

# Diagnostic Imaging Pathways - Facial Trauma

## Population Covered By The Guidance

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

**Date reviewed: August 2013**

**Date of next review: 2017/2018**






**Published: August 2013**

## Quick User Guide

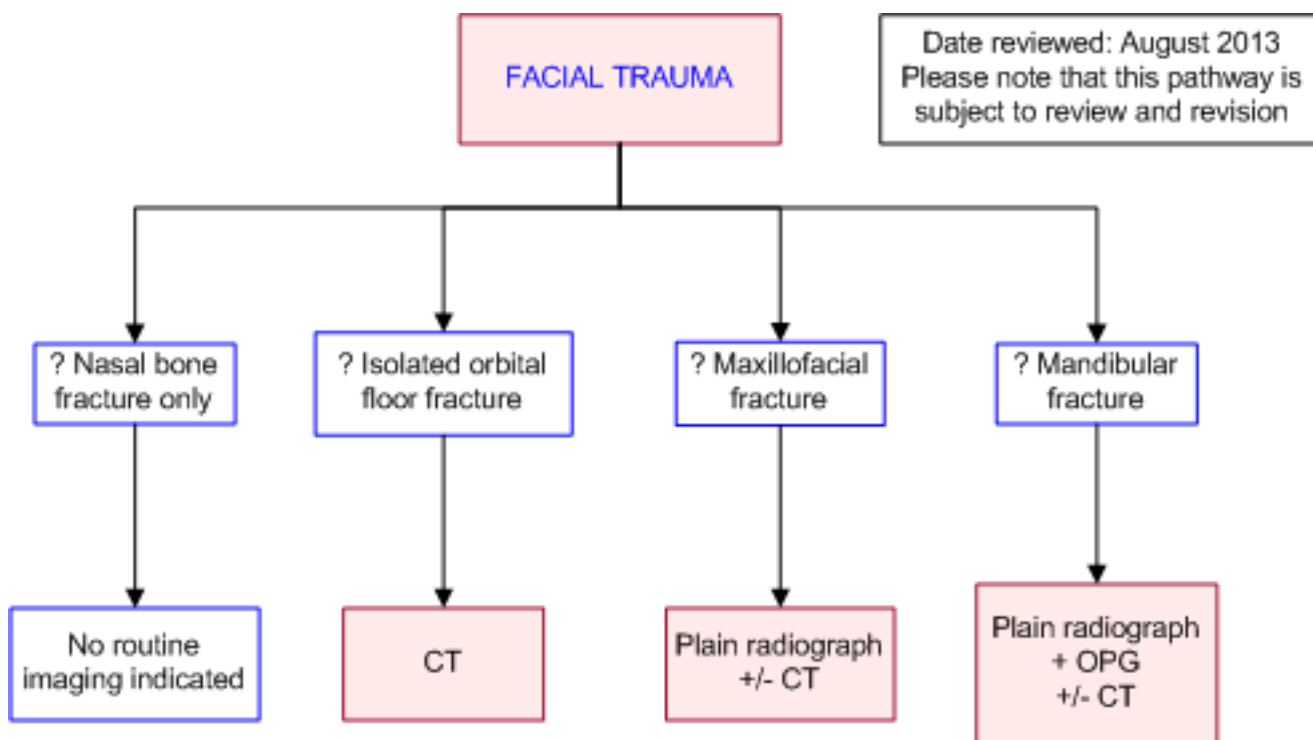
Move the mouse cursor over the **PINK** text boxes inside the flow chart to bring up a pop up box with salient points.

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     | EFFECTIVE DOSE RANGE |
|--|---------|----------------------|
|   | None    | 0                    |
|  | Minimal | < 1 millisieverts    |
|  | Low     | 1-5 mSv              |
|  | 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 [1-3](#)
- 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, [12-14](#) which can include the entire bone on one film [1](#)
- Helical computed tomography has surpassed orthopantomography as the current gold standard for the radiological evaluation and diagnosis of mandible fractures [15,16](#)

- 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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13. Moilannen A. **Primary radiographic diagnosis of fractures in the mandible.** Int J Oral Surg. 1982;11:299-303. (Level III evidence)
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|--|--|
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