



**Kalyani's
Knee & Shoulder
Clinic**

कल्याणी घुटना एवम कंधा क्लिनिक

Reverse Shoulder Replacement

Patient Awareness | Shoulder Arthritis & Rotator Cuff Arthropathy

Appointments: 9554066663 | 9554066664 | 9219200378

Address: Umaraha Market, Varanasi

What is reverse shoulder replacement? Reverse shoulder replacement, also called reverse total shoulder arthroplasty, is a shoulder replacement designed for patients in whom the rotator cuff is badly torn or non-functional. The normal ball-and-socket arrangement is reversed so the deltoid muscle can lift the arm more effectively.

Shoulder function focus: The operation aims to reduce pain, improve elevation and restore useful daily function in selected patients with rotator cuff arthropathy, irreparable cuff tear with arthritis, failed previous shoulder surgery or selected complex fractures.

Contributing pathology: Rotator cuff arthropathy

- Massive, irreparable rotator cuff tear leads to loss of the normal force couple of the shoulder.
- The humeral head migrates upwards and rubs against the acromion, causing pain and loss of smooth movement.
- Progressive cartilage wear causes glenohumeral arthritis with stiffness, crepitus and night pain.
- Deltoid muscle may remain functional, but the shoulder cannot elevate well because the cuff no longer centres the joint.
- May follow chronic cuff tear, failed cuff repair, inflammatory arthritis, fracture sequelae or failed previous shoulder replacement.

Common symptoms

- Pain over the shoulder or upper arm, often worse at night.
- Difficulty lifting the arm above shoulder level or reaching overhead.
- Weakness while combing hair, dressing, bathing or placing objects on a shelf.
- Grinding, catching, stiffness or painful arc during movement.
- Loss of independence in daily activities and poor sleep.
- Pseudoparalysis: preserved deltoid contraction but inability to actively elevate the arm despite passive movement.

When to seek early consultation

- Persistent shoulder pain despite medicines, injections or physiotherapy.
- Progressive weakness or inability to lift the arm.
- Night pain, severe stiffness or difficulty with personal care.
- Known massive rotator cuff tear with arthritis on X-ray/MRI.
- Failed previous cuff repair, fracture fixation or shoulder replacement with pain and poor function.

Examination and diagnosis

History: pain duration, sleep disturbance, weakness, previous cuff tear/repair, fracture, injections, physiotherapy and activity goals are reviewed.

Inspection: posture, muscle wasting, shoulder height, scars, swelling and scapular compensation are assessed.

Movement: active and passive elevation, external rotation, internal rotation and hand-behind-back movement are measured.

Strength testing: deltoid function, axillary nerve status, cuff strength and lag signs are checked.

Associated assessment: neck, AC joint, biceps, instability, bone quality and medical fitness are considered.

Imaging: X-rays assess arthritis, superior migration, glenoid wear and bone stock. MRI/CT may evaluate cuff quality, muscle atrophy, glenoid bone loss and surgical planning.

Treatment options

Non-operative care: activity modification, pain medicines, physiotherapy, deltoid/scapular strengthening and selected injections may help mild symptoms or medically unfit patients.

Arthroscopic/limited procedures: debridement, biceps procedure or partial repair may be considered only in selected cases without advanced arthropathy.

Anatomic shoulder replacement: usually requires a functioning rotator cuff; it may not work well when the cuff is irreparable.

Reverse shoulder replacement: considered when pain and poor function are due to cuff tear arthropathy, massive irreparable cuff tear with pseudoparalysis, failed cuff repair with arthritis, selected fractures or failed previous arthroplasty.

Technical details: how reverse shoulder replacement works

Key principle: In a reverse shoulder replacement, the ball is placed on the shoulder blade side (glenosphere) and the socket/cup is placed on the humerus. This changes the centre of rotation and allows the deltoid muscle to raise the arm when the rotator cuff cannot function properly.

Surgical details

Step	Surgical stage	Purpose / key point
1	Pre-operative planning	Review X-rays/CT/MRI, glenoid bone stock, cuff status, deltoid function and medical fitness.
2	Anaesthesia and positioning	Usually general anaesthesia with regional block; patient is positioned safely for shoulder exposure.
3	Approach	Commonly deltopectoral approach; previous scars and soft-tissue quality are considered.
4	Joint exposure	Biceps, capsule, adhesions and osteophytes are addressed as required; humeral head is prepared.
5	Glenoid preparation	Glenoid is exposed, reamed and a baseplate is fixed securely with screws.
6	Glenosphere placement	Metal ball is attached to the glenoid baseplate to create the reverse ball side.
7	Humeral preparation	Humeral canal is prepared and stem/tray/polyethylene cup are selected according to bone quality and stability.
8	Trial reduction	Shoulder is reduced; stability, soft-tissue tension, impingement-free motion and deltoid tension are checked.
9	Final implants and closure	Final components are inserted; tuberosity/subscapularis management depends on case and surgeon protocol.
10	Post-operative plan	Sling protection, wound care, X-ray check, physiotherapy and staged return to daily activities.

Expected benefits and important limitations

Potential benefit	What it means for the patient	Important limitation / caution
Pain relief	Many patients get significant reduction in arthritic/cuff-related pain.	Pain relief is usually more predictable than full strength restoration.
Improved elevation	Deltoid can lift the arm better when cuff is non-functional.	Heavy lifting, jerky loading and falls can risk complications.
Daily function	Dressing, eating, grooming and reaching may improve.	Internal rotation and reaching behind the back may remain limited.
Joint replacement durability	Modern implants can function well for many years in suitable patients.	Revision may be needed later if loosening, instability, infection or wear occurs.

Rehabilitation, recovery and patient guidance

Phase	Main goals	Progression depends on
Early protection phase	Sling, wound care, pain control, hand/elbow movement and safe assisted shoulder motion.	Surgeon protocol, bone quality, stability and associated procedures.
Mobility phase	Gradual passive/active-assisted movement and safe daily activities.	Pain, implant stability, soft-tissue healing and X-ray review.
Strength phase	Deltoid, scapular and functional strengthening with supervised physiotherapy.	Movement quality, strength, absence of pain flare and medical fitness.
Return phase	Driving, work, household tasks and selected low-impact activities are introduced step by step.	Functional assessment and surgeon/physio clearance.

Possible risks to discuss with the surgeon

- Infection, bleeding, blood clot, stiffness or wound problems.
- Nerve injury, especially axillary nerve irritation or weakness.
- Dislocation/instability, acromial or scapular spine stress fracture, loosening or implant wear.
- Persistent weakness, limited rotation, pain or need for revision surgery in selected cases.
- Medical risks vary with age, diabetes, heart/lung disease, bone quality and previous surgery.

Simple patient guide

Problem pattern	Typical approach	Patient goal
Massive cuff tear without severe arthritis	Physiotherapy, injection, arthroscopy/repair options in selected cases	Pain control and maintain function
Cuff tear arthropathy	Reverse shoulder replacement may be considered if symptoms are disabling	Pain relief and improved arm elevation
Failed cuff repair with arthritis	Specialist assessment; reverse replacement may be an option	Restore useful daily function
Complex fracture / failed previous replacement	Individualised surgical planning and implant selection	Stable, functional shoulder

Key message: Reverse shoulder replacement is not simply a routine shoulder replacement. It is specially designed for rotator cuff-deficient shoulders, especially cuff tear arthropathy. Correct patient selection, implant positioning and rehabilitation are essential for pain relief, stability and useful shoulder function.

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For reverse shoulder replacement, rotator cuff arthropathy, shoulder arthritis, cuff tear, arthroscopy and rehabilitation guidance

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Note: This handout is for patient education only. Final diagnosis and treatment should be individualised after shoulder specialist consultation, clinical examination and appropriate imaging. Sources reviewed: AAOS OrthoInfo and peer-reviewed reverse shoulder arthroplasty/rotator cuff arthropathy literature.