

Bankart Repair

Sling	What can I do from day 1?	Restrictions?	Commence strengthening?
Up to 3 weeks	Active assisted/active supported within safe zone*	Avoid combined AB/ER and forced ER until 6 weeks	Dependent on dynamic control and ROM

* Safe zone will be stipulated by the Surgeon in the operation notes. If this is not stipulated then limit mobilisation to anterior to the scapula plane below 120° elevation and 50% of ER (compared with other side) respecting pain and movement pattern.

Pre-operatively

- Teach active assisted/active supported mobilisation programme
- Teach elbow/wrist and hand exercises
- Advice re postural awareness / movement pattern correction
- Patient education regarding procedure and expectations
- Check re compensatory muscle patterning¹

Treatment Note: What patients are told by their physiotherapist regarding their injury and the trust that they have in the rehabilitation process have been shown to be factors in successful return to play. Support and positive reinforcement are vital. It is important to ascertain any fears associated with the original injury and educate patients accordingly to increase the athlete's chances of an optimal outcome.

Factors that may affect progression rate:

- Pre-operative status
- Age
- Laxity
- Revision surgery vs. primary
- Length of time from original dislocation/injury
- Type of labral lesion
- Fixation
- Kinetic chain (previous injury)

Acute phase (0-4 weeks¹)

¹Timescales are general guidelines only and are dependent on individual patient factors and pre-operative status/history

Sling

This is worn for 2-3 weeks depending on pain and passive range of movement. The sling is purely for pain relief and to protect the repair and avoid the arm being knocked into risk positions. The sling is removed to allow axillary hygiene and when the patient is doing their exercises.

Patients with 90% or more passive range (particularly external rotation in neutral) compared to their unoperated side at 2 weeks post-op with a soft elastic end feel should continue to wear the sling for a further week. Revision cases may also be required to wear the sling for up to 3 weeks. In patients who have higher pain levels and, or lack neutral rotation at 2 weeks post surgery it is important to remove the sling at this stage.

Goals:

- Protect the anatomical repair
- Optimise tissue healing
- Diminish pain and inflammation
- Prevent negative effects of immobilisation
- Promote improved proprioceptive acuity
- Promote optimal recruitment dynamic stabilisers
- Prevent compensatory movement patterns that may compromise recovery

Rehabilitation:

It is important to establish the safe zone from the post-operative notes (i.e. that which doesn't compromise the surgical repair) for mobilisation before commencing the active assisted exercise programme. Generally after a standard Bankart repair this is movement anterior to the scapula plane below 120° of elevation. However, therapists must respect pain and quality of movement.

- **No** combined abduction/external rotation
- **No** forced end range mobilisation especially external rotation with arm by side

Treatment Note: NB. The following are considerations for exercise inclusion however in reality these can be incorporated in 2-4 key exercises. Clinical reasoning of the patient's key issues will inform which factors are priorities. It is important not to prescribe too many exercises as this has been shown to impact adherence.

- Elbow, wrist and hand exercises
- Closed kinetic chain /proprioception exercises
- Active assisted/active supported mobilisation within safe zone
- Rotator Cuff/scapula muscle facilitation exercises
- Incorporate kinetic chain
- Movement pattern correction
- Encourage use of hand in sling (light activities)

Criteria for progression:

- Well controlled pain
- End feel – laxity/lack of solid end feel patients should be progressed more slowly
- Range of movement - note patient requires adequate rotational range of movement before introducing active through range cuff facilitation work above 90° (i.e. against resistance). However, cuff exercises can be incorporated within the safe zone e.g. isometrics, concentric etc as long as pain-free and able to perform with good control
- Compliance with exercises

Treatment Note: The principles of cross-education can be used early in the rehabilitation phase- working the opposite i.e. un-operated arm in the position of original injury. Isometric exercises or rhythmic stabilisations will help facilitate muscle activation patterns and cortical activation together with small strength gains in the operated limb.

Intermediate stage (4-8 weeks¹)

Goals:

- Restoration functional range of movement including full elevation range
- Re-educate cuff recruitment and scapula control through range
- Enhance proprioceptive acuity
- Prevent compensatory movement patterns that may compromise recovery
- Re-educate sensorimotor/proprioceptive function
- Preserve integrity surgical repair

Rehabilitation:

Avoid **passive** stretching into combined abduction/external rotation however can encourage active movement into this position as long as good control and no apprehension.

- Manual therapy if any capsular restriction (respecting surgical restrictions)
- Rhythmic stabilisations cuff/scapula
- Progress cuff and scapula recruitment through range
- Progress kinetic chain integration
- Increase functional emphasis movement pattern correction
- Closed kinetic chain work
- Preparatory & reactive stabilisation exercises²

At this stage it is essential that any exercise prescription ensures that the patient is able to maintain good cuff and scapula control i.e. there should be no evidence of significant scapula winging, humeral head translation or compensatory muscle patterning¹ (commonly involving latissimus dorsi or pectoralis major) during exercise execution. Continued patient education regarding transfer of good movement pattern to function is imperative.

2 The dynamic stability system relies on feed-forward and feedback motor control to anticipate and react to joint movements or loads. Functional training such as plyometrics, perturbation drills and functionally relevant multidirectional and unpredictable joint loading will enhance the ability of the dynamic stabilisers to activate appropriately to stabilise the glenohumeral joint in functionally relevant positions.

Criteria for progression:

- Pain-free functional range of movement
- Good sequential activation through kinetic chain
- Good control rotator cuff and scapula musculature through functional range

Late stage (8-16 weeks¹)

Goals:

- Restore full active range of movement
- 'Normalise' neuromuscular control
- Optimise preparatory and reactive stabilisation³
- Restore optimal cuff and scapula control through range and under load
- Optimise function specific power, strength and endurance
- Transference movement pattern correction and cuff/scapula control to functional task
- Return to full work/ sport and recreational activities

Rehabilitation:

- Ensure regain optimal range of movement into combined positions
- Enhance neuromuscular control through range and incorporated with kinetic chain
- Function specific plyometrics (if relevant)
- Function specific strengthening and endurance exercises rotator cuff and scapula musculature
- Preparatory and reactive stabilisation drills in risk positions²
- Function specific kinetic chain strength and endurance

Expected outcomes

ROM & Pain

There is currently a lack of data in the literature evaluating when patients regain their active range of movement following arthroscopic Bankart repair. The following is a summary of data available from the limited papers comparing early and traditional mobilisation.

	VAS @ 6/62	Time to regain 90% ER
Early Mobilisation	< 2	7/52
Immobilisation 3/52	< 4	10/52

Return to Work rate

Average return to light work = 2.86 months (load handling no more than 10-15 Kg)

Return to Sport rate

Clinicians should note that studies have shown that some athletes and sportspeople continue to have strength and proprioceptive deficits two years postoperatively. The purposes of our early mobilisation approach is to enable the clinician to restore these parameters much earlier to ensure the athletes robustness for return to their sport. We have included risk factors associated with recurrence of instability post-surgery to help clinicians identify those patients that may benefit from a more prolonged period of rehabilitation.

- Average return to play currently reported as 5-14 months
- Regimes employing early mobilisation report RTP rates of 3 months*

**Important to consider individual sport and nature of labral injury. Players with anterior Bankart without extension can expect to RTP in 12 weeks if they meet key criteria. However more extensive labral injuries are likely to require a longer period of rehabilitation. RTP rates in athletes involved in overhead sport or martial arts are reported as 8-12 months.*

Risk factors for recurrence

Rates reported in the literature:

- Rate of recurrence at 2 years 5- 20%
- Rate of recurrence at 10 years 5- 35%

Risk factors:

- Male + Age < 22 years
- Number of preoperative dislocations
- Participation in competitive sport
- Laxity