Modern management of Paediatric clavicular fractures presenting to ED

Introduction & Background
One of the most common shoulder injuries are clavicular fractures. These injuries are considered to be the most prevalent type of paediatric fractures. An Emergency Department doctor may suspect and can even diagnose a fractured clavicle from the history and clinical examination alone with a high sensitivity. This is then confirmed through plain film radiography. These injuries are predominantly managed through conservative measures. This may include a broad arm sling (BAS)/collar and cuff sling (CAC), analgesia, written and verbal advice and a future fracture clinic follow up appointment.

Complications with these injuries are uncommon but may include pneumothoraces, neurological or vascular compromise, non-union and malunion.

Aims and method
The aims of this study were;
• To evaluate the adherence of ED staff to the current hospital guidelines.
• To evaluate the management of these fractures and Identify Possible methods of improving practice.

This was done by reviewing the notes of the patients aged 1-17 who presented to a single UK ED (Derriford hospital, Plymouth NHS trust), within 2014-2015. We then analyse the data which was entered into the notes and compare their management to current hospital guidelines.

Data
We evaluated the notes of 94 patients. As per the guidelines only 9 patients should have been referred for a fracture clinic followup, our data showed 51 patients were referred. In these clinics the management of a total of 5 patients were changed. These changes were 2 Physio therapy referrals, 1 addition of a C&C, 1 change of a C&C to a BAS and 1 change of a BAS to a C&C.

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<tr>
<th>≥ 1 criteria for referral mentioned</th>
<th>Referred to fracture clinic</th>
<th>Not referred to fracture clinic</th>
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<tbody>
<tr>
<td>No criteria mentioned</td>
<td>9</td>
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All 93 patients were X-rayed, and treated conservatively as per the guidelines.

Discussion
Having analysed this trust’s protocol for the management of paediatric clavicular fractures, we called into question the necessity of plain film radiography (x-ray).

We know from previous research that with a high degree of accuracy, ED physicians can predict the presence and even Alman classification of a clavicle fracture using clinical examination alone.

This suggests that routinely x-raying every patient with a fracture/suspected fracture might not improve the accuracy of the diagnosis or have any significant influence over their treatment plans.

Conclusion
Our data showed that there was an unnecessarily high percentage of patients being referred to fracture clinic. Furthermore, the majority of these patients were then discharged with no change to their management plan. Interestingly all of the changes made were to the management of the patients which had met the criteria for referral.

We would therefore advise the ED physicians at this hospital to adhere to the guidelines more strictly when making fracture clinic referrals.

2 Alman FL Jr. Fracture and Sprain Fractures. Philadelphia: Lippincott, 1986. 84