Re-audit of compliance with “Standards for radiological investigations of suspected non-accidental injury” performed at the OUH NHS trust.
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Background
Non-accidental injury (NAI) must be considered when a child presents with a fracture with an inappropriate history or the fracture has a higher specificity for NAI. In this situation the clinicians will request a skeletal survey to assess for further skeletal injury. In 2006 The Royal College of Radiologists and the Royal College of Paediatrics and Child Health produced the report Standards for radiological investigations of suspected non-accidental injury to ensure the best care for children with suspected NAI.

Standard
Standards for radiological investigations of suspected non-accidental injury. Target: 100% compliance.

Methodology
• Retrospective audit between January 2007 and April 2011.
• All patients who underwent skeletal survey for suspected NAI in the Oxford University Hospitals (OUH) NHS Trust.
• Patients identified via computerised radiology information system (CRIS) search.
• Each skeletal survey was assessed against guidelines from the above standards for technical quality and the radiology report.
• After an intervention a re-audit was performed from May 2011 to January 2015.

Selected results of 2nd audit
• 30% of cases were verbally communicated and documented in the report. This increased to 43% for non post-mortem skeletal surveys.
• 85% of fractures were aged.
• 87–97% compliance with the radiographic guidelines.

2nd action plan
• Reaffirm importance of documentation of communication with referrers.
• Ensure all skeletal surveys are booked correctly onto CRIS.
• All images to be reviewed by a radiologist and repeated if necessary.
• All Skeletal surveys including post mortem surveys are now performed in the Children’s Radiology department.

Selected results of 1st audit
• At least 97% compliance with the radiographic guidelines.
• Fracture aging was performed in 62% of cases.
• 2.5% of cases were verbally communicated to the referrer.

1st action plan
• Implementation of trust-wide policy to verbally communicate and document all important findings.

Value of follow up imaging

Comparison of the 1st and 2nd audit rounds

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Two trained radiographers</td>
<td>99%</td>
<td>87% (13% not recorded)</td>
</tr>
<tr>
<td>Within 24hrs next working day</td>
<td>97%</td>
<td>96%</td>
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<tr>
<td>Appropriate film markers</td>
<td>100%</td>
<td>95%</td>
</tr>
<tr>
<td>Radiographers name</td>
<td>100%</td>
<td>87% (13% not recorded)</td>
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<tr>
<td>Soft tissue/bone exposed</td>
<td>99%</td>
<td>97%</td>
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<tr>
<td>Whole of bone imaged</td>
<td>100%</td>
<td>89%</td>
</tr>
<tr>
<td>Limbs straight</td>
<td>99%</td>
<td>93%</td>
</tr>
<tr>
<td>Date and imaging modality</td>
<td>100%</td>
<td>92%</td>
</tr>
<tr>
<td>List of images</td>
<td>98%</td>
<td>98%</td>
</tr>
<tr>
<td>Fracture aging</td>
<td>62%</td>
<td>85%</td>
</tr>
<tr>
<td>Verbal communication</td>
<td>2.5%</td>
<td>30%</td>
</tr>
<tr>
<td>Non Post Mortems communicated</td>
<td>5%</td>
<td>43%</td>
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At presentation 2 weeks later rib fractures now evident

Posterior rib fractures
Metaphyseal corner fracture