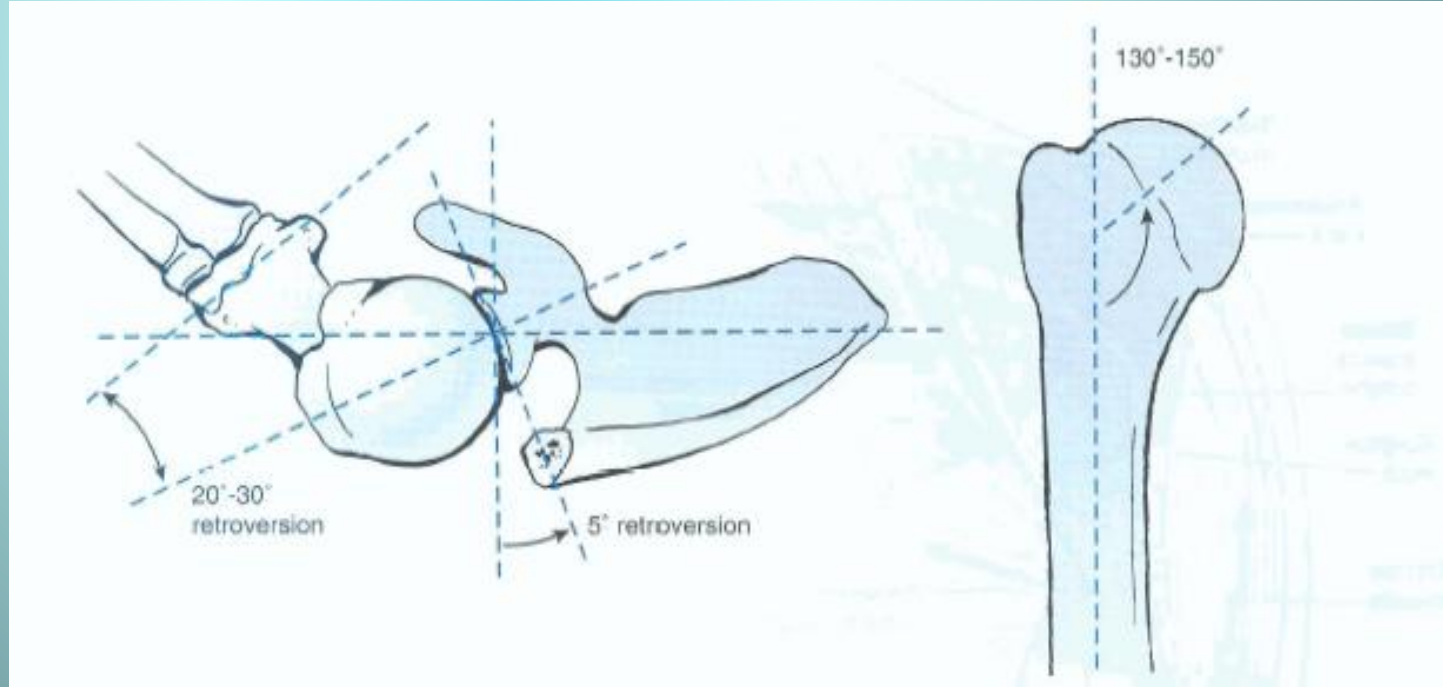


Shoulder arthroplasty , Indications

M.N. Naderi, MD

Anatomic Variables to Consider

- Glenoid : 0° to 10° retroversion
- Humeral Head: 20° - 40° retroversion
- CT → a valuable pre-op planning tool



Indications for Shoulder Arthroplasty

- Osteoarthritis
- Rheumatoid arthritis
- Rotator cuff tear arthropathy
- Avascular necrosis
- Post-traumatic arthritis
- Severe proximal humeral fractures

Arthroplasty Options



Hemiarthroplasty



Total Shoulder

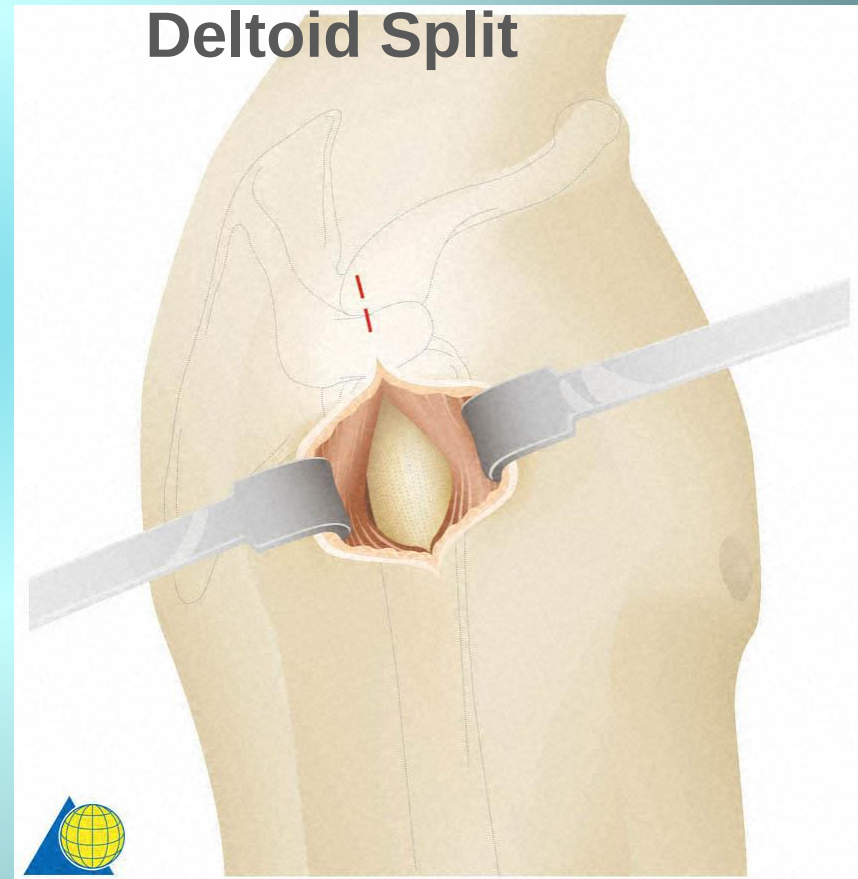
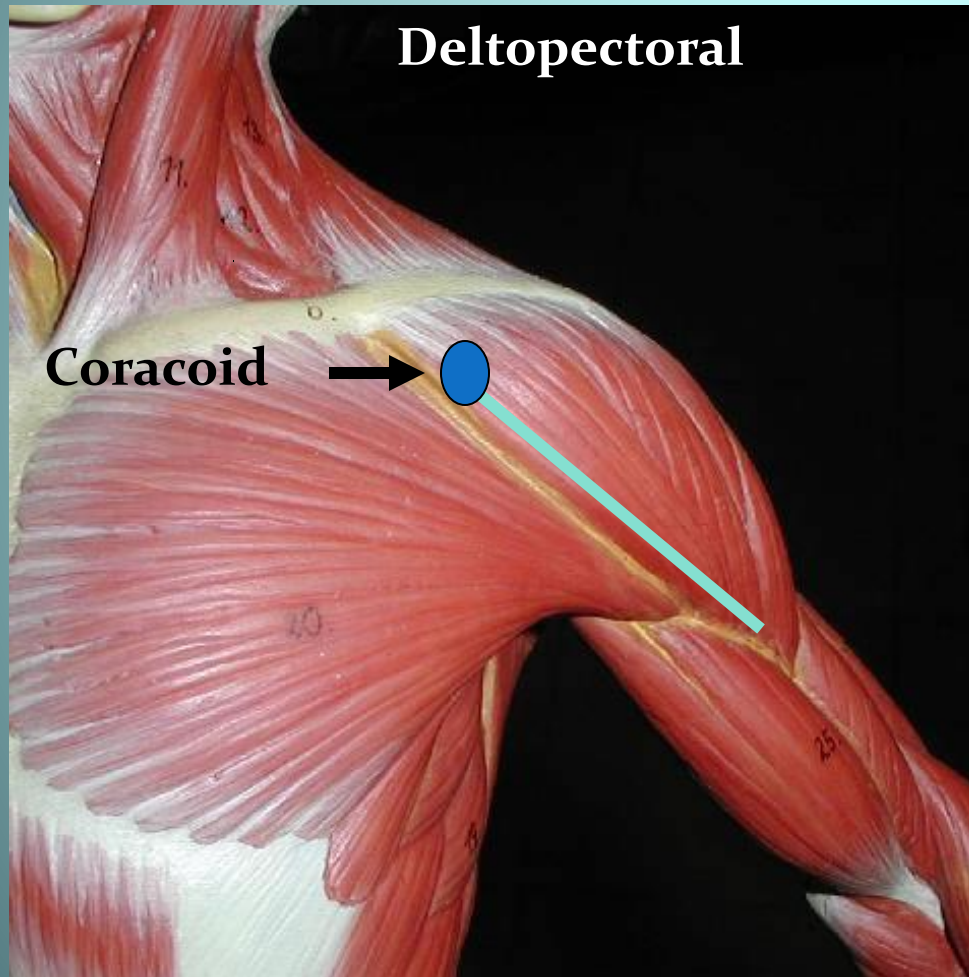


resurfacing



Reverse prosthesis

Surgical Approach



Contraindications to Shoulder Arthroplasty

- Active or recent shoulder joint infection
- Neuropathic arthropathy
- Inadequate bone stock and soft tissue coverage
- Lack of rotator cuff and deltoid function

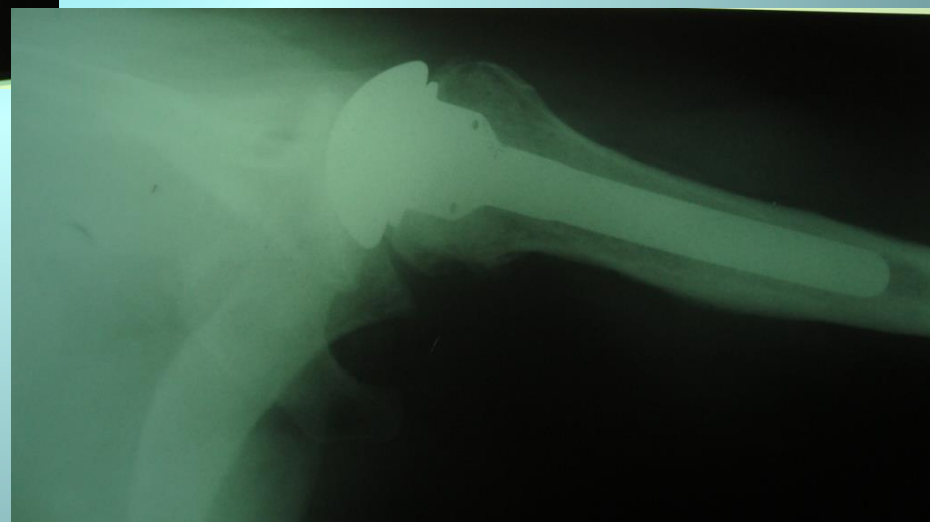
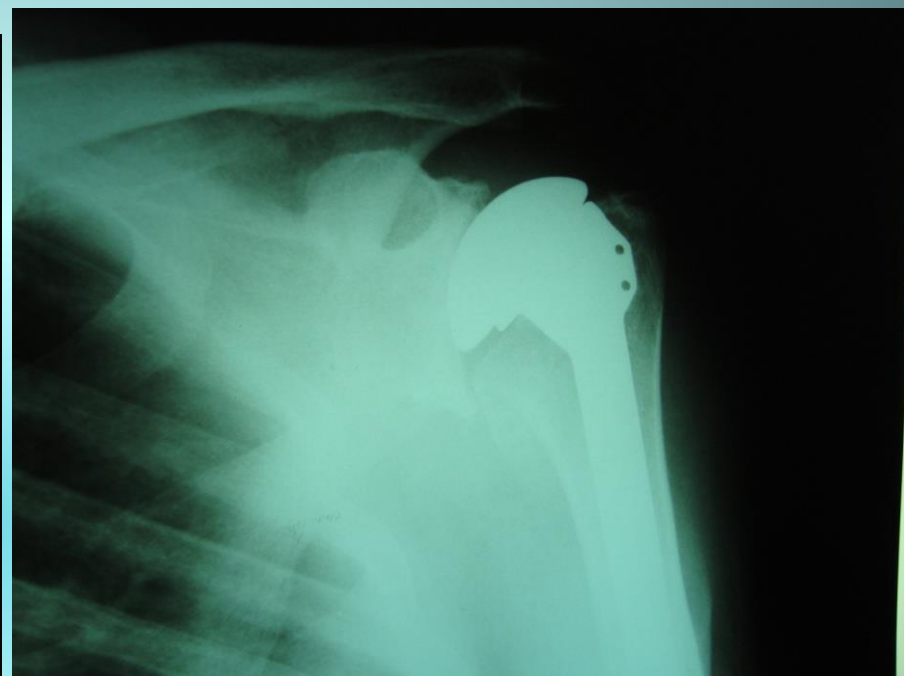
Osteoarthritis

- Joint space narrowing, cysts, osteophytes
- Posterior glenoid erosion
- Flattening of the humeral head



From: www.medicalmultimedia.com

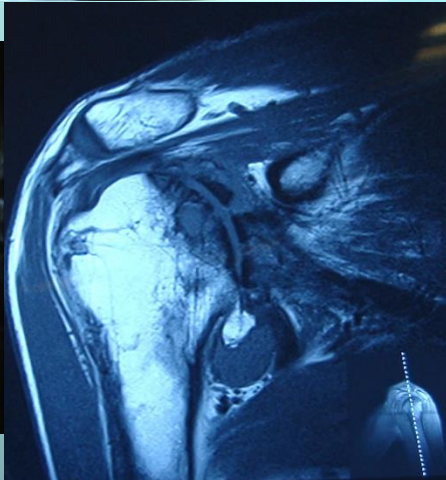
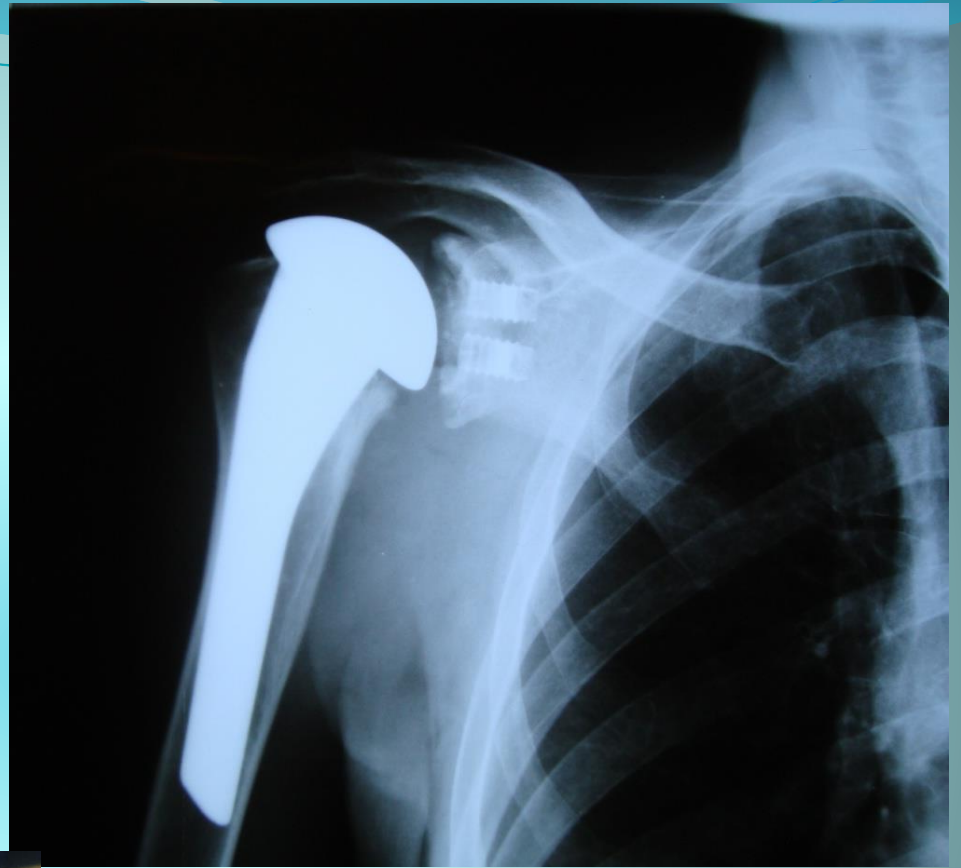
Rotator cuff tears are uncommon in OA



Hemi vs Total Shoulder

- Easy procedure
- Short Operating time
- Less risk of instability
- Can be revised to TSA
- ✗ Less reliable pain relief
- ✗ Glenoid erosion

- More consistent pain relief
- Better fulcrum for active motion
- ✗ Difficult procedure
- ✗ Longer OR time
- ✗ Polyethylene wear
- ✗ Glenoid loosening



Rheumatoid Arthritis

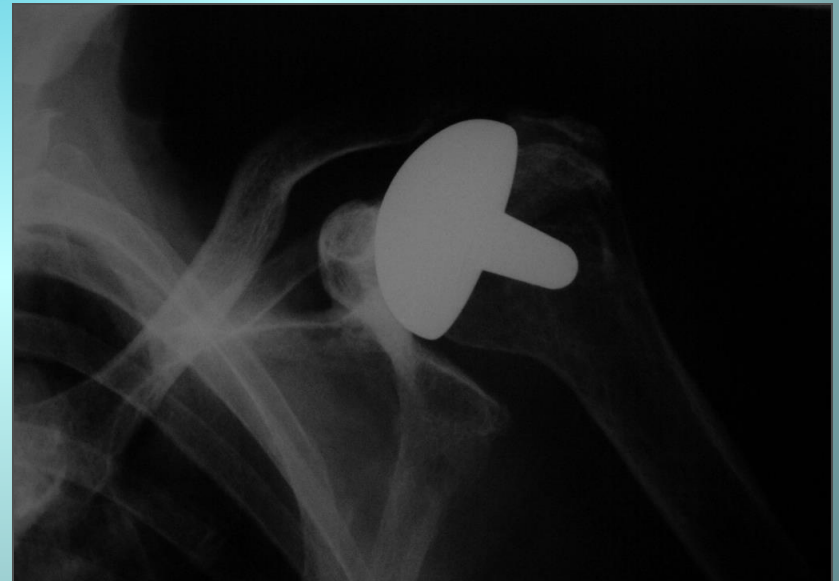
- Osteopenia
- Thin cortices
- Multiple joint involvement



- Cemented prosthesis

Rotator Cuff Arthropathy

- Massive rotator cuff tears result in proximal migration of the humeral head
- Glenoid resurfacing results in eccentric (superior) glenoid loading and early component loosening



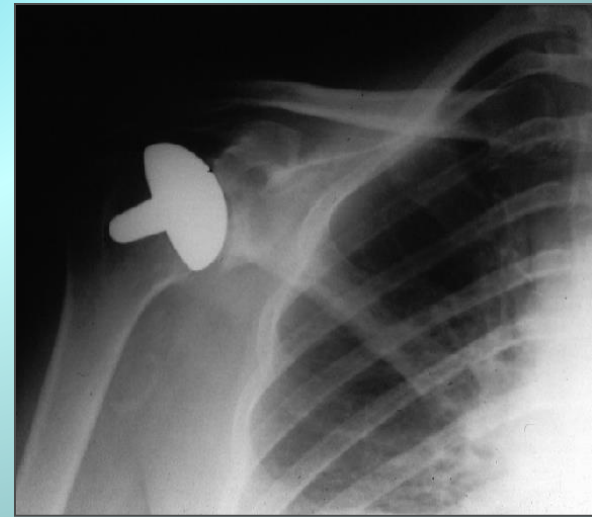
Surgical Options for cuff arthropathy

- Repair of rotator cuff and TSA
- Hemiarthroplasty with a large head
- Reverse TSA



Osteonecrosis

- Usually young patients with adequate bone stock
- hemiarthroplasty , Resurfacing
- If glenoid erosion → Consider glenoid resurface

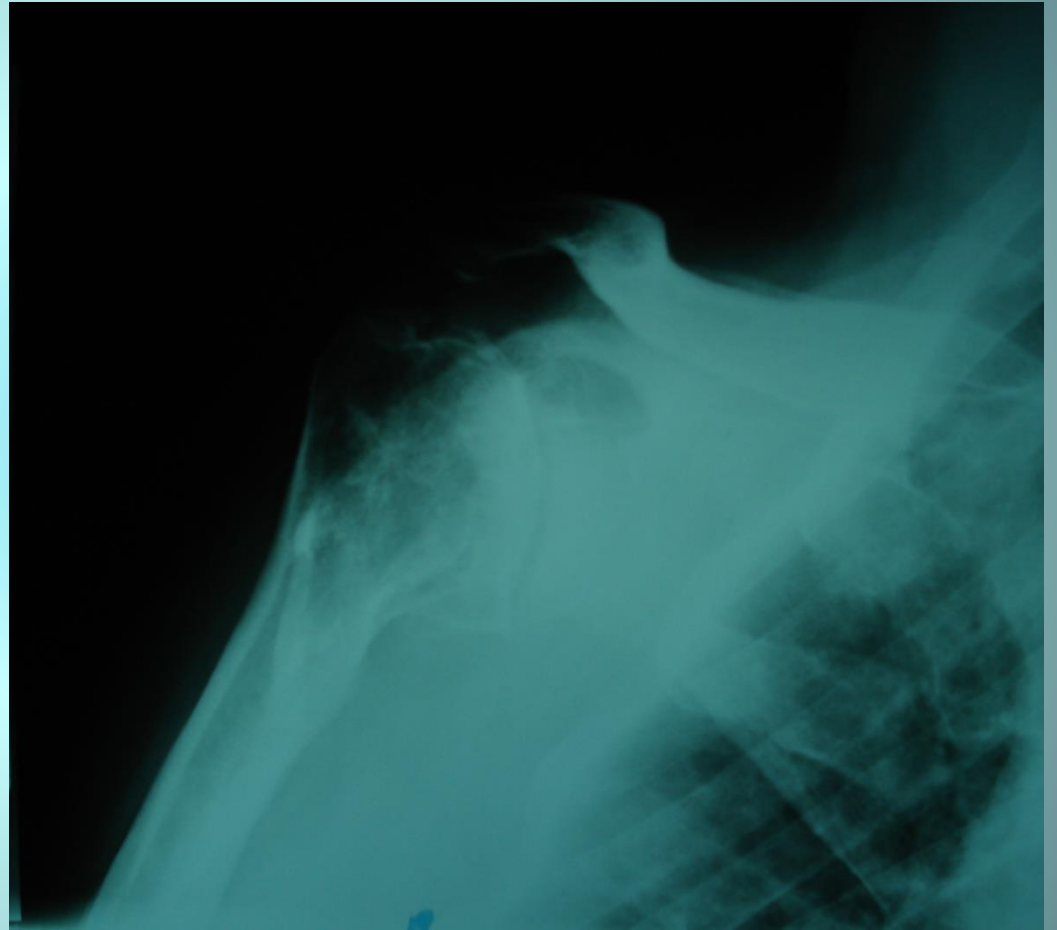


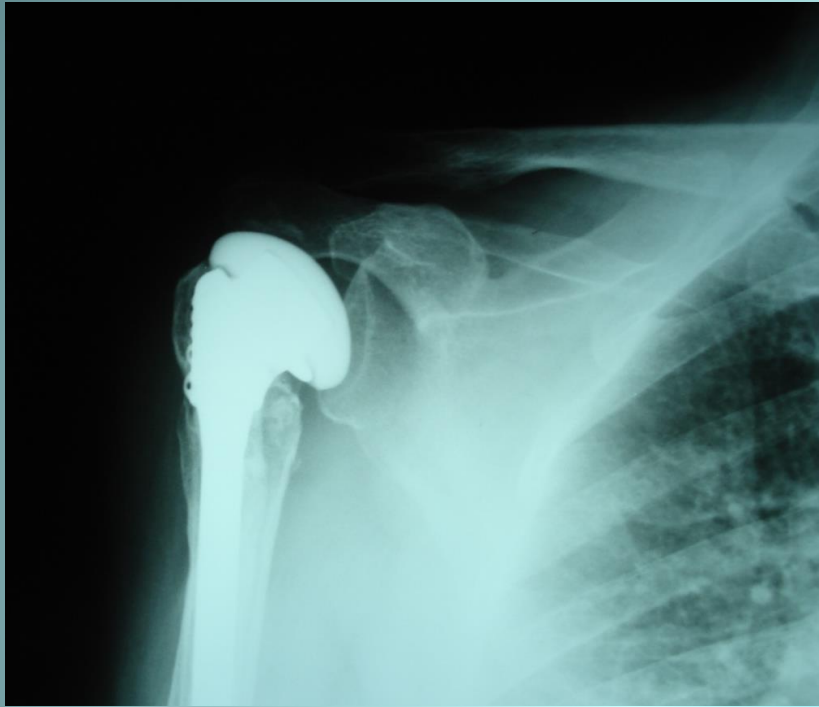
Post-Traumatic Arthritis

- May have mal-union of tuberosities
→distorting normal anatomic landmarks
- axillary nerve palsies in 10%
- Soft-tissue contractures and muscle weakness

Choice of Prosthesis

- Patient age
- Condition of glenoid surface and bone stock
- Axillary nerve palsy is a relative contraindication to arthroplasty





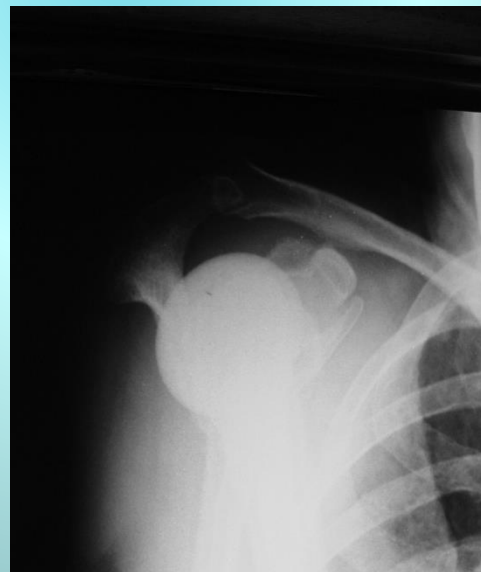
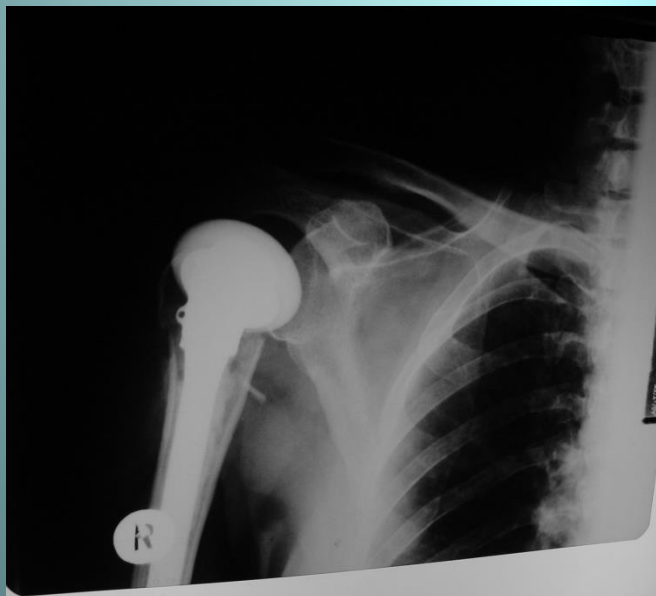
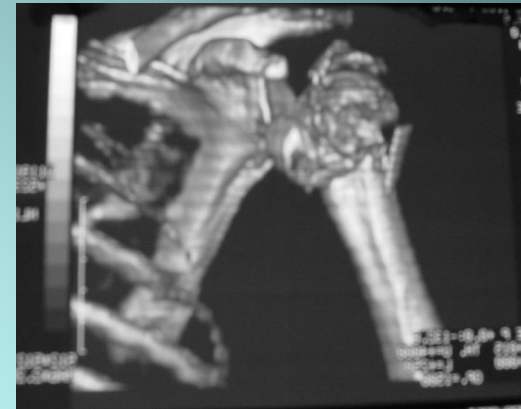
Severe proximal humeral fractures

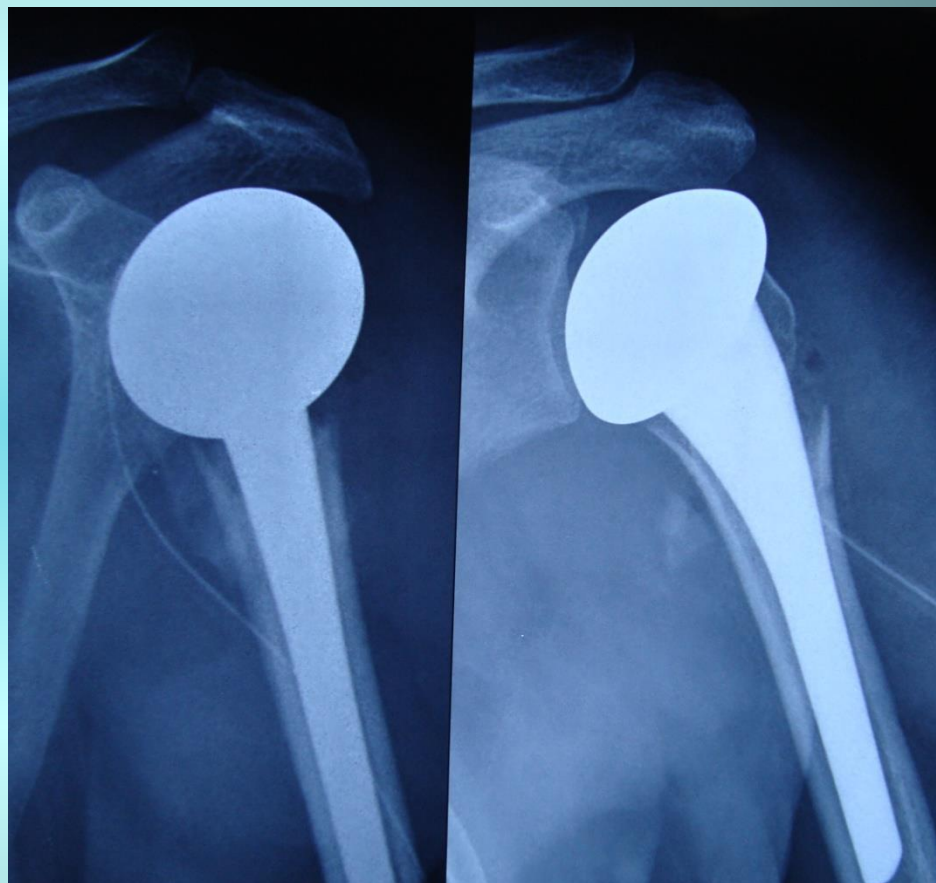
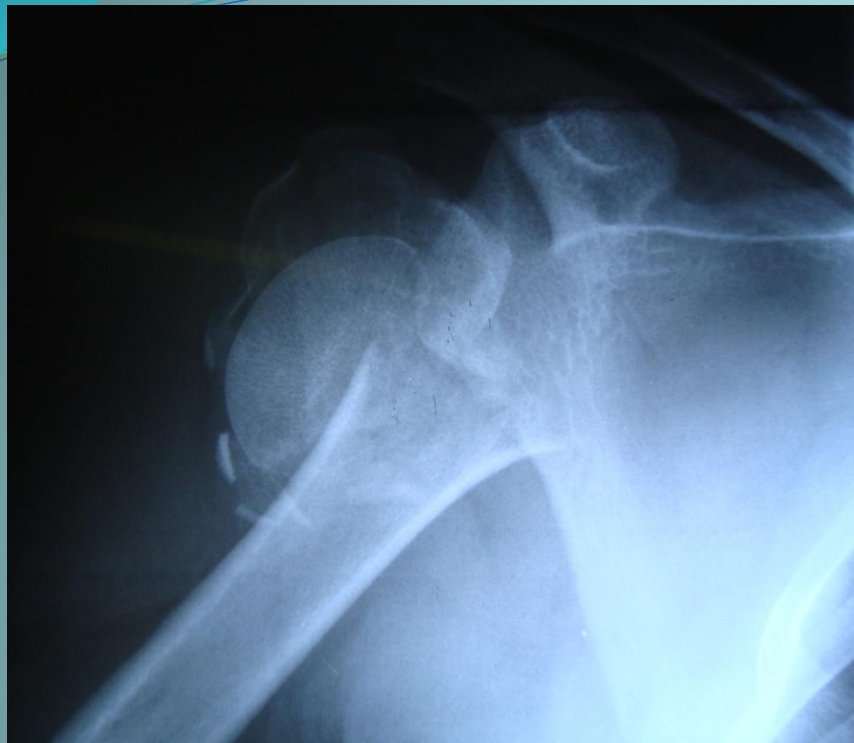
Displaced 3 & 4-part fx and fx-dx in old patients
(osteonecrosis, failure of fixation, posttraumatic arthritis, & stiffness)

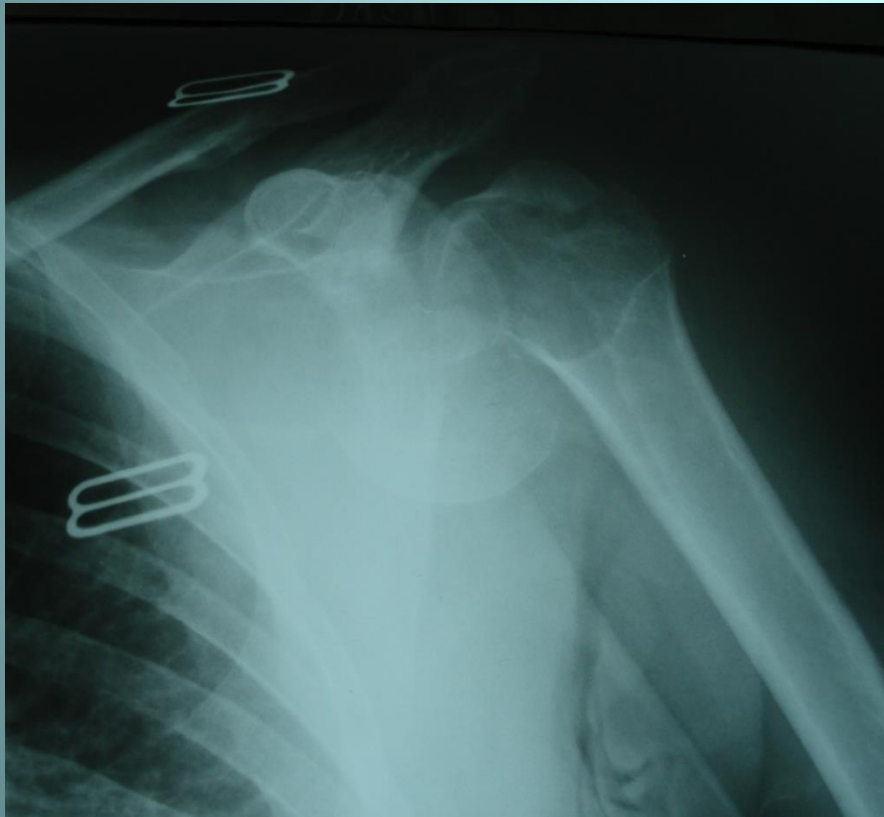
ORIF → poor outcome

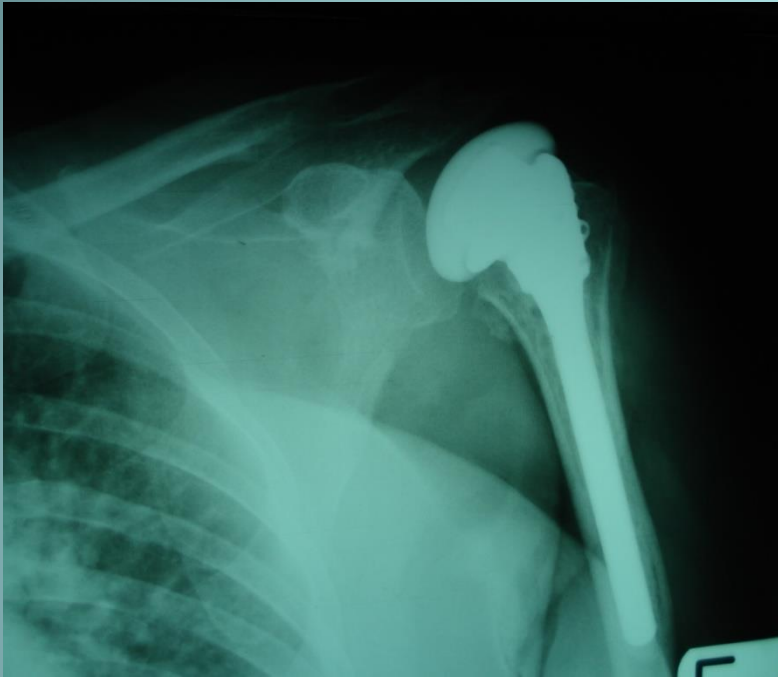


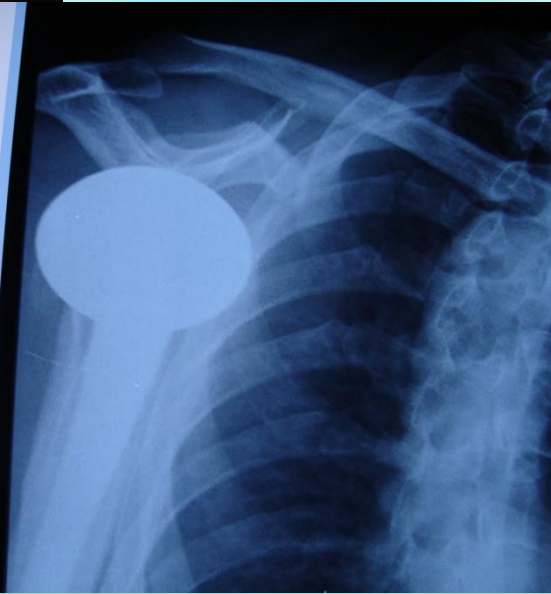
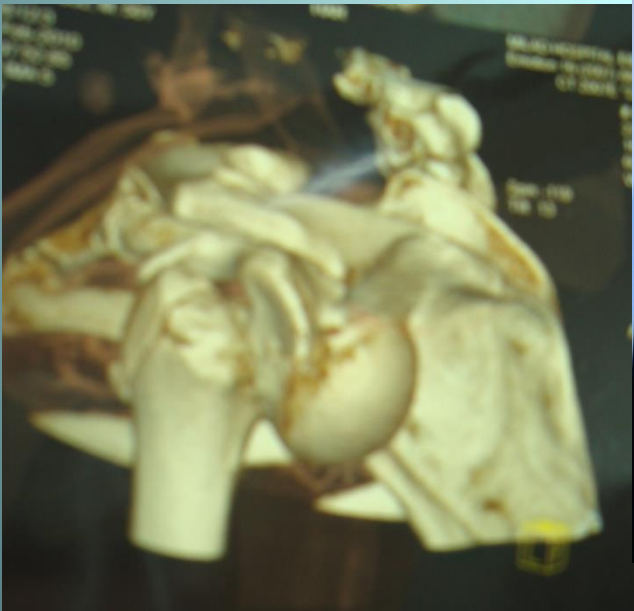
Arthroplasty is a good choice

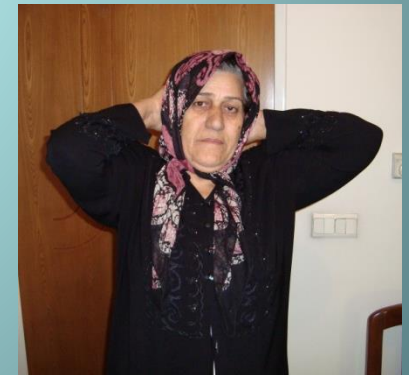
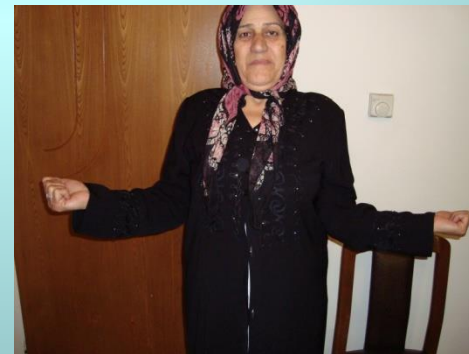
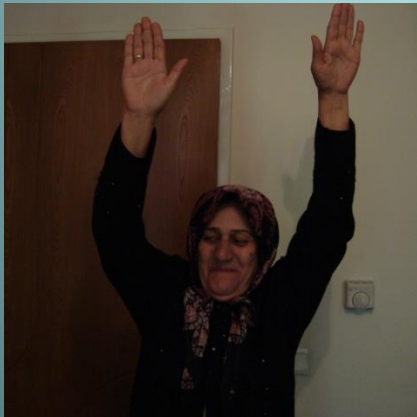
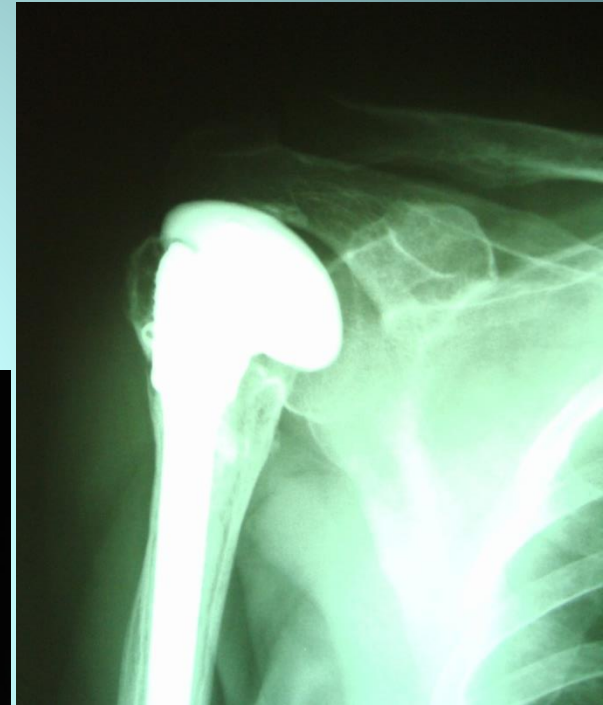
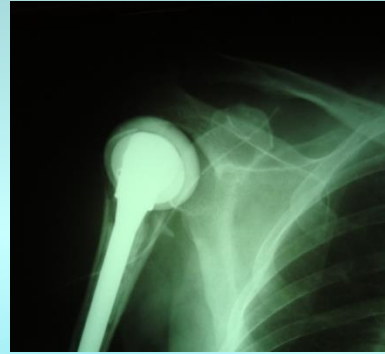


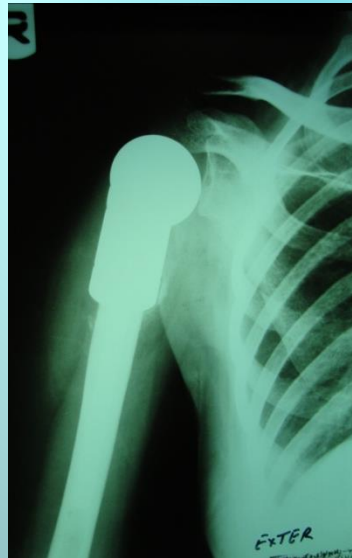
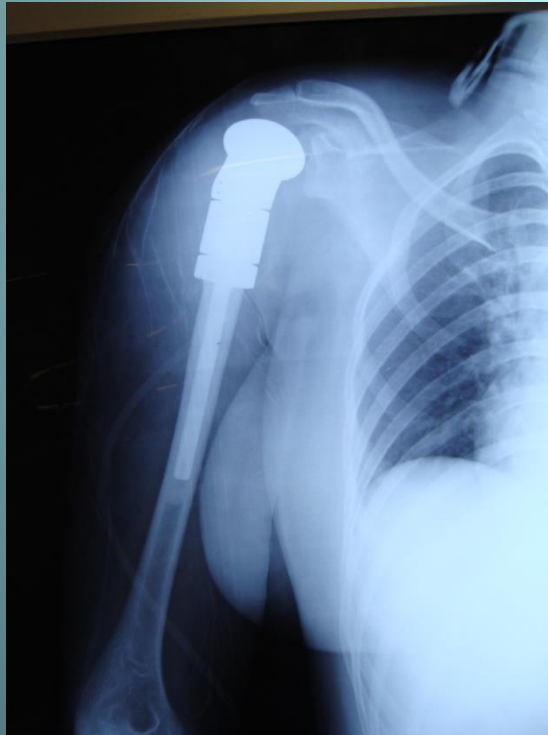
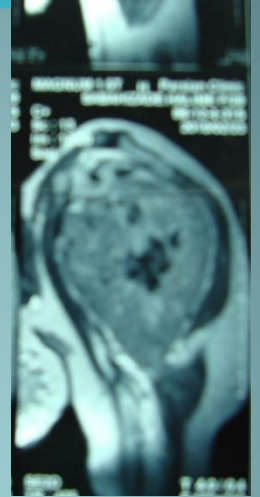


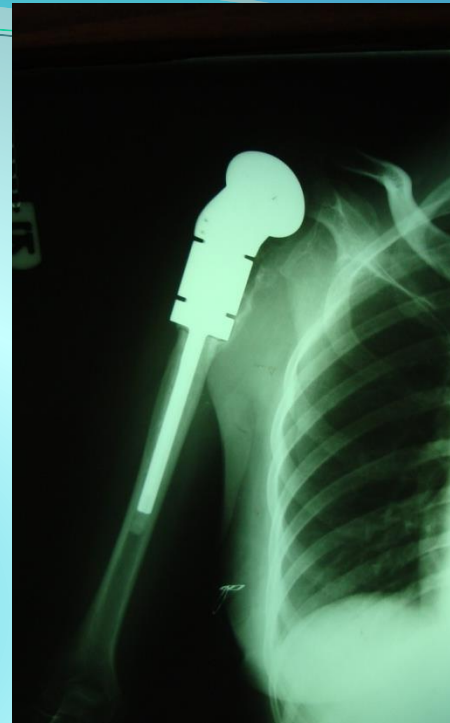






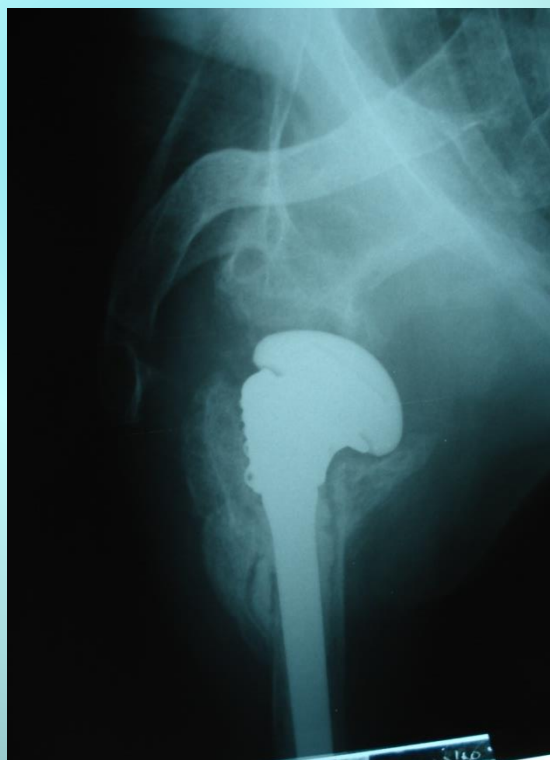
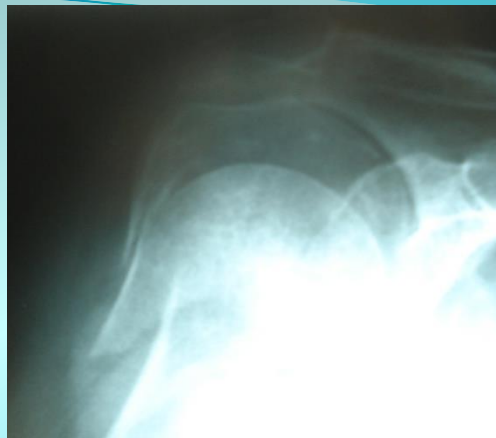
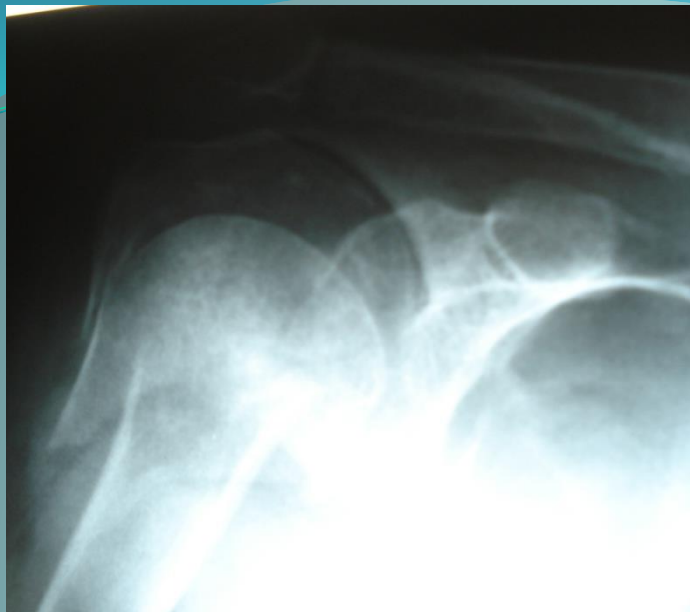






Complications of shoulder arthroplasty

- Instability 1.2%
- Rotator Cuff Tear 2%
- Infection 0.5%
- Heterotopic Ossification 10 -45%
- Stiffness
- axillary nerve injury
- Periprosthetic Fracture



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Summary

- **Shoulder arthroplasty is a successful operation:**
 - Attention to indication
 - Consider meticulous technique



Thanks for your attention