



Replaying the Scenario

The doctor followed their local Limping Child guideline & performed:

- A hip examination – revealing pain on flexion and internal rotation
- X-ray of the right knee which was normal
- X-ray of the right hip showed SUFE

Emily received analgesia in the ED and was referred to the Ortho team and admitted for surgical intervention. After 5 days, Emily was discharged with outpatient Orthopaedic and physiotherapy follow-up. She returned to school the following week.



Key Learning Points

- ★ Knee pain may be pain referred from the hip – always examine the joint above and below the affected.
- ★ Consider SUFE as a differential in adolescents, especially if they are overweight.
- ★ Follow your local Limping Child hospital guideline.
- ★ Always offer analgesia to those presenting with pain.

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Patient Scenario TWO

Thomas (aged 3) attended the ED with his mum. She had noticed he had been limping on his right leg for 2 days. He had a slight runny nose and a fever of 39°C at home that morning which mum had given paracetamol for. Mum had come to ED as he was now refusing to walk.



The Management

Thomas stood with his right knee flexed and refused to walk, crying throughout the examination of his leg. His temperature was 38.5°C. He screamed the most when attempting to examine the right hip.

X-rays of the right hip and knee were normal and he was discharged home with diagnosis of probable transient synovitis of the right hip.



The Patient Journey

Thomas returned to the ED after a further 2 days as he was still refusing to walk, feverish and was now not eating. He refused to weight-bear and lay quietly on the bed. Examination showed severe pain around the right hip with some skin redness.

Bloods were taken - CRP 250. He was referred to the Orthopaedic team. Urgent hip USS showed a moderate amount of fluid in the right hip joint. Hip washout confirmed septic arthritis. He spent 10 days in hospital.



What would you do differently?



The Medicolegal Outcome

Legal action was taken against the initial doctor for not performing adequate investigations. This led to increased suffering and risk to the patient's life by delayed diagnosis, during which the child had become significantly more unwell. This was settled for a moderate sum.



Replaying the Scenario

The doctor followed the Limping Child guideline. Recognising the child was also feverish and distressed, they followed the guideline and performed:

- Bloods - FBC, CRP and a blood culture - CRP 100.
- X-ray (normal)
- Informed SpR in ED who also reviewed the child
- Informed the Orthopaedic SpR on call
- Ensured regular analgesia was provided

The child underwent an USS and was kept NBM for joint washout later that day. He improved well postoperatively and was discharged home after 7 days with Orthopaedic outpatient follow-up.



Key Learning Points

- ★ Follow your local Limping Child hospital guideline.
- ★ Children with a limp who have a fever and are distressed need bloods, X-ray and Orthopaedic review in the ED.
- ★ Always offer analgesia to those presenting with pain.

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Patient Scenario THREE

Jack (aged 13) fell off his bike whilst riding in his local woods during the COVID-19 pandemic. His mother rang the local GP surgery for advice because Jack's left little finger was bruised, swollen and 'looked broken.' The GP gave telephone advice to neighbour strap the finger for the next 3 weeks with the thought that it was likely broken.

The Management

Jack's mother neighbour strapped his finger with tape and gauze bought from the pharmacy for the next 3 weeks. His pain was managed with paracetamol as needed.

The Patient Journey

Jack attended the ED 4 weeks after his injury as his mum was concerned his finger still 'looked broken.'

X-ray showed a displaced proximal phalynx fracture.



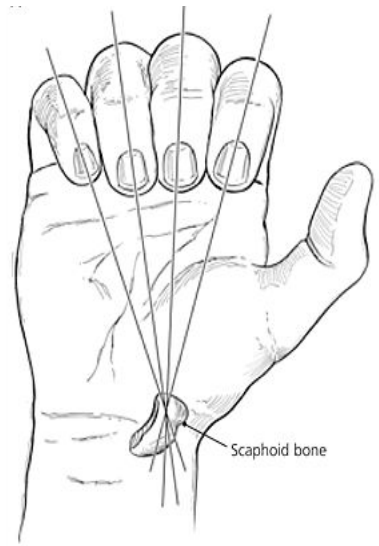
What would you do differently?

The Medicolegal Outcome

Jack was reviewed by the Orthopaedic team in ED. He was booked for K-wire surgical fixation. His parents made a formal complaint against the GP for not assessing for rotational deformity of the digit and therefore giving incorrect management advice, resulting in the need for surgical fixation.

Replaying the Scenario

Since the GP was not able to fully assess Jack's injury over the telephone, he advised ED attendance. Examination revealed abnormal flexion cascade of the left little finger with swelling and bruising of the digit. Digital flexor and extensor tendon examination was normal. X-ray showed a displaced fracture of the proximal phalanx of the left little finger with rotational deformity. This was manipulated by the Ortho team under Entonox with good position on repeat X-ray. Fracture clinic follow up requested. Fully recovered at 6 weeks.



Normal flexion cascade

Key Learning Points

- ★ Always assess the digits for rotational deformity and clearly document this in the notes.
- ★ Refer displaced digital fractures to the Orthopaedic team.

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Patient Scenario FOUR

Olivia (aged 13) was brought to ED by her mum after falling over at a local park and landing on broken glass.



The Management

The junior doctor in ED cleaned the wounds with normal saline, infiltrated 1% lignocaine and then closed with 6.0 non-absorbable sutures. Olivia was upset during the procedure as she is scared of needles and found it quite painful.

The Patient Journey

Olivia was given a suture leaflet and advice to book in with her GP practice nurse in 5-7 days for suture removal. Removal of the sutures was very painful and caused Olivia distress. After the swelling and bruising had subsided at 2 weeks, Olivia and her mum were concerned that her lip looked deformed and appeared pulled up on the right.

Olivia was very conscious of this and started to refuse to go to school because she felt other children bullied because of this deformity. She underwent plastic reconstructive lip surgery after 1 year.

What would you do differently?



The Medicolegal Outcome

A formal complaint was made against the junior doctor in ED with an enquiry that found they had minimal experience in suturing. A medicolegal claim was then made with findings that their failure to seek expert advice – and actions taken – had led to distress, poor cosmetic outcome and emotional trauma.

Owing to the fact the scar was on the face and required further reconstructive surgery, the claim was settled for a large sum.



Replaying the Scenario

The junior doctor assessing Olivia cleaned the wounds with normal saline and ensured there was no glass present. They spoke with the senior doctor in ED and (on their advice) contacted the Maxillofacial team regarding wound closure since the lip laceration crossed the vermilion border.

After speaking with Olivia and exploring her needle phobia with a play specialist, a plan was made for closure with absorbable 6.0 sutures using Entonox and local anaesthetic. This was well tolerated. Olivia went back to school after 5 days. When followed up at 2 months her scar was faint with no lip border deformity.



Key Learning Points

- ★ Lip lacerations crossing the vermilion border should always be closed by a specialist – discuss with your local MaxFax or Plastics team.

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Patient Scenario FIVE

Harry (aged 15) ran into another player during a football match and sustained a head injury. He was well immediately after the injury, but soon after started to complain of nausea and dizziness so he was brought to the ED.



The Management

The junior doctor in the ED took a thorough history and included a neck examination with his assessment. They were confident that a CT was not indicated, so Harry was discharged home.



The Patient Journey

Harry remained unwell after the injury, with persistent dizziness and nausea. He was also very tearful. He could not attend school and began to fall behind with his exam preparation. He missed a key coursework deadline.

He struggled at his football training sessions, and suffered a second minor head injury during a match three weeks after the initial one.

The family felt this caused his symptoms to recur, and they persisted for a further six weeks. Harry saw his GP at this point, who explained about concussion, and how it should be managed.



What would you do differently?



The Medicolegal Outcome

A formal complaint was made by the family because they felt inadequate advice regarding Harry's head injury was given. This had resulted in him continuing to play sports with no graduated return, and had potentially impacted his studies with no advice given regarding 'brain rest.'



Replaying the Scenario

The junior doctor assessing Harry's head injury explored symptoms of concussion and updated the family about 'brain rest' and a graduated return to his football training.

The doctor gave the family a Head Injury leaflet, and reiterated the red flags and management of concussion.

Harry had a few days of 'brain rest' at home, before gradually returning to school and football training. His symptoms settled and he was back to normal within 14 days.



Key Learning Points

- ★ Always consider concussion when assessing head injuries, and don't forget to explore the cognitive and emotional symptoms.
- ★ Make sure the process of 'brain rest' and gradual return to activities, especially contact sports, is explained.
- ★ Ensure all families are given a Head Injury leaflet on discharge, and are shown the relevant sections.

Mismanaged minors can have major implications!



Patient Scenario SIX

Ellie (aged 14) presents to the ED with her mum. She developed sudden onset severe pain in her right shoulder after twisting to put her jumper on. She has Ehler Danlos Syndrome (EDS) and is worried her shoulder is dislocated.



The Management

Ellie is wearing a sling from home. She tried her best to move her arm as the doctor asked, but was limited by pain. The contour of her shoulder appeared normal and she had normal skin sensation over the upper arm. The junior doctor ordered an X-ray to rule out dislocation - which was normal. Ellie was told that her shoulder was not dislocated and that everything was normal. She was advised that the sling was not needed and discharged home.



The Patient Journey

Ellie felt upset when she got home as she often has done when she presents to the ED. This had been her 15th visit and 15th X-ray of her right shoulder. She knows her right shoulder is prone to slipping out of place because of her EDS. She had tried to manage her symptoms with painkillers and using a sling at home but feels everytime she goes to ED they just X-ray and dismiss her. Her mum is again disappointed by Ellie's care.



What would you do differently?



The Medicolegal Outcome

Ellie's mum makes a complaint to the ED regarding their dismissive attitude and lack of understanding of her daughter's condition. She is also advised by a medicolegal lawyer that radiation exposure due to unnecessary X-rays could increase her daughter's risk of cancer.



Replaying the Scenario

The junior doctor notes Ellie's EDS - asking her about how it affects her and which professionals are involved in her follow-up. After a thorough examination, the doctor tells her the shoulder is not dislocated but that it may still be subluxed or have gone back into place but that this is difficult to tell as her muscles are sore from the spasms. They explain an X-ray is unlikely to give them any more information, which Ellie and her mum agree with.

After discussion with the ED consultant, an email is sent to her Orthopaedic consultant to highlight these repeated attendances. Ellie feels listened to and is discharged home with advice to rest, use her sling as needed and return if she develops worsening symptoms. Her Orthopaedic consultant arranges a written care plan for Ellie to take to ED with her on future visits. An alert is put on the hospital system.



Key Learning Points

- ★ EDS can cause recurrent subluxations. These are painful and can be debilitating.
- ★ Patients with chronic conditions often have a care plan - ask them about this and escalate as needed.

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Patient Scenario SEVEN

George (aged 10) is brought to ED by ambulance with his dad after a fall off his bike. His left knee is painful and he has not been able to walk on it yet.



The Management

The doctor examined George's knees. The left knee was held in extension and swollen compared to the right but with no skin breaks. George could straight leg raise but could not flex the knee. An X-ray was performed which showed no fractures. The doctor told George that his X-ray was normal and that his knee was just bruised. They encouraged him to rest, take painkillers as needed and gave him an exercise sheet for when the swelling had resolved.



The Patient Journey

George's dad carried him to the car. This had been the first time George had crashed his BMX bike on the race circuit and despite wearing full padded gear he still seemed to have really hurt his knee. He rested on the sofa for a few days and was able to manage with some crutches borrowed from a relative. With ongoing knee instability months later he visited a physiotherapist. This later identified a haemarthrosis on the initial X-ray, MRI confirmed anterior cruciate rupture and meniscus tear. Despite surgical reconstruction, George had ongoing left knee problems throughout his childhood and struggled with sports.



What would you do differently?

The Medicolegal Outcome

George's parents made a formal complaint against the ED – firstly because the assessing doctor had not identified the haemarthrosis, and secondly, because this had been missed by the DFR process. An expert witness attributed George's chronic knee complaints to delays in surgery.

Replaying the Scenario

Taking a detailed history, the doctor found George was a high-level BMX racer. Given the substantial mechanism, inability to mobilise and clinical effusion, they were concerned about a significant injury. Although there was no fracture on the X-ray, the ED Consultant was asked to review him.

They identified a haemarthrosis and requested an Ortho review. George was discharged with a cricket pad splint, crutches and plans for an urgent OP MRI. This identified an ACL rupture and meniscus tear and he underwent urgent surgical reconstruction with good clinical result.



Key Learning Points

- ★ If there is a clinical effusion, get an X-ray.
- ★ If you are unsure about the findings, ask a senior.
- ★ Haemarthrosis of the knee requires urgent Orthopaedic review.
- ★ Fractures, cruciate tears and large meniscal tears are traumatic causes of haemarthrosis.

Mismanaged minors can have major implications!



Patient Scenario EIGHT

Raam (aged 15) comes to ED with his mum with lower back pain. He is athletic playing county cricket and rugby. He cannot remember any injury although the pain started after a particularly high impact cricket bowling practice session.



The Management

The doctor examined Raam, finding he was tender over his lumbar paraspinal muscles. He could flex his lumbar spine but had pain on extension. He was discharged home as a muscular sprain and told to wait a week before going back to his usual activities.



The Patient Journey

Raam is desperate to get back to training - the development team scouts are attending next week's game and he wants to play. He rests for the week as the doctor instructed and then goes back to his full activities. The pain keeps coming back whenever he exercises. He goes back to ED twice more and is given the same advice. Raam misses time off school and is behind in his GCSE coursework due to pain. He is dropped from the county team. After a few months, his dad pays for him to see a private physio who raises concern of a pars injury. He is referred onto a Sports Medicine Consultant, with MRI spine confirming L4/5 pars defect (stress fracture). He is followed up for 8 months with a graded return to activities.



What would you do differently?

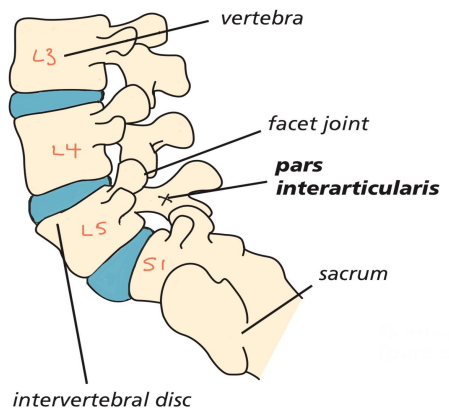
The Medicolegal Outcome

Raam's parents made a formal complaint against the ED for repeatedly failing to recognise the severity of Raam's injury. This meant he continually tried to return to previous sporting activities, prolonging his recovery and impacting upon his schooling.

Replaying the Scenario

Given Raam's high level of competitive sports, the doctor was concerned that he presented with lower back pain on extension with a history of increased load (high impact training session). This was discussed with the ED consultant who suggested an outpatient referral to the Sports Medicine Consultant and advised to rest until review.

This was arranged and MRI showed a L4/5 pars defect (stress fracture). Raam was followed up over 8 months, abstaining from sport but able to attend school. He rejoined his county teams the following year.



Key Learning Points

- ★ Beware pars injury in athletic children (classically rugby, cricket, gymnasts and dance) especially when there has been a recent change in load.
- ★ Outpatient referrals can be made via email to the Sports Medicine Consultant - please discuss this with the ED Consultant.

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Patient Scenario NINE

Anya (aged 12) attends the ED after injuring her left ankle during a dance class.

The Management

In the ED, Anya has a tender and swollen left ankle. X-ray is normal and she is discharged home with sprain advice. Five days later, she returns with a burning sensation, making her unable to weight bear. Repeated X-rays were again normal and she was discharged with crutches and advice. She attends a third time with this pain, and is advised to continue simple analgesia and see her GP if her symptoms persist.

The Patient Journey

6 weeks later Anya returns to ED with a wrist injury after hitting a door frame. She cannot move her wrist and cannot bear anyone to touch it. She is in a wheelchair and cannot walk due to the ongoing pain in her foot. Her mum is worried and tells you she has become withdrawn, refusing to leave the house or go to school.

Anya was referred to Orthopaedics, who arranged an urgent review in a Sports Medicine clinic. She was also referred to Physiotherapy and OT. A diagnosis of Complex Regional Pain Syndrome (CRPS) was made. She made a slow recovery, missing a year of school, and needed ongoing psychological support.

What would you do differently?



The Medicolegal Outcome

Anya's life was significantly impacted by the delayed diagnosis of her CRPS. Her parents made a formal complaint to the ED. They felt there were missed opportunities to refer Anya to a specialist and that they were falsely reassured that her pain was within normal limits after a simple ankle sprain.



Replaying the Scenario

When Anya attended for a second time with worsening burning pain in her foot, the doctor seeing her was concerned that this was an unusual presentation. They also noted and documented signs of swelling, erythema, allodynia and hyperalgesia. The doctor asked their ED Consultant for guidance. They advised against further imaging and recommended a referral to Orthopaedics.

Anya was referred to a Sports Medicine Consultant, who arranged intensive physiotherapy and ensured the family were well informed about CRPS and how to manage it over time. The prompt referral from ED meant that Anya's condition was resolved over several months.



Key Learning Points

- ★ Beware children with unusual presentations of pain after a minor injury.
- ★ If you are unsure about your findings, ask for a senior review.
- ★ Chronic Regional Pain Syndrome (CRPS) is rare, but early diagnosis affects recovery and prognosis.

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Patient Scenario TEN

Daisy (aged 8) is brought to the Children's Emergency Department by her parents. She has been accidentally hit in the face by her brother with a rounders bat, knocking out her upper left front tooth.

The Management

The family found the tooth and wrapped it in tissue, which they gave to the triage nurse on arrival.

The ED doctor saw Daisy immediately, noting the upper left central incisor had been dislodged and contacted Max Fax for review. Daisy had no other visible injuries, and analgesia was given.



The Patient Journey

The Max Fax SHO arrived 30 minutes later and found that Daisy's tooth had been wrapped in tissue since the avulsion occurred.

Reimplantation was attempted as it was a secondary tooth, but was unsuccessful due to the prolonged extraoral dry time. This resulted in Daisy having her tooth removed by a Dentist several weeks later.

What would you do differently?



The Medicolegal Outcome

Daisy's quality of life was significantly impacted by the failed re-implantation and she required ongoing extensive dental work. Her parents felt this could have been avoided with better management in the ED.

A medicolegal claim was made, with an expert witness suggesting that the poor storage of Daisy's tooth and prolonged extraoral dry time affected the outcome.



Replaying the Scenario

The doctor followed their local Dental Injuries in Children guideline: On arrival to ED, it was noted the displaced tooth was a secondary tooth. Daisy's tooth was immediately placed in cold milk for storage and Max Fax were contacted for urgent review.

They attended 15 minutes later and were able to reimplant Daisy's tooth in the ED. She had follow up with her local dentist, who were pleased that the reimplantation had been a success.



Key Learning Points

- ★ Extraoral time significantly affects the success of reimplantation. These children should be seen promptly.
- ★ Replace the tooth back into the socket, or held within cold milk. An older child could potentially hold the tooth in their mouth.
- ★ Contact the Max Fax team for urgent review.

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