Core Clinical Services

North Bristol NHS Trust

NBT Physiotherapy Service

North Bristol Shoulder Service Post Operative Rehabilitation Guidelines

Produced by North Bristol NHS Trust
Physiotherapy Service
June 2015

Core Clinical Services

North Bristol NHS Trust

Bristol Shoulder Service Post Operative Rehabilitation Guidelines

These guidelines cover Mr Iain Packham, Mr Mark Crowther, Mr Neil Blewitt & Mr Phil Mc Cann

They cover the most common shoulder surgery undertaken

- Sub-acromial Decompression +/- ACJ excision
- Rotator Cuff Repair – standard
- Rotator Cuff Repair – complex
- Shoulder Replacement (TSR, Hemi Arthroplasty, Humeral Head Resurfacing)
- Reverse Geometry Total Shoulder Replacement
- Anterior Shoulder stabilisation
- SLAP repair
- ACJ stabilisation
- ORIF Clavicle Fracture

If you have any queries with regards the patients please contact the Shoulder Physiotherapy Team at Therapies Department, Brunel Building, Southmead Hospital or the appropriate consultant

Shoulder Physiotherapy Team Southmead 0117 4144413

Shoulder Surgeons 0117 4141622 - Mr Crowther and Mr Packham (Sue Griffin)
0117 4141623 - Mr Blewitt (Teresa Purdue)
0117 3422242 – Mr Phil Mc Cann (Sally Hayward)

General Principles of post operative shoulder rehabilitation

These guidelines form a staged rehabilitation programme. They are general guidelines and any specific instructions in the post operative notes must take precedence. They are not a substitute for sound clinical reasoning and good communication with the consultant team.

General principles of Shoulder Rehabilitation

- Cervical spine, elbow, wrist and hand activity should be maintained throughout rehabilitation
- Pain control is vital – remember pain inhibits rotator cuff and scapula control
- Rehabilitation should be tailored to the individual patients' ability to regain movement and control at the shoulder complex
- Do not sacrifice quality of movement for ROM
- Start early proprioceptive rehabilitation with all surgical patients
- Throughout the stages ensure optimal postural control, core control and kinetic chain function
- Consider functional re-education – use of hand and patient specific function (hobbies, activities & sports specific)
- Progression should follow basic principles of rehabilitation, passive, active assisted, active, isometric and resistance training
- Always consider starting from a variety of positions, short lever and CKC (Closed Kinetic Chain) exercises
- Functional Milestones, these are minimum guidelines, be guided by the operation notes and the patient's function; if in doubt liaise with consultant
- Consider using the principles of Anterior Deltoid Rehabilitation with patients with underlying/ longstanding rotator cuff dysfunction
- ***Driving, the law states that the patient should be in complete control of the car, it is their responsibility to ensure this and to inform their insurance company about their surgery***

Arthroscopic Sub-acromial Decompression +/- ACJ excision

Surgery is performed for symptoms of impingement that may not have responded to conservative care. It may also be used for pain relief following massive rotator cuff dysfunction, which is irreparable. The guidelines are the same whether ACJ excision is performed in isolation or in conjunction with ASD

General Points

- Do not push through pain – remember pain inhibits rotator cuff control
- Do not sacrifice quality of movement for ROM
- Remember the pathophysiology of the rotator cuff may be degenerative and needs to be considered when progressing rehabilitation

Immobilisation

- No formal period of immobilisation, sling maybe provided for comfort only
- Wean out of sling as soon as able and comfortable

	Post Operative
Day 1	Pendular exercises Active assisted exercises– consider use of table slides or walk backs as well as supine elevation

There are no specific time scales, progression occurs as symptoms and ROM allows- but

NO SIGNIFICANT UPPER LIMB RESISTANCE WORK FOR 6 WEEKS

The emphasis of rehabilitation should be based on:

- Scapula stability/ control and progressive strengthening
- Regaining range of movement of all affected joints
- Rotator cuff control, strength and stamina - remember all components of a functional cuff IR/ER/Abd
- Functional, general strengthening and core stability
- Postural re-education - work and leisure
- Assessing other associated areas as necessary, such as cervical and thoracic spine.

Exercises should be pain free, but should challenge stamina

Activity	**Time Scale**
Driving	See general principles of rehabilitation
Light work, sedentary	The patient may need 10 – 14 days but may return sooner if pain and function allow.
Heavy work or sustained over head postures	Minimum 6 weeks but dependent on symptoms – this is typically between 6-12 weeks
Non contact sports	Minimum 6 weeks as comfort and ROM allows
Contact sports	Minimum 6 weeks as comfort and ROM allows

Post Operative Guidelines - Rotator Cuff Repair (Standard)

This is often performed arthroscopically, but may be a mini open procedure. The aims of rehabilitation are to protect the repair in the early stages and to maximally optimise function.

General Points

- Do not push through pain – remember pain inhibits rotator cuff control
- Do not sacrifice quality of movement for ROM
- Remember the pathophysiology of the repaired tendon is probably degenerative and needs to be considered when progressing rehabilitation

Immobilisation

- Patient to wear sling for 6 weeks, it can be removed to perform exercises as instructed by physiotherapist

	Post Operative
0-4weeks	Pendular exercises Active assisted ER to 30^0 Active assisted elevation as comfort allows – consider use of table slides or walk backs
4-6 weeks	Gradually wean out of sling – light activities only (weight of a cup of tea within the field of vision, short lever) Exercises stay the same until 6 weeks • *Active assisted ER to 30^0* • *Active assisted elevation as comfort allows – consider use of table slides or walk backs*
6 weeks	Gradually increase ER As ER increases gradually increase Elevation ROM Active assisted exercises progressing to active exercises – utilise short lever, supine & closed kinetic chain if appropriate **No long lever open chain exercises until 12 weeks**
12 weeks+	Isometrics in variable starting positions progressing to resisted through range strengthening

Functional Milestones

Activity	**Time scales**
Driving	See general principles of rehabilitation
Swimming	12 weeks+
Golf	12 weeks+

Post Operative Guidelines – Complex Rotator Cuff Repair (includes repair of the subscapularis)

This may be carried out arthroscopically or as an open repair. The aims of rehabilitation are to protect the repair in the early stages and to maximally optimise function

It is essential that the post op notes are checked to ensure appropriate rehabilitation

General Points

- Do not push through pain – remember pain inhibits rotator cuff control
- Do not sacrifice quality of movement for ROM
- Remember the pathophysiology of the repaired tendon is probably degenerative and needs to be considered when progressing rehabilitation

Immobilisation

- Patient to wear sling for 6 weeks, it can be removed to perform exercises as instructed by physiotherapist

	Post Operative
0-6 weeks	Pendular exercises, elbow, wrist and hand. Encourage optimal scapula-thoracic position
6-12 weeks	Gradually wean out of sling – light activities only (weight of a cup of tea within the field of vision, short lever) Active assisted exercises gradually increasing ROM - consider short lever, supine and closed kinetic chain (Anterior deltoid rehab principles) **No long lever open chain exercises until 12 weeks**
12 weeks +	Isometric Exercises through available range
16 weeks +	Resisted through range strengthening

Functional Milestones

Activity	**Time scales**
Driving	See general principles of rehabilitation
Swimming	16 weeks+
Golf	16 weeks+

Post Operative Shoulder Replacement

This operation is performed for trauma and osteoarthritis, with intact rotator cuff.
This is an open procedure access to GH joint is achieved by detachment of the subscapularis tendon. This reattachment must then be protected post operatively.

General points

- Patient progress and outcome will ultimately depend on the condition of the joint and soft tissue pre-operatively.
- Patients with primary OA often have a better outcome
- Improvement can continue for 18-24 month's post-operatively, it is therefore important to encourage patient to continue with rehabilitation until no further improvement.
- Aim of rehabilitation is good quality of movement, and maximal function.
- Don't sacrifice quality of movement and function for ROM

Immobilisation

- Patient to wear sling for 3 weeks 24 hours a day, only removing for physiotherapy exercises
- At 3 weeks, wean out of sling but to continue wearing at night for a further 3 weeks
- Total sling usage - 6 weeks

	Post Operative
0-6 weeks	Pendular exercises Active assisted ER to neutral Active assisted elevation in supine as comfort allows– consider use of table slides or walk backs <u>3 weeks</u> Gradually wean out of sling – light activities only (weight of a cup of tea within the field of vision, short lever) **It is important not to encourage too much activity into ER**
6 weeks	Start to increase ER, as ER increases gradually increase elevation ROM Active assisted exercises progressing to active exercises – utilise short lever, supine & CKC if appropriate **No long lever open chain exercises until 8 weeks**
8 weeks	Consider use of the principles of the Deltoid Rehabilitation programme Sub maximal isometrics in neutral – avoiding subscapularis
12 weeks+	Isometrics in variable starting positions Progressing to resisted through range strengthening – consider weight of arm, varied starting position & functional weights as well as theraband **REMEMBER FUNCTIONAL GOAL**

/Contd

/Contd..

Functional Milestones

Activity	**Time scales**
Driving	See general principles of rehabilitation
Swimming: Breaststroke Freestyle	3 months 3 months
Golf:	3 months
Light work (sedentary)	6-8 weeks
Heavy work	Surgeon guided approx 6 months 6 months
Gardening light work (sedentary)	6-8 weeks
Gardening heavy work (lifting)	3- 6 months

Post-Operative Reverse Geometry Total Shoulder Replacement

This is performed for Rotator Cuff Tear Arthropathy or Glenohumeral joint OA without a functioning rotator cuff. This is an open procedure, but the degree of protection post operatively depends on the presence of any tendon repairs or transfers. If present the rehabilitation reverts back to TSR or the appropriate rotator cuff guideline. (As stated in the Post Operation instructions)

General points

- The surgery is primarily performed for pain relief, function can improve but it is often secondary to a reduction in pain –allowing improved Deltoid function.
- Patient progress and outcome will ultimately depend on the condition of the joint and soft tissue pre-operatively.
- Improvement can continue for 18-24 month's post-operatively, it is therefore important to encourage patient to continue with rehabilitation until no further improvement.
- Aim of rehabilitation is good quality of movement, and maximal function, however in this group of patients increased scapula motion is to be expected and maybe encouraged,
- Don't sacrifice quality of movement and function for ROM
- The principles of the Deltoid Rehabilitation Programme for irreparable rotator cuffs should be utilised.

Precautions

The underlying pathology is one of chronic degenerative rotator cuff rupture; it varies from patient to patient as to what if any rotator cuff remains intact. If any tendons were repaired then this will be stated in the op notes and the rehabilitation will be guided by this.

Repetitive overhead activities and loaded activities above shoulder height may be limited long term and should not be forced with rehabilitation.

Lifting weights above shoulder height with more than 2-4 kg should be avoided unless otherwise instructed by the surgeon.

Hand behind back (HBB) should not be forced and may not be regained

There is likely to be a chronic deficit in rotator cuff strength, particularly in ER

Immobilisation

• Patient to wear sling for 3 weeks 24 hours a day, only removing for physiotherapy exercises

• At 3 weeks, start to wean out of sling but to continue wearing at night for a further 3 weeks

• Total sling usage - 6 weeks

Post-Operative	
0-6 weeks	Pendular exercises Active assisted ER to neutral **(ONLY IF THERE IS NO SUBSCAPULARIS REPAIR)** Active assisted elevation in supine as comfort allows – consider use of table slides or walk backs <u>3 weeks</u> Gradually wean out of sling – light activities only (weight of a cup of tea within the field of vision, short lever)
6 weeks	Start to increase ER, as ER increases gradually increase elevation ROM Active assisted exercises progressing to active exercises – utilise short lever, supine & CKC if appropriate **Don't force HBB position** **No long lever open chain exercises until 8 weeks**
8 weeks	Consider use of the principles of the Deltoid Rehabilitation programme Sub maximal isometrics in neutral – avoiding any repaired tendons
12 weeks+	Isometrics in variable starting positions Progressing to resisted through range strengthening – consider weight of arm, varied starting position & functional weights as well as theraband. **REMEMBER FUNCTIONAL GOAL and the underlying pathology is massive irreparable rotator cuff tear**

The Ultimate Aim is Function rather than anatomical normal movement.

Functional Milestones

Activity	**Time scales**
Driving	See general principles of rehabilitation
Swimming:	4 months
Golf:	4 months
Light work (sedentary)	6-8 weeks
Gardening light work (sedentary)	6-8 weeks

Anterior Stabilisation (Soft tissue or bony procedure)

The stabilisation undertaken will either be a soft tissue procedure (e.g. Bankart repair) or a bony procedure (e.g. Latarjet procedure). The aims of rehabilitation are to protect the repair in the early stages and to maximise function.

General Points

- Do not push through pain – remember pain inhibits rotator cuff control
- Do not sacrifice quality of movement for ROM

- **Do not overstretch into combined abd/ER**

Immobilisation

- Patient to wear sling with waistband for 3 weeks 24 hours a day, only removing for physiotherapy exercises
- At 3 weeks, gradually wean out of sling but to continue wearing at night for a further 3 weeks
- Total sling usage - 6 weeks

	Post operative
0-6 weeks	Pendular exercises Active assisted - ER to neutral only (handshake position) Active assisted - elevation as comfort allows– consider use of table slides or walk backs **At 3 weeks** Gradually wean out of sling – light activities only (weight of a cup of tea within the field of vision, short lever)
6 weeks	Increase range of ER –gradually increase elevation as comfort and ER allows Progress active assisted through to active Isometric rotator cuff in available range
8 weeks	Resisted work through available range
12 weeks	Sports Specific Rehabilitation – for throwing, important to regain ROM into abd/ER, but needs dynamic control into this range (including eccentric control)

Functional Milestones

Activity	**Time Scales**
CV fitness including running & static bike	Depending on patient can be from 0 weeks within sling
Cycling (Road non competitive)	8-12 weeks
Swimming	12 weeks +
Racquet Sports/ Golf	12 weeks+
Contact Sport e.g. rugby, football, mountain biking, hockey, climbing	6 months+

SLAP lesion repair

To repair the origin of the long head of biceps and superior labrum; the aims of rehabilitation are to protect the repair in the early stages and to maximally optimise function

General Points

- Do not push through pain – remember pain inhibits rotator cuff control
- Do not sacrifice quality of movement for ROM

Immobilisation

- Patient to wear sling with waistband for 3 weeks 24 hours a day, only removing for physiotherapy exercises
- At 3 weeks, gradually wean out of sling but to continue wearing at night for a further 3 weeks
- Total sling usage - 6 weeks

	Post Operative
0-6 weeks	Pendular exercises Active assisted - ER to neutral only (handshake position) Active assisted - elevation as comfort allows– consider use of table slides or walk backs **At 3 weeks** Gradually wean out of sling – light activities only (weight of a cup of tea within the field of vision, short lever)
6 weeks	Increase range of ER –gradually increase elevation as comfort and ER allows Progress active assisted through to active Isometric rotator cuff in available range **No open chain long lever until 8 weeks** **No Resisted Biceps until 12 weeks**
8 weeks +	Rotator cuff strengthening in neutral Gradually reintroduce long lever activity **No Resisted Biceps until 12 weeks**
12 weeks +	Progress strengthening into range + add biceps Sport Specific rehab – avoid throwing action
16 weeks +	Continue sports specific rehabilitation; it is important for throwing to regain ROM into abd/ER, but needs dynamic control into this range (including eccentric control)

Functional Milestones

Activity	**Time Scales**
CV fitness including running & static bike	Depending on patient can be from 0 weeks within sling
Cycling (Road non competitive)	8-12 weeks
Swimming	12 weeks +
Racquet Sports/ Golf	16 weeks +
Throwing	16 weeks +
Contact Sport e.g. rugby, football, mountain biking, hockey, climbing	6 months+

ACJ Stabilisation (Weaver Dunn, Tight Rope, Surgilig)

This surgery is undertaken to stabilise a symptomatic unstable ACJ. It is an open procedure and it is vital to protect the repair.

No Horizontal flexion/ cross body adduction or above 90^0 elevation until 8 weeks

Immobilisation

- Patient to wear sling for 3 weeks 24 hours a day, only removing for physiotherapy exercises
- At 3 weeks, gradually wean out of sling but to continue wearing at night for a further 3 weeks
- Total sling usage - 6 weeks

	Post Operative
0-6 weeks	Pendular exercises Active assisted ER in neutral Active assisted elevation to shoulder height only– consider use of table slides or walk backs **3 weeks** Gradually wean out of sling – light activities only (weight of a cup of tea within the field of vision, short lever)
6 weeks	Progress active assisted to active ROM – do not push for overhead activities Sub maximal isometrics rotator cuff in neutral
8 Weeks	Gradually increase ROM into elevation and initiate cross body adduction Isometrics in variable starting positions
12 weeks +	Progress to resisted through range strengthening

Functional Milestones

Activity	**Time Scales**
CV fitness including running & static bike	Depending on patient can be from 0 weeks within sling
Cycling (Road non competitive)	8-12 weeks
Swimming	12 weeks +
Racquet Sports/ Golf	12 weeks+
Contact Sport e.g. rugby, football, mountain biking, hockey, climbing	6 months+

ORIF clavicle fracture (Acute or revision)

The clavicle is typically stabilised with a plate and screws, although an intramedullary nail or pin may be used.

Aims:
The aim of the rehabilitation is to protect the repair in the early stages and to maximally optimise function in the long-term.

General Points:
• Do not push through pain – remember pain inhibits rotator cuff control
• Do not sacrifice quality of movement for range of movement

No Horizontal flexion/ cross body adduction or above 90^0elevation until 8 weeks

Immobilisation
• The patient is to wear a sling for 6 weeks. It can be removed to perform exercises as instructed by the physiotherapist.

Post Operative Instructions:

	Post Operative
0-6 weeks	Hand, Wrist and Elbow exercises. Pendular exercises. Encourage optimal Scapulo-Thoracic position. Active assisted External Rotation as comfort allows Active assisted elevation to shoulder height only – consider walk backs and table slides as an alternative to supine A/A elevation
6 weeks	Gradually wean out of sling – light activities only (weight of a cup of tea within the field of vision, short lever) Progress active assisted to active ROM – do not push for overhead activities Sub maximal isometrics (rotator cuff) in neutral .
8 Weeks	Gradually increase ROM into elevation and initiate cross body adduction Isometrics in variable starting positions progressing through to resisted through range strengthening at 10 weeks
12 weeks +	Full range of movement and recovery of strength should be obtained by 12 weeks providing satisfactory progression towards union has occurred.

Functional Milestones

Activity	Time Scales
CV fitness including running & static bike	Depending on patient can be from 0 weeks within sling
Cycling (Road non competitive)	8-12 weeks
Swimming	12 weeks +
Racquet Sports/ Golf	12 weeks+
Contact Sport e.g. rugby, football, mountain biking, hockey, climbing	6 months+