

Patient Education

Shoulder replacements are designed to remove portions of the bones of the shoulder joint that are arthritic (missing cartilage). The shoulder joint is a ball and socket joint, with a ball (or humeral head) that is part of the humerus and a flat surface (which is called the socket) which is part of the shoulder blade (Figure 1). In a standard shoulder replacement, the ball portion of the shoulder (the humeral head) is replaced by a metal ball and the socket is replaced by a plastic piece (Figure 2).

In the reverse prosthesis the shoulder joint, the ball is placed on the socket side of the joint. The socket is then placed on the arm side where it is supported by a metal stem in the arm bone (the humerus) .

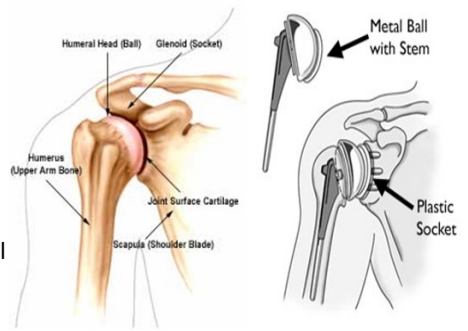


Figure 1

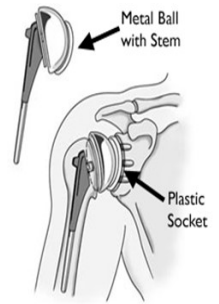
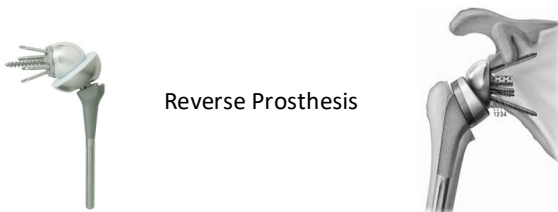


Figure 2



Etiology

What conditions in the shoulder warrant a reverse prosthesis? The main reason to consider a reverse prosthesis is when there is arthritis of the shoulder joint and the rotator cuff tendons are torn or gone. Another reason to have a reverse prosthesis is if the shoulder has already had a replacement prior to the time a reverse prosthesis was available. Other reasons to have a reverse prosthesis are some fractures that involve the proximal humerus (arm bone) where the ball attaches to the shaft of the bone. In some instances the bone is broken into many pieces, or the ball may be split into parts. The last reason to have a reverse prosthesis is because of a tumor in the proximal humerus that involves the bone of the shaft of the bone or the ball of the humerus itself.

Symptoms

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Risk Factors

What are the potential complications of this procedure? The most common complication is that the humerus or arm portion (the socket) can become dislodged from the ball (the shoulder blade part) and the prosthesis is dislocated. Basically the two parts of the prosthesis are not connected anymore. This complication is more common with the reverse prosthesis than with regular shoulder replacements. The second most common complication of concern after a reverse prosthesis is infection. Another complication of this prosthesis is that the arm portion can make contact with the bone of the shoulder blade in certain positions. This contact can create a groove in the bone of the shoulder blade that usually is not painful. Usually this complication does not require further surgery and can be controlled with avoidance of the arm positions and with medication. Other complications are very uncommon but can rarely be seen with this prosthesis or with regular shoulder replacements. These include tingling, numbness and weakness if the nerves to the arm stretched during surgery. Injury to blood vessels is very, very rare but can happen particularly when there is a lot of scar and the patient has had multiple operations. Trouble with medical conditions, such as blood clots in the legs (deep venous thrombosis) which can travel to the lungs (pulmonary embolus), heart attacks, strokes, drug or anesthetic reactions can occur with any operation, but in our experience these are very rare after shoulder replacement surgery.

Who should not have a reverse prosthesis? There are only a few instances where a reverse prosthesis cannot be implanted. The first is if the socket bone (of the shoulder blade or scapula) is too far gone to allow the component base plate to be able to be fixed with screws to the bone. Patients with an ongoing infection in the shoulder should not have a reverse prosthesis.

Physical Therapy Relationship

The rehabilitation process is generally divided into three phases based on tissue healing:

- Phase i: PROM/AAROM phase (Post-Operative Week 2-4)
- Phase ii: AAROM/ AROM phase (Post-Operative Weeks 4-6)
- Phase iii: AROM/ strengthening phase (Post-Operative Weeks 8-12+)

SPECIFIC PRECAUTIONS:

- Initial PROM/AAROM should be limited to less than 20° elevation, 30 ° external rotations, 45° abduction
- No AROM, resistance, or strengthening exercises are performed with involved upper extremity
- Immobilization with sling to protect tendon repairs/transfers when present is paramount.

Prognosis

What results can I expect from a reverse prosthesis? The reverse prosthesis is very good at providing pain relief. The reverse prosthesis also should restore some range of motion to the shoulder. The studies seem to indicate that the prosthesis will last 15 years about 90% of the time.