

Jaw fractures and dislocation

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Approved by: Antimicrobial Stewardship and Medicines Governance Groups April 2021

Publication date: April 2021

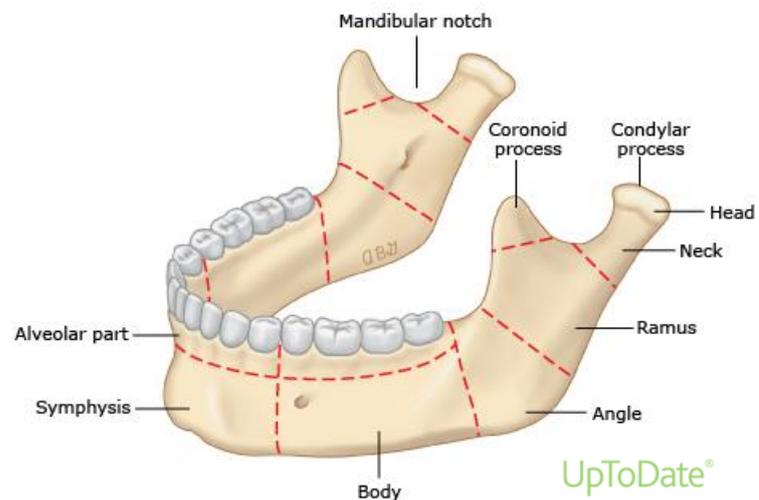
Review date: April 2023

See also: *oral injuries in <3 year (Microguide > Paediatrics & Neonatology > Paediatrics > A-Z > O)*

Background

Jaw fractures are uncommon in young children. Infants up to 2 years have a short, thick condylar neck that resists fracture. In the very young, significant force is required to cause a fracture. Inflicted injury must be considered. Seek senior opinion from CED Registrar or Consultant.

- Fractures of the condyle are most common in children < 10 years. Fractures at multiple sites occur in approx. 40-60%
- Fracture lines tend to run inferiorly and anteriorly because of developing dentition.



- Common mechanisms of injury include a fall onto the chin, direct blow to the jaw (e.g. assault or sports injury), or MTCs
- Mandibular fractures are commonly associated with chin lacerations, tooth displacement, avulsion or fractures, temporomandibular joint dislocation, and/or facial fractures
- Associated serious injuries such as intracranial injury and C-spine fractures may occur in context of major trauma. Infants and young children are more prone to this due to the significant force required to injure their relatively stable jaws.

Assessment

Children with jaw fractures may complain of:

- Jaw or temporomandibular pain
- Difficulty opening or closing the mouth
- Abnormal bite
- Pain on biting or chewing
- Numbness of lower lip and chin
- Ear pain (high condylar fractures)

In the context of major trauma assess in the usual manner according to APLS principles:
<C>, A with C-spine, B, C, D, E.

Otherwise assessment should follow LOOK, FEEL, MOVE principles

- LOOK:**
- Facial swelling or bruising
 - Chin lacerations
 - Holding the jaw to one side

 - Abnormal or reduced mouth opening
 - Swelling / bleeding or bruising inside the mouth around the teeth and gums (buccal and lingual sulci)
 - Rarely, blood in the ear canal if the condylar head has been forced posteriorly – look in ears!!
 - Step deformities in tooth line (occlusal plane)
 - Bite derangement or malocclusion – get them to bite and hold a tongue depressor

- FEEL**
- Inferior dental nerve (lower lip, chin and teeth) paraesthesia
 - Tenderness / bony irregularity / step deformities

- MOVE**
- Mouth opening and moving side to side
 - Tooth or jaw segment mobility

Pitfalls

- ! If the mucosa is intact, clinical findings may be limited to bruising.
- ! If the mandibular branch of the trigeminal nerve (the inferior alveolar or mental nerve) has been injured, there will be paraesthesia or anaesthesia of the lip and chin. Documenting this and any damage to the marginal mandibular nerve branch of the facial nerve is important *before surgery*

The diagnosis of mandible fracture is supported by:

Malocclusion	Deviation of the chin to the fractured side (displaced condylar #)
Ecchymosis or laceration of the floor of the mouth	Pre-auricular swelling and tenderness (condylar #)
Gross malalignment or mobility of mandibular segments	Posterior displacement of the mandible (bilateral #)
Inability to bite down and hold a tongue depressor with the teeth	Tooth fracture
Mucosal or gingival lacerations	

If normal range of motion, no acute malocclusion, and no bony tenderness - very low risk for significant mandibular injury

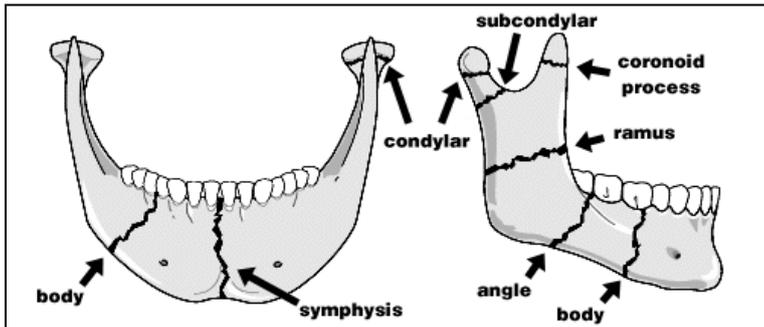
Imaging

Plain X-rays are the imaging modality of choice in the absence of major trauma.

Perform two views

1. OPG
2. PA mandible

Where to look for fractures:



Remember 50% are BILATERAL

Tooth Avulsion

Chest X-Ray is mandatory when a tooth has been avulsed and is unaccounted for when there has been a period of loss of consciousness.

Management

Any jaw fracture in children should prompt referral to OMFS (Oral and Maxillofacial Surgery or Max Facs team).

In hours: bleep Max Facs (OMFS) SHO

Out of hours: contact the Trauma Coordinator at QVH East Grinstead. They will review images and provide a plan.

Jaw fractures with associated heavy bleeding, large intraoral hematoma, or hematoma extending into the neck → contact ENT and Anaesthetics urgently to assist with securing the airway

- Most children with closed fractures e.g. condylar # will be treated conservatively and discharged home awaiting OMFS follow up, unless there is another reason for admission.
 - ✓ Advise analgesia, liquid diet unless fasting for theatre, and to re-attend if excessive bleeding or difficulty breathing.
 - ✓ There is no indication for antibiotic prophylaxis for condylar # if closed.

- Open fractures (any # in the region of the teeth) will usually be managed with ORIF under general anaesthetic.

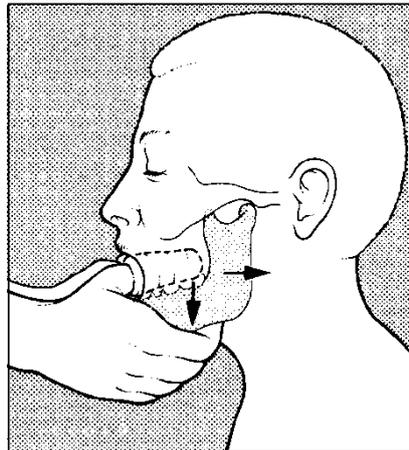
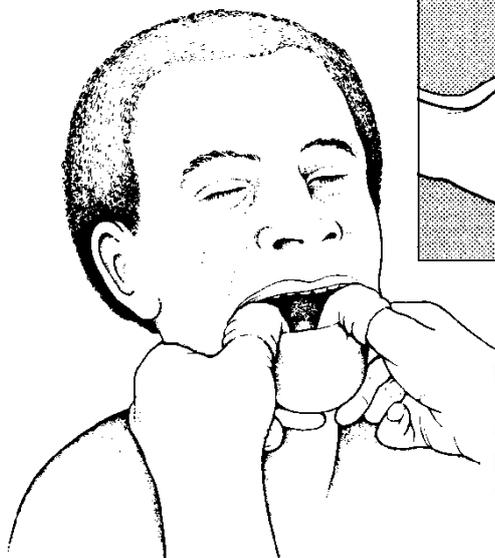
If the fracture is open, or associated with dental injuries or major trauma, give oral or IV antibiotic prophylaxis. First choice antibiotic: co-amoxiclav (see BNFC for doses). Penicillin allergy alternative: clindamycin (see BNFC for doses)

Jaw dislocation

Not uncommon, especially in adolescents

- Overzealous yawn
- Unable to close mouth
- Pain++

REDUCING A DISLOCATED JAW



press his premolar
teeth downwards,
at the same time
press the underneath
of his chin
upwards and backwards