SHOULDER REPLACEMENT

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Shoulder Replacement

- Many people know someone with an artificial knee or hip joint. Shoulder replacement is less common. But it is just as successful in relieving joint pain.
Today, many surgeons use shoulder replacement surgery. About 23,000 people have the surgery each year.
The shoulder is a ball-and-socket joint.

In a normal shoulder, the rounded end of the upper arm bone (head of the humerus) glides against the small dish-like socket (glenoid) in the shoulder blade (scapula).

These joint surfaces are normally covered with smooth cartilage.
Humerus and Scapula (anterior view)

- Angle of acromion
- Acromion
- Clavicle (cut)
- Coracoid process
- Superior angle
- Superior margin
- Notch
- Neck
- Medial angle
- Medial margin
- Subscapular fossa
- Infraglenoid tubercle
- Lateral margin
- Inferior angle
- Trapezius m.
- Pectoralis minor m.
Conditions that require shoulder replacement are:

- Osteoarthritis (degenerative joint disease)
- Rheumatoid arthritis
- Post-traumatic arthritis
- Rotator cuff tear arthropathy (a combination of severe arthritis and a massive non-reparable rotator cuff tendon tear)
- Avascular necrosis (osteonecrosis)
- Failed previous shoulder replacement surgery
- Severe Fractures
Conditions like those listed above can lead to loss of the cartilage and mechanical deterioration of the shoulder joint. The result can be pain. You can have a stiff shoulder that grinds or clunks. This can lead to a loss of strength, decreased range of motion in the shoulder and impaired function.
Shoulder replacement surgery started in the United States in the 1950s. It was used as a treatment for severe shoulder fractures. Over the years, this surgery has come to be used for many other painful conditions of the shoulder.
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- First Generation

1951: Charles Neer creates and implants the first shoulder prosthesis

1974: Charles Neer creates the first glenoid implant.
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- 2nd Generation 1980

Apparition of « soft tissue balancing » concept
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- 3rd Generation
- 1988
- France
Symptoms:

- Deep ache within the shoulder joint.
- Pain during activities and then also at rest.
- Night pain
- Grinding or grating noises when moved with catching
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- X-rays of the shoulder would show:
  - Loss of the normal cartilage joint space
  - Flattening or irregularity in the shape of the bone
  - Bone spurs
  - Loose pieces of bone and cartilage floating inside the joint
  - Bone-on-bone arthritis may lead to erosion--wearing away of the bone.
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- Cuff Tear Arthropathy
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Nonsurgical Treatment:
- Rest
- Exercise
- Ice pack
- Physical therapy
- Arthritis medications
- Periodic cortisone injections
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- Surgical Treatment:
  - **Arthroscopic Debridement**
  - **Total shoulder replacement** involves replacing the arthritic joint surfaces with a highly polished metal ball attached to a stem, and a plastic socket.
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Leading the way with a proven design
Stem Material: Titanium (Ti6Al4V)

Proximal: grit blasted
Distal: polished
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- Preop Planning
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- Pre op Planning
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REVERSED SHOULDER REPLACEMENT

- Reverse total shoulder replacement:
  - torn rotator cuffs and
  - The effects of severe arthritis (cuff tear arthropathy) or
  - Had a previous shoulder replacement that failed
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- Cuff Tear Arthropathy
REVERSED SHOULDER REPLACEMENT

Glenoid erosion

Acromial erosion
REVERSED SHOULDER REPLACEMENT

- Reversed Shoulder Prosthesis
REVERSED SHOULDER REPLACEMENT

- Reversed Shoulder Prosthesis
REVERSED SHOULDER REPLACEMENT
REVERSED SHOULDER REPLACEMENT
OSTEOARTHRITIS WITH MASSIVE CUFF TEAR

- Reversed Shoulder Replacement
PARTIAL SHOULDER REPLACEMENT

- Severe Fracture
PARTIAL SHOULDER REPLACEMENT

- Fracture Stem
Resurfacing Head
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Shoulder Technique:

- The surgery is performed on an inpatient basis. Most patients are discharged from the hospital on the second or third day after the operation.
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- Rehabilitation:
  - Gentle physical therapy on the first day after the operation.
  - Discharge home on 2\textsuperscript{nd} or 3\textsuperscript{rd} day. Outpatient PT
  - You wear an arm sling during the day for the first several weeks after surgery.
  - You wear the sling at night for 4 to 6 weeks.
  - Most patients are able to perform simple activities such as eating, dressing and grooming within 2 weeks after surgery.
  - Driving a car is not allowed for 6 weeks after surgery.
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• "do's and don'ts":
  • Don't use the arm to push yourself up in bed or from a chair because this requires forceful contraction of muscles.
  • Do follow the program of home exercises prescribed for you. You may need to do the exercises 4 to 5 times a day for a month or more.
  • Don't overdo it! If your shoulder pain was severe before the surgery, the experience of pain-free motion may lull you into thinking that you can do more than is prescribed. Early overuse of the shoulder may result in severe limitations in motion.
  • Don't lift anything heavier than a glass of water for the first 6 weeks after surgery.
  • Do ask for assistance. Your physician may be able to recommend an agency or facility if you do not have home support.
  • Don't participate in contact sports or do any repetitive heavy lifting after your shoulder replacement.
  • Do avoid placing your arm in any extreme position, such as straight out to the side or behind your body for the first 6 weeks after surgery.
Doctor, why didn’t you put me a Reversed on the right side?..."

Which one?
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“IN FACT, OUR HYPOTHESIS IS AS SIMPLISTIC AS THE INVENTION OF THE WHEEL: IS WALKING THE ONLY MEANS OF TRAVELING?...”