

Elective Total Shoulder Replacement (TSR) and Hemiarthroplasty: Protocol for Deltopectoral approach

Procedure Summary

The distinction is between total shoulder replacement (replacement of both humeral head and glenoid surface) and hemiarthroplasty (replacement of humeral head only). Whether the technique involves resurfacing/replacing or cemented/uncemented is not important in terms of rehab or expected outcome.

TSR is indicated for painful osteoarthritis when the rotator cuff is intact. It has been shown to provide more reliable pain relief than hemiarthroplasty alone. It is however more difficult, more expensive and takes longer because of the added complexity of replacing the glenoid surface.

Hemi is indicated when doubts exist about the integrity of the rotator cuff, which would predispose to premature glenoid loosening, when the patient is particularly young, when the glenoid bone is not good enough to support a component, when preferred as a choice by patient or surgeon, etc. Hemi was also the procedure of choice for cuff tear arthropathy as a "limited goals" procedure (i.e. some pain relief, little if any functional gain) before the advent of reverse shoulder arthroplasty.

Deltopectoral approach: the subscapularis tendon is detached and repaired at the end.

Notes: Rehab is geared towards protecting the tissues disrupted during the surgical approach.

AIM: 1 year to achieve good ROM- as a general guide patients are expected to achieve 130° flexion and 30° external rotation and internal rotation of hand to waist. Relief of pain is the primary aim and ROM a secondary aim. (Refer to procedure summary above as well)

Patients can be discharged once returned to independent living with ADL's and function as required dependant on the patient

Sling

Used for 6/52 post op. *Subscapularis is cut so avoid stressing, stretching or strengthening subscapularis for 6/52*

.

Day 1 to 6 weeks:

- Importance of pain control
- ice pack use + +
- sling use (body belt only needed for large cuff tears and trauma reconstruction patients for all other patients use only while nerve block active and thereafter for comfort)
- sleeping position (e.g remove sling and use body strap for support)

- washing and dressing
- movement of unaffected joints eg fingers, wrist and elbow (depending on op procedure and restrictions)
- Postural advice and scapular setting
- Encourage waist level ADL's (e.g. brushing teeth, eating).

Exercises taught on the ward

Pendulum

Passive shoulder flexion to 140°/ pulley to 140° for 6/52.

Passive shoulder ER to neutral

Hand, wrist and elbow ROM

Follow-up Physiotherapy

2/52 post op.

Follow Phase 1a and b whilst:

- avoiding IR/HBB for 6/52.
- limiting ER to neutral for 6/ 52.

Phase 1 Aim: to increase joint ROM passive to active

Range of movement progressing gradually through the following

1a Passive ROM (controlled by the patient)

1b Active assisted ROM

- NOTE** - encourage SCAPTION rather than pure abduction.
- progress using short to long lever principles.
 - Avoid IR/ HBB for 6/52.

6 weeks to 3 months:

Follow Phase **1c**- active ROM.

- Start ER to 30° for 3/12.
- Start gentle passive to active HBB- must be patient controlled.
- Add isometric strengthening in flexion and ER (focus on ER rather than IR in the early stage as patients rarely have IR weakness given the ratio of internal rotators to external rotators.)
- Avoid abduction combined with IR or ER for 2/12.

3 months onwards:

Phase 2 Aim: Stretching at end of range and strengthening

2a Stretches at end of range

- encourage stretches to be done by the patient using a broom handle etc rather than by physiotherapist
- attention to posterior capsule stretch (within relevant restrictions).

2b Strengthening against resistance only once patient is achieving functional AROM and no pain to resisted muscle testing.

- include strengthening of rotator cuff, UFT, LFT, serratus anterior, biceps, triceps, deltoid as per assessment.

4 months onwards:

(If required)

Phase 3 Aim: full active rehab/ higher level function

Start sport specific rehab.

Patients can return back to competitive sports when achieving full AROM and normal strength.

General guidelines

Consultant post op follow up

All patients are normally followed up in clinic with consultant at 2/52 post op

Driving

Usually possible post op at 6-8/52, patient needs to be able to drive safely