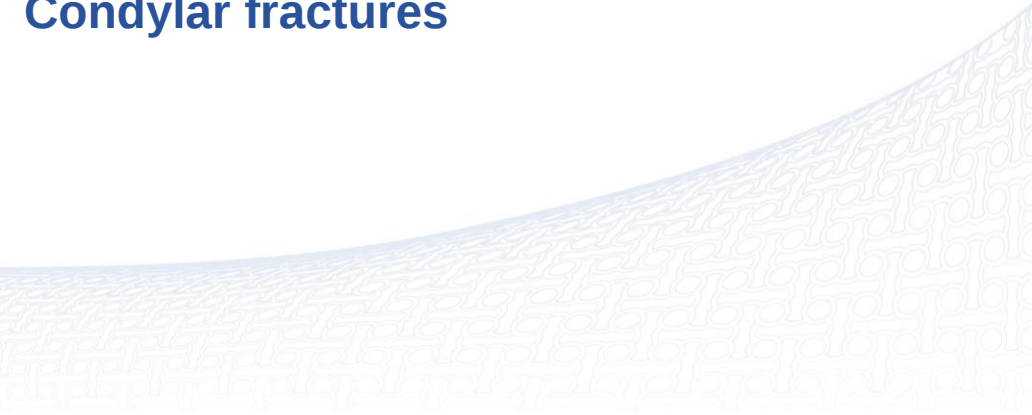


Condylar fractures



Version 2 (December 12, 2018)

Faculty can add a clinical or imaging picture

Learning objectives

- Describe different types of condylar fracture
- Discuss signs and symptoms
- Select appropriate imaging modalities and interpret the findings

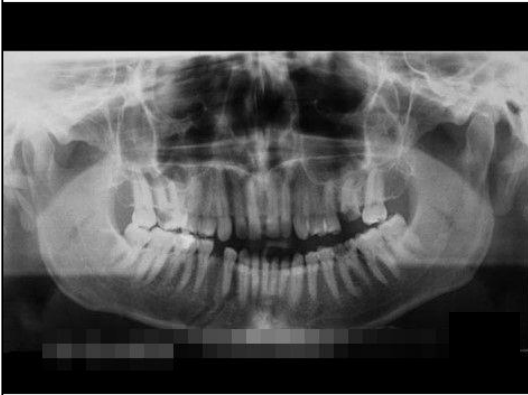
Clinical findings

- Pain
- Altered mouth opening
- Malocclusion



Comment on the most frequent occlusal disturbance and why there is early molar contact on the fracture side

Diagnosis

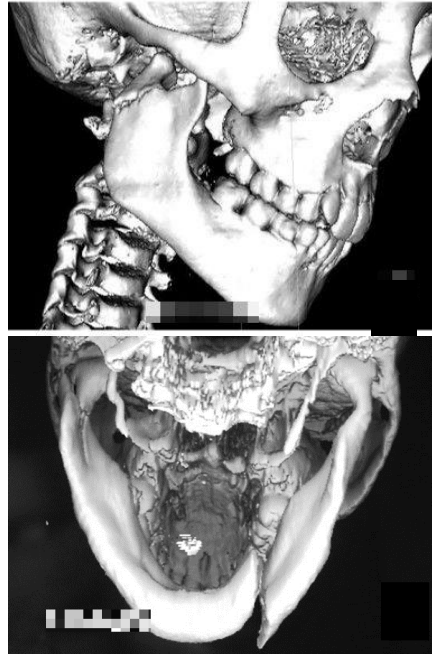


Plain x-rays may give limited information

Diagnosis



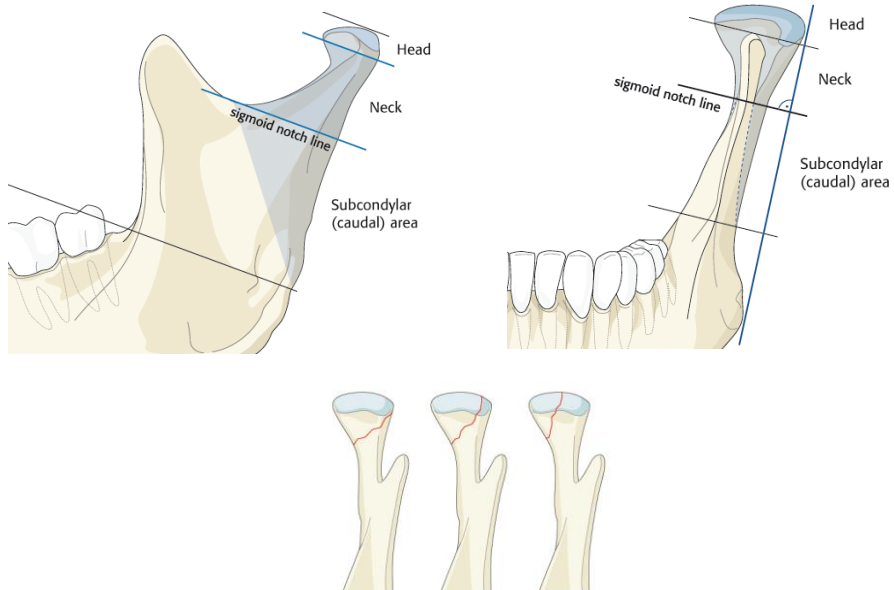
CT scans often provide more detail



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Comment that the reason of a medial condyle displacement is because the lateral pterygoid muscle classically will pull a condylar fracture medially

Classification



Intracapsular fracture classification



- What is meant by a subcondylar fracture, neck fracture, etc?
- Different types of condylar head fracture and many different classifications.

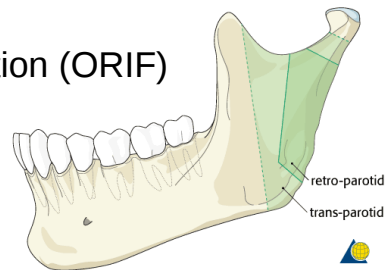
Management

Nonoperative:

- Observation, physiotherapy, etc

Operative:

- Closed procedures:
 - Maxillomandibular fixation (MMF) (arch bars or screws—elastic or wire)
- Open reduction and internal fixation (ORIF)
 - Approach is determined by:
 - Surgeon preference
 - Fracture location



 AOCMF

Describe that closed procedures can mean firm or loose (elastic guided) MMF or a combination

Indications for ORIF

Absolute (Zide and Kent):

- Displacement of condyle into midcranial fossa
- Foreign body in joint space
- Complete lateral dislocation of condyle
- “No other way”

Relative:

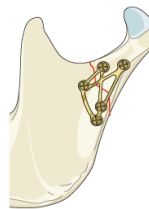
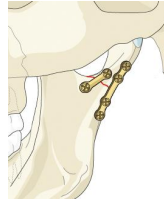
- Angulation of fracture (10–30°)
- Overlap of fragments (2–5 mm)
- Severe displacement of fragments
- Panfacial fractures (to restore lower face height)



- Controversial area.
- Absolute indications described by Zide and Kent (Zide MF, et al. Indications for open reduction of mandibular condyle fractures, *J Oral Maxillofac Surg.* 1983).
- No other way to treat the patient—debatable?
- Angulation of fragments is a debatable point—some papers suggest anything more than $> 10^\circ$ angulation and fracture should be fixed (others state $> 30^\circ$).
- Similarly overlap of fragments—some suggest > 2 mm or more and fracture should be fixed because of loss of posterior ramus height, others state > 5 mm).

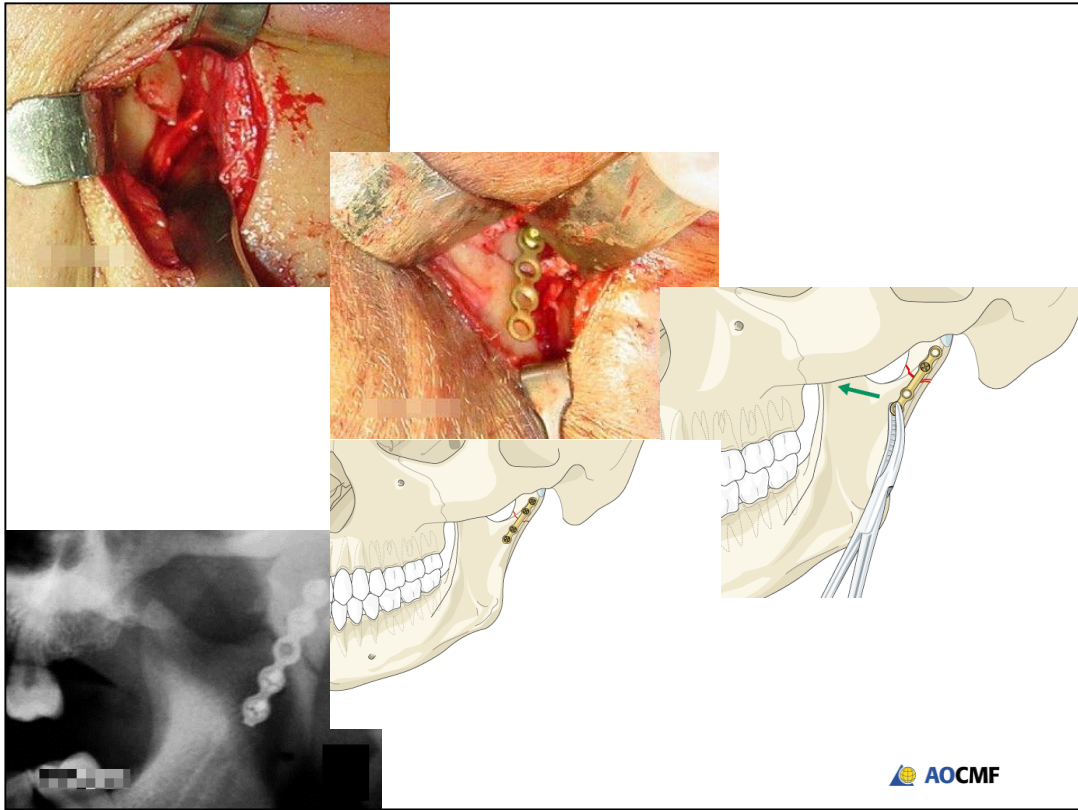
ORIF options

- One plate (larger)
- Two plates
- Hybrid plate



 AOCMF

- ORIF choice of one plate or two.
- Now there are a variety of hybrid plates—an example is shown.



Left condylar fracture treated with a single miniplate.

Note: This single miniplate may not be the ideal form of fixation in this case.

Leaving a blank screw hole is not as preferable as using a formal spaced plate.

A thicker plate would be preferable as a single miniplate.

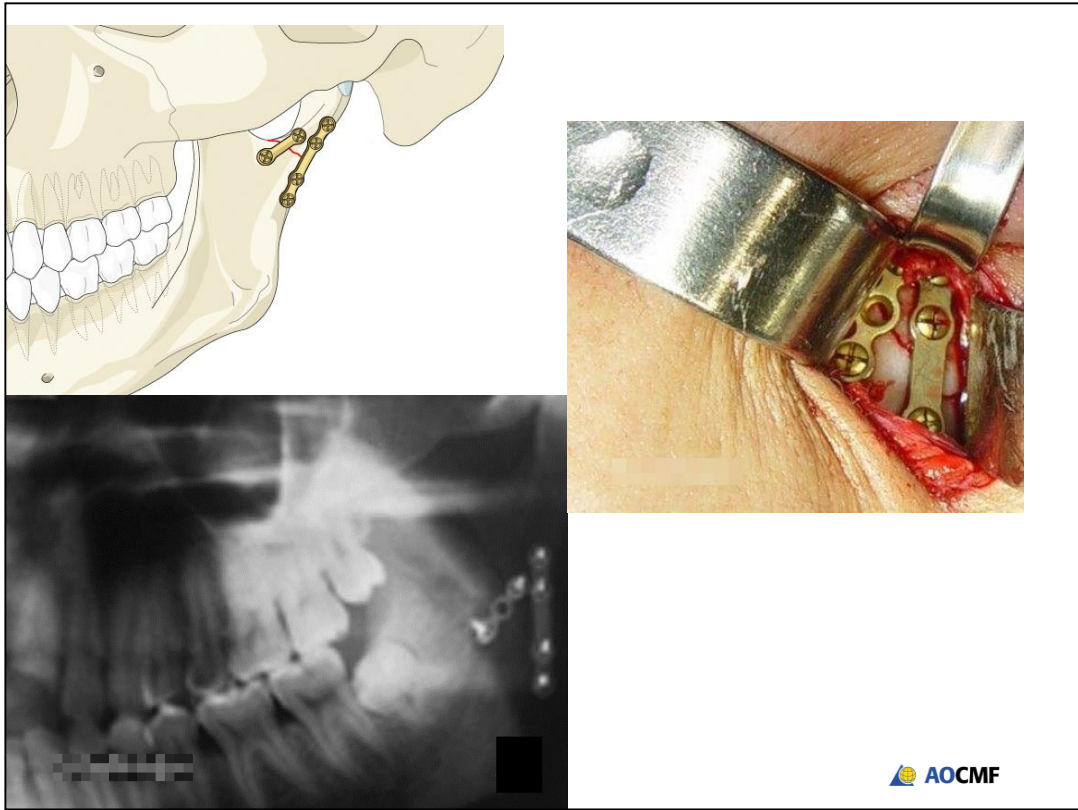
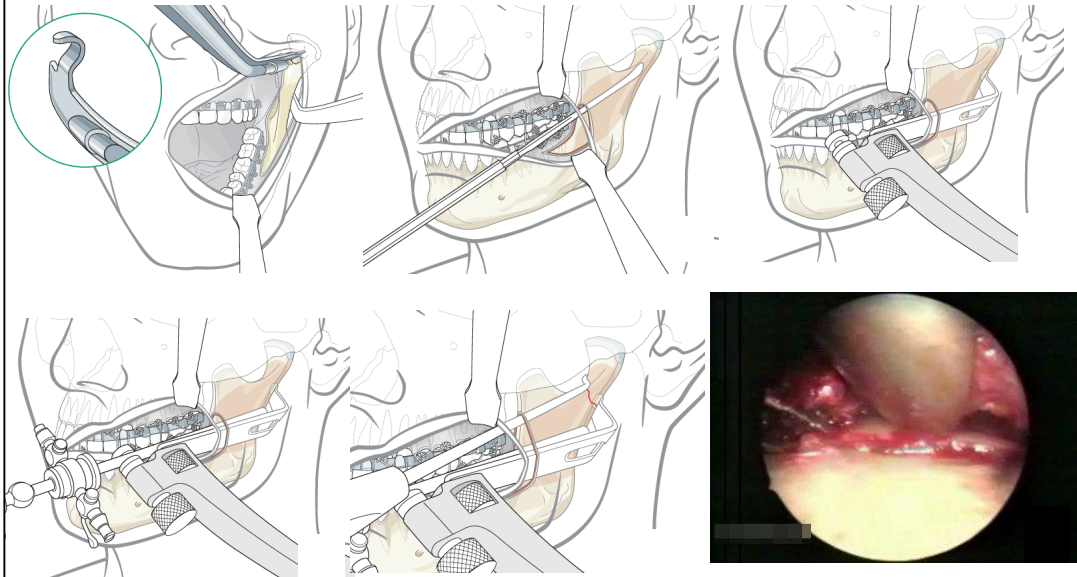


Plate at sigmoid notch and stronger plate at posterior.

Comment that hybrid plate provides the same stability as double plating.

Endoscopic



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- In selected centers endoscopic or endoscopic-assisted ORIF may be performed.
- Requires specialized equipment and operative skills.

Rehabilitation

- Early active mobilization
- May require physiotherapy

Take-home messages

- Assess fracture carefully:
 - Clinically and radiologically
- Treatment plan
 - Nonoperative vs operative
- Operative:
 - Closed (MMF)
 - ORIF
- Rehabilitation