

Diagnostic Imaging Pathways - Facial Trauma

Population Covered By The Guidance

This pathway provides guidance on the imaging of adult patients presenting with facial trauma.

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Quick User Guide

Move the mouse cursor over the PINK text boxes inside the flow chart to bring up a pop up box with salient points.

Clicking on the PINK text box will bring up the full text.

The relative radiation level (RRL) of each imaging investigation is displayed in the pop up box.

SYMBOL	RRL None	EFFECTIVE DOSE RANGE
*	Minimal	< 1 millisieverts
**	Low	1-5 mSv
4° 4°	Medium	5-10 mSv
* * * *	High	>10 mSv

Pathway Diagram



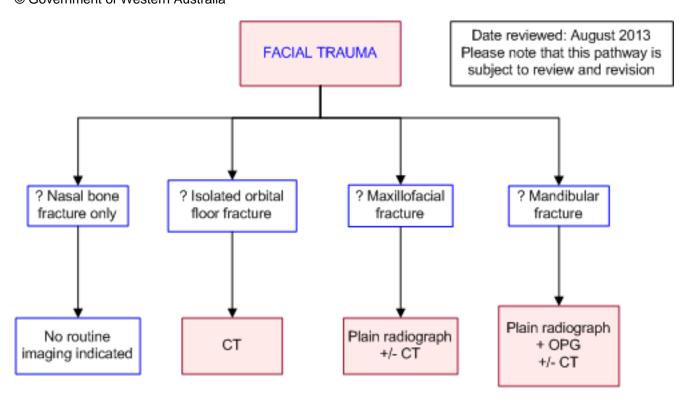


Image Gallery

Note: Images coming soon.

Teaching Points

 High-resolution Computed Tomography (CT) is considered the most important modality for imaging facial trauma

Facial Trauma

- High-resolution Computed Tomography (CT) is considered the most important modality for imaging facial trauma <u>1-3</u>
- CT is superior to conventional radiography and MRI in detecting facial fractures and is able to accurately define the direction, extent, and displacement of facial fractures 1

Plain Radiography, Orthopantomogram and Computed Tomography (CT) in Mandibular Injury

- Mandibular fractures are often imaged by conventional radiography and orthopantomogram, <u>12-14</u> which can include the entire bone on one film <u>1</u>
- Helical computed tomography has surpassed orthopantomography as the current gold standard for the radiological evaluation and diagnosis of mandible fractures <u>15,16</u>



Charalambous et al from Manchester Royal Infirmary have come up with a clinical decision rule to
reduce the need for imaging suspected mandibular fractures. 17 They identified 5 parameters
(malocclusion, trismus, broken teeth, pain with mouth closed, step deformity) presence of any of
which could identify mandibular fracture with a sensitivity of 100%. However their study needs to be
prospectively validated

Plain Radiography and Computed Tomography (CT) in Maxillofacial Injury

- A single occipitomental view can accurately identify all maxillofacial fracture requiring treatment.
 Further views are unnecessary and add little clinical value 4,5
- Consideration should be given to computed tomographic scanning with three-dimensional reconstruction of the facial skeleton for any patient found to have fractures on the Waters views 5,6

Computed Tomography (CT) in Ocular and Orbital Injury

- CT scan provides accurate information on the diagnosis and extent of the orbital floor fractures 7,8
- Plain radiographs have 30-50% chance of being false positive and thus are non-diagnostic 9,10

References

References are graded from Level I to V according to the Oxford Centre for Evidence-Based Medicine, Levels of Evidence. Download the document

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Information for Consumers

Information from this website	Information from the Royal Australian and New Zealand College of Radiologists' website
Consent to Procedure or Treatment Radiation Risks of X-rays and Scans Computed Tomography (CT) Plain Radiography (X-ray)	Computed Tomography (CT) Plain Radiography/X-rays Radiation Risk of Medical Imaging During Pregnancy Radiation Risk of Medical Imaging for Adults and Children

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