

# Loss of motion

Reverse shoulder replacement can relieve pain and restore function in a pseudoparalytic shoulder

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**By Dr Doron Sher |**

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Mary is 75 years old and right-handed. She has had pain in her right shoulder for many years.

It has been minor and she has used over-the-counter anti-inflammatory medication from time to time. She remains active despite a few medical problems which are well controlled — hypertension and type 2 diabetes.

Over the past three months, the pain has worsened. She is now having trouble sleeping and has lost motion in her shoulder. She is having difficulty dressing and washing her hair.

## Examination

Clinical examination of her right shoulder shows only 60 degrees of active forward elevation associated with weakness of external rotation. There is mild glenohumeral crepitus, which is painful, and her external rotation is to neutral only.



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## Investigations

Her GP refers her for an X-ray, which shows glenohumeral osteoarthritis and a high-riding humeral head. Since this indicates that the rotator cuff is torn and the patient is developing arthritis, there is no need for further investigations at this time. Ultrasound or MRI scans will not change your management.

## Initial management

The GP gives Mary a subacromial injection of local anaesthetic and betamethasone, which gives her excellent pain relief. She next attends physiotherapy to strengthen her

deltoid muscle, which allows her to restore most of her forward elevation. She uses paracetamol and occasional NSAIDs when needed.

Mary presents with a similar problem several months later, and the same process is followed, with very good results again.

### **Follow-up**

Unfortunately, over a two-year period her right shoulder continues to deteriorate. She has again lost motion in the shoulder, despite the physiotherapy, and another corticosteroid injection does not help her pain.

Her GP adds narcotic analgesia but, after a few months, this no longer helps. Mary is worried that she is too old for surgery and will have trouble with the rehabilitation.

### **Subsequent management**

Her GP then refers her to an orthopaedic surgeon with expertise in shoulder surgery. The surgeon agrees with the GP's diagnosis of rotator cuff tear arthropathy.

He explains to Mary that the operation is to provide pain relief for her, and is designed for patients over the age of 70 years.

As long as she can handle the anaesthetic and about four weeks in a sling, she should be very satisfied with the outcome of the surgery. Further imaging is only indicated for surgical planning.

Typically, a CT scan is performed.

### **Discussion**

Reverse shoulder replacement is very good for restoring functional use of the limb to a patient with a pseudoparalytic shoulder.

It uses a ball-and-socket joint as with the traditional replacement, but the ball is placed on the shoulder blade, and the socket is placed on top of the arm bone. It provides pain relief and improves function.

Unfortunately, the loss of the rotator cuff does leave the patient with some functional deficits. The most noticeable of these are weakness of external rotation and mild loss of internal rotation.

From a technical perspective, it is harder to perform a reverse shoulder replacement than a primary shoulder replacement with higher overall complication rates.

The complication rates are lower in the hands of surgeons experienced in reverse shoulder replacement.

Recovery from a reverse replacement is quicker than a conventional shoulder replacement because there is no need to wait for the rotator cuff to heal.

Typically, a patient is kept in a sling for four weeks before commencing gentle range of motion exercises. Many of the patients are elderly and do not require formal physiotherapy.

As with conventional shoulder replacement, the patient is advised not to lift more than 2kg regularly and 5kg occasionally. If there is a concern about bone quality, the sling may be left on for longer to allow the glenoid component to incorporate more solidly. For the right patient and performed by the right surgeon, this is an excellent option for the older patient with arthritis and loss of motion of the shoulder.

### **Outcome**

Mary agreed to have reverse replacement of her right shoulder eventually. She recovered well and had home assistance when she was wearing the sling for four weeks.

She now has only little discomfort in her right shoulder compared with her left.

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