Plain Skull X-ray

**Synonym: SXR**

Headache and head trauma are common presenting problems in both primary care and the Accident and Emergency department. Plain skull X-ray films (plain skull films) have largely been superseded by CT scanning and/or MRI scans in the context of both headaches and head injuries.\(^1\) This is also true in paediatric patients.\(^2\) Skull X-rays are, however, still useful in children in whom non-accidental injury is suspected to detect previous injuries.\(^1\)

There is also now useful literature on the pre-hospital management of head injury.\(^3, 4\)

**Indications for plain skull X-ray**

<table>
<thead>
<tr>
<th>When to request a skull X-ray</th>
<th>Clinical settings</th>
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<td><strong>Head injury or not</strong></td>
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<tr>
<td>Head injury</td>
<td>CT scanning is the recommended investigation and criteria for CT scanning are provided in the National Institute for Health and Care Excellence (NICE) guidance.(^1)</td>
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| Non-head injury cases        | • Presence of a palpable vault abnormality which feels bony.  
• As part of an imaging protocol for specific clinical problems - eg, skeletal survey for myeloma. Many centres now prefer bone scans for this purpose.  
• Facial views after trauma to the facial skeleton, mandible or orbit, or the possibility of a metallic foreign body. |

Skull films are not indicated routinely for the following indications:

- Headache.
- Possible pituitary problems - (CT/MRI preferred).
- Possible space-occupying lesion.
- Epilepsy.
- Dementia or memory loss.
- Middle or inner ear problems.
- Nasal trauma - coned views may be requested by the appropriate specialist.
- Sinus disease - mucosal thickening is a common incidental finding and not diagnostic.
- Temporomandibular joint dysfunction - will not show disc abnormality, which is the most common cause of dysfunction.

**Interpretation of skull films**

Skull films should be interpreted wherever possible by a doctor with specialised training and/or considerable experience in interpreting such films. In untrained hands approximately 10% of bony abnormalities are not recognised. The absence of a fracture on a skull film does not rule out the possibility of an operable intracranial haematoma in head injured patients, which is why CT scanning is the investigation recommended in significant head injuries.\(^1\) All such findings must be taken in the context of the clinical condition of the patient.
Further reading & references

- Skull X-ray for mild head injury?; Bandolier

3. Early Management of Patients with a Head Injury; Scottish Intercollegiate Guidelines Network - SIGN (May 2009)

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Document ID: 2618 (v26)
Last Checked: 11/02/2014
Next Review: 10/02/2019

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