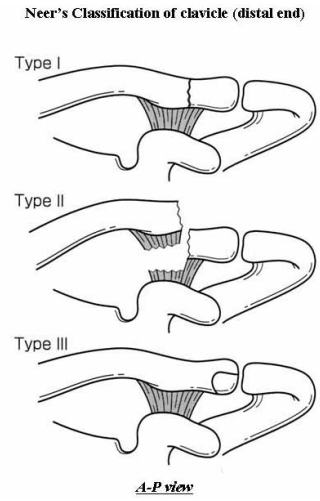
Clavicle Fractures

Introduction

- Common - 5% adult #s, most common paed #.
- Usually caused by a fall onto the lateral shoulder (often sports), direct blow or FOOSH.
- Occasionally seizures or pathological - tumour, infection, A-V malformation
- In the neonate Cx of breech delivery or shoulder dystocia.
- Clinically usually tender with discontinuity or deformity of clavicle palpable
- XR: AP (± CXR – pneumothorax)

Fracture classification



Allman Group classification

I. Middle 1/3 fractures ~ 80%
II. Distal 1/3 fractures ~ 15% - subdivided by the Neer Types:
    I. Non-displaced/minimal displacement; intact ligaments.
    II. Displaced; the coracoclavicular ligament ruptures and the medial segment of the fractured clavicle displaces upwards.
    III. Articular surface fractures (involving ACJ).
III. Proximal 1/3 fractures ~ 5%

Management

Broad arm sling (or collar & cuff) until comfortable. Healing 6-8w (child 3-4w).
Analgesia.
Fracture clinic or GP F/U.
Mobilization exercises/physiotherapy.

Indications for surgery (plate±bone graft or Knowles intramedullary pin)

- Open fracture
- Severe displacement threatening the integrity of the skin
- Floating shoulder with a displaced clavicular fracture and an unstable scapular fracture
- Multiple trauma
- Displaced Neer Type II fracture
- NV injury that fails to reverse with nonop management
- Unable to tolerate closed management - rare- e.g. Parkinson's, seizures
- Unacceptable cosmesis

Complications

- Skeletal AC and SC dislocations
- Brachial Plexus injury/compression
- Subclavian vessel or thoracic outlet compression
- Pneumo- or haemothorax
- Non-union:
    - Rare ~ <4% - inadequate immobilisation, re-#, distal 1/3 #, marked displacement
    - Mx: surgery
- Malunion
    - Children remodel
    - Adults do not remodel – surgery
- Post traumatic arthritis - following intra articular fracture at either end.