Post-operative Physiotherapy Pathway for Stemmed Hemiarthroplasty Following Fracture Neck of Humerus

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Approved by	Therapies Clinical Governance Group
Approval Date	19th July 2023
Review Date	19th July 2026 This is the most current document and should be used until a revised version is in place

Key Amendments

Date	Amendments	Approved by:
25th January 2023	Document extended to 30th June 2023 whilst under review.	Dr J Trevelyan/ Benjamin Thomas
23rd June 2023	Document extended for another 3 months whilst under review.	Benjamin Thomas
19th July 2023	Document reviewed and approved for 3 years	Therapies Governance Group

A shoulder replacement is done following a fracture where blood supply is disrupted and therefore will not heal. Patients with a four part fracture of the proximal humerus will involve the tuberosities. This group of patients tend to be frail and osteoporotic. A trauma stem is used and the success of their surgery and rehabilitation depends largely upon whether the tuberosities heal back to the shaft or at least remain attached to the implant.

- **The objectives of rehabilitating the patient are to avoid stiffness during the first 4-6 weeks while the tuberosities heal back to the shaft, but they have been sutured well and should withstand gentle passive / active assisted movements as pain allows.**

- **The timescales below are for guidance only and the speed of rehabilitation should be flexible to suit the patients' pain and ability.**

- **Check operation notes, if the bone is fragmented or deficient it will be stated and the protocol will be adjusted accordingly in the notes.**

- The greater tuberosity with supraspinatus and infraspinatus attachments and the lesser tuberosity with subscapularis are all "reattached" at the end of the procedure with 6 very tough sutures.
- After the initial inflammatory phase of 2 to 3 weeks, isometric stimulation of the cuff should stimulate the blood supply and hopefully encourage healing of the bone.
- Once over this period of healing the musculature requires rebuilding and re-education.

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If the tuberosities fail to unite they usually reabsorb rendering the cuff functionless and severely compromising the functional outcome. In these cases patients can be considered for revision to reverse polarity shoulder replacements.

NB:

- ***The protocol for a shoulder replacement following a fracture is less aggressive and slower than an elective procedure due to the bony injury.***
- ***Patient's progress is much delayed in the first 3 weeks so progression at the 3 week mark may be slower.***
- ***Use pain and patients ability as your guide.***

Post op

Day 1

- Master sling with body belt for 4 weeks.
- Wrist, hand, finger exercises, pronation and supination
- Active assisted /active elbow flexion and extension.
- Shoulder girdle exs and scapular setting exs.
- Gentle pendular exercises.
- Teach axillary hygiene.
- Passive flexion in supine as comfort permits.(Short lever)
- Out patient physiotherapy should be arranged.
- Passive external rotation to neutral

Continue the exercises above for three weeks at which time the patient will be reviewed in Shoulder Clinic.

3 weeks

- Continue pendular exercises.
- Continue passive flexion in supine and progress to active assisted in supine as pain and comfort permits.

- Start passive / active assisted abduction as comfortable.
- Start gentle isometric exercises as pain allows

6 weeks

- As pain allows progress to full passive range of movement.
- Progress from active assisted to active exercises.
- Encourage the patient to move through all ranges
- Commence strengthening if the x-rays are satisfactory
- Can begin hydrotherapy where available

NB. Emphasis for these patients should be range rather that strength as strength will come through time and use.

Return to functional activities

Patients often ask at what point they can drive, work, play golf etc. It should be emphasized that this is very variable. Some patients develop stiffness and take longer than others to reach their potential. It should be emphasized that according to insurance companies driving is "forbidden" while a patient has any form of immobilisation device (like a cast or shoulder immobiliser) but once this is removed it is the patients decision (not the surgeons) as to when they feel that they are safe to drive. The following list of time scales are for guidance only and should be seen as earliest that these activities might commence.

Driving	**8 weeks (at earliest- may depend on function regained)**
Swimming	**8 weeks for breaststroke, freestyle will take longer**
Golf	**3 months**
Lifting	**Light lifting can begin at 8 weeks** **Avoid heavy lifting for six months**
Return to work	**The patient should be guided by the surgeon**