When shoulder replacement fails, what happens next?

Shoulder replacement for arthritis is becoming more common, and is growing at twice the rate of knee replacement. The shoulder consists of a ball (the head of the humerus) and a socket on the shoulder blade (the glenoid). Most shoulder replacements consist of replacing the head of the humerus with a metal ball and resurfacing the shoulder blade side with a plastic liner. However, there is a new kind of shoulder replacement called a reverse shoulder replacement where the head of the humerus is replaced with a new socket, and a ball is placed into the shoulder blade. A reverse shoulder replacement is usually used when the rotator cuff does not work well or there is insufficient bone on the socket to support a conventional shoulder replacement.

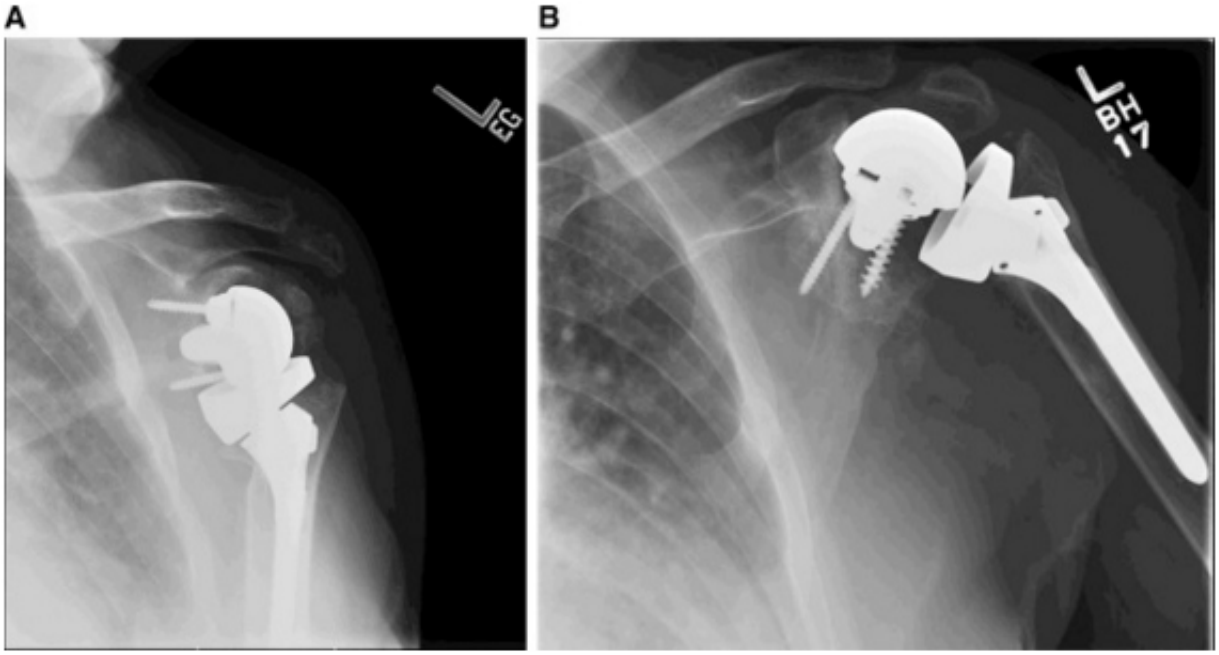

Fig. 1. (A) This is a patient who presented with baseplate and screw loosening and migraton of the baseplate 4 months after a reverse arthroplasty fcr faded hemiarthroplasty. (B) The patient underwent revision of his glenoid baseplate with femoral head allograft. which subsequently loosened and failed. This image was 6 months after revision RTSA. The patient chose to manage this without repeated revision surgery.

The complication rate after reverse shoulder replacement has been reported as higher than after regular total shoulder replacement; however, surgeon experience is the major factor for complications since surgeons with more experience have fewer complications. This study reported on outcomes and complications of patients who needed additional surgery after reverse shoulder replacement.

This study evaluated 228 reverse shoulder replacements that were implanted from 2004 to 2011. About 8% of patients (16/228) needed a second surgery where the original replacement was removed.

There are four main reasons why the patients with reverse shoulder replacements underwent another surgery: loosening of the ball (baseplate), loosening of the socket, dislocation of the replacement, and infection.

Failure of the ball (baseplate) was a difficult problem to manage. Seven patients (3%) underwent surgery for baseplate failure and even after the second surgery, 3 of these patients had another failure of the baseplate. One patient had loosening of the socket and had surgery to replace the socket.

Six patients (2.5%) had a dislocation of the reverse shoulder replacement. Surgery was successful in stabilizing the shoulder in 3 patients, while the other three had continued dislocations.

Two patients (0.8%) had an infection that required removal of the replacement and had an antibiotic implant placed in their shoulder. Once the infection was cured, both patients had a new shoulder replacement inserted.

For the patients who had a complication after reverse shoulder replacement, six patients (2.5%) needed two or more surgeries to treat the complication. Three of those patients decided to have the replacement removed altogether without a new replacement. Three other patients decided to live with the problems they were having with the replacement without having further surgery.

Overall, 88% of patients who had a complication felt their shoulder were better than before their initial shoulder replacement and 69% of patients reported that they would go through the experience again. All patients reported improvements in pain and function after the repeat surgery.

In conclusion, complications after reverse shoulder replacement are rare, but these complications are difficult to manage. The repeat surgeries are highly complex and patients have a substantially lower success rate, although most are still satisfied after their surgeries.

Marie Walcott, Neal Chen *and* ***Jon JP Warner***
Department of Orthopaedic Surgery, Massachusetts General Hospital
Boston, USA

Publication

Failure after reverse total shoulder arthroplasty: what is the success of component revision?

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