J. De Bois PAEDIATRIC TRAUMA

Elective report

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Objectives

1. To compare and contrast the differences in trauma presentations between South Africa and the UK.
2. To compare and contrast the resources available at RCCH in Cape Town for trauma management compared to the UK
3. To gain experience dealing with trauma cases in children
4. To become confident in the initial assessment and management of children and to produce an elective report including elements of reflection.

ELECTIVE REPORT

1. **To compare and contrast the differences in trauma presentations between South Africa and the United Kingdom, (UK).**

I saw a variety of trauma cases during my time at Red Cross Childrens Hospital, (RCCH). The most common were fractures, burns and polytrauma.

Fractures in children were usually from falls, as is also common to the UK. However, management differed. Wherever possible fractures were treated in the unit, with sedation and reduction. This is a contrast to the UK, where children are admitted and subject to general anaesthetic.

I saw a large number of burns patients. Burns are the third most common cause of trauma in children, and the number of cases presenting to hospital increased between 2008 and 2011 (Child Accident Prevention Foundation of South Africa (CAPFSA), 2012). The most common cause was the child pulling on a boiling kettle cord. Data compiled by CAPFSA showed that 76% of all burns were caused by fluid, 10% by heat contact and 8% by flame, (CAPFSA, 2012). The problem is compounded by informal housing, where paraffin is commonly used and supervision of children is poor compared to the UK.

Polytrauma was primarily the result of motor vehicle accidents and had high morbidity and mortality. I also saw a lot of non-accidental injury, (NAI). Although this was difficult to deal with initially, it has given me an understanding how to assess a child with a potential NAI.

2. To compare and contrast the resources available at RCCH in Cape Town for trauma management compared to the UK.

Addressing this objective requires a brief overview of each health care system. Both South Africa and the UK operate private and public health care systems, and in both, the majority of citizens utilise the public systems; in South Africa 84%, (SouthAfrica.info, 2012), and in the UK estimates range between 84-88%.

In 2011, total spend on healthcare in South Africa was R248.6 billion (8.3% GDP). 48.5% was spent in the private sector, and 49.2% in the public sector, (SouthAfrica.info, 2012). By contrast, in the UK, total spend on healthcare accounts for 9.4% of GDP, (Payne, 2013). In 2011, public healthcare accounted for 82.8% and private for 17.2%, (Payne, 2013).

The larger proportion of spending on private healthcare in South Africa inevitably leaves the public sector underfunded.Its public healthcare was ranked 175th worldwide, whilst the UK was ranked 18th, (World Health Organisation, 2000).

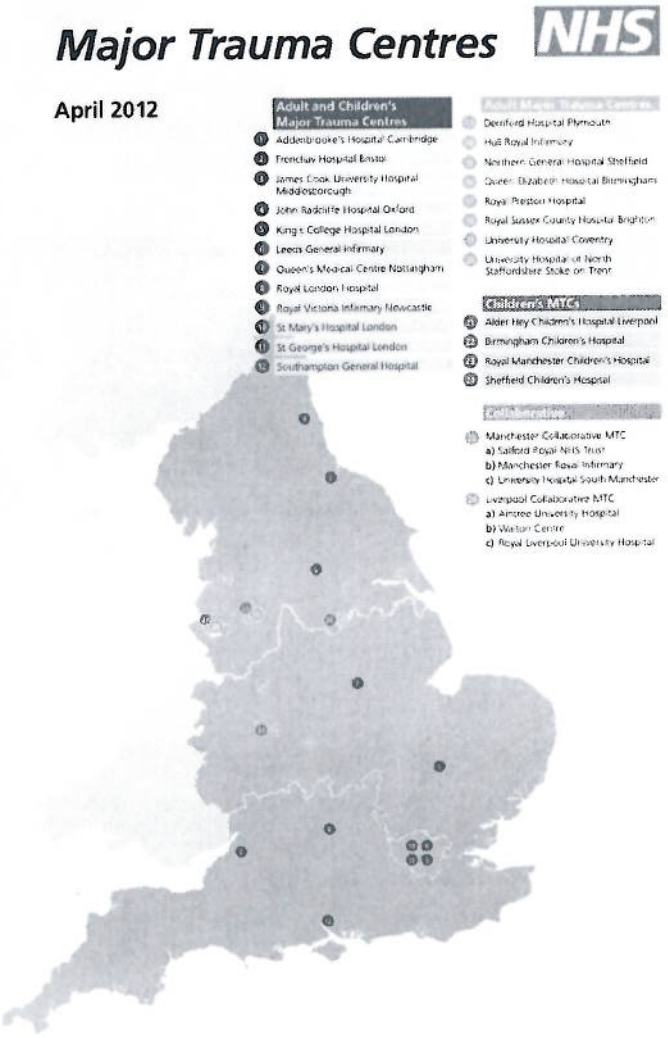
However, although RCCH is a public hospital, it receives funding from private companies and charities. The resources available for trauma in RCCH are therefore excellent. The trauma room had advanced equipment such as the LODOX machine, (a low density imager that was used primarily to

scan victims of motor accidents), a resus bed and rapid access to imaging and a dedicated trauma theatre.

Although the UK centres have far more in terms of physical resources such as more dedicated paediatric resus bays, and the latest operating equipment, the Red Cross Hospital's best resources lie in the experience of its doctors. As paediatric trauma is so much more common in South Africa than the UK, the doctors are more experienced in dealing with it.

Resources are focussed on population needs. For example, the trauma unit stocks large quantities of "Burnshield", a specialist dressing for the immediate management of burns, as well as other dressings. Doctors are well trained in treating children in Gallows traction, as there is a high incidence of femur fractures caused by motor vehicle accidents.

The organisation of trauma services in both countries merits discussion. The NHS operates a trauma network, compromising major trauma units, including some children's centres. Major polytrauma is either sent straight to the trauma centre or stabilised at a non-specialist centre before transfer. Similarly, in the Western Cape, all major polytrauma is directed to Red Cross Children's Hospital.



Source: *http://www.nhs.uk/NHSEngland/AboutNHSservices/Emergencyandurgentcareservices/Documents/2012/map-of-major-trauma-centres-2012.pdf*

Management of minor trauma differs. In the UK, the emergency room is a single point of call for both trauma and medical emergencies in most hospitals. By contrast, in RCCH, children are triaged at the front desk into either trauma or medicine.

3. To gain experience in dealing with trauma cases in children.

Prior to coming to RCCH, I had little experience in dealing with trauma and none of paediatric trauma. I wanted an understanding of what paediatric trauma is and how common cases are managed.

My experience here has been exceptional. I have seen a wide range of trauma, including burns, MVAs, fractures, falls, head injuries and sadly, one stabbing. I have learnt how these children are managed and what differentiates trauma from other medical emergencies.

I have been able to perform an initial assessment on MVA victims, form management plans and assist in treatment. Similarly, with burns victims I am now confident in estimating Total Body Surface Area burnt, the depth of burn, and in the emergency and later management. I was also able to spend some time in burns theatres and on the intensive care unit, where many serious burns are treated.

A great deal of the trauma I saw was orthopaedic, and I have been able to assess injuries, decide when to order X-rays and suggest management plans. In many cases, I have been able to assist in carrying out these management plans, such as reduction under ketamine, manipulation under anaesthetic or placing the patient in plaster of Paris.

4. To become confident in the initial assessment and management of children and to produce an elective report including elements of reflection.

I have become confident in the initial assessment and management of children presenting with trauma, including transferable skills such as taking a focused history, communicating with children and examining for injury in an age appropriate manner.

Outside the trauma room, I have continued to develop these skills by becoming involved in a wide variety of clinics. This has also given me insight into the long term sequence of trauma - for example, malunion after trauma, or contracture and scarring after burns.

I also found these clinics really interesting as I saw for the first time congenital deformities in children, who often presented much later, and in far greater numbers than in the UK. For example, I saw children born with myelomeningocele, nail patellar syndrome and many more.

Lastly, I have become more confident in the surgical management of patients, particularly from an orthopaedic perspective. I have been able to assist in surgery of complex orthopaedic conditions, an experience I thoroughly enjoyed!

I have really enjoyed my time here, and have learnt a great deal. Having had time to reflect on my experiences, I know I will value them for the rest of my life. There are so many differences in the practice of medicine between South Africa and the UK, but the overriding principles of caring and best interest remain. I've grown in confidence and competence and have really enjoyed learning medicine in a different country, and I do hope to return to South Africa soon to work as a doctor. I

remain in awe of the doctors here, their skills and knowledge are exceptional, and they are excellent teachers.

References

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