Anterior Shoulder Stabilization
Clinical Practice Guideline

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Background Information:
The included guideline is intended for post-operative rehabilitation and includes open or arthroscopic anterior shoulder stabilization surgical procedures. Surgical interventions also include Bankart repair, Remplissage and Latarjet; keeping in mind that specific precautions may need to be utilized for each procedure and modifications should be followed as prescribed. Progression through this guideline is time dependent on soft tissue healing as well as criterion-based concerning patient demographics and clinical assessment. Please refer to the surgical note for information regarding each procedure.

Precautions: the intended guidelines are used to reduce the risk of excessive joint laxity/instability. All ROM should be staged, not significantly exceeded, and never forced

Remplissage Guidelines: Arthroscopic procedure used to "fill-in" a Hill-Sachs lesion with the posterior capsule and infraspinatus. This procedure should be treated like a posterior rotator cuff repair

- No active external rotation strengthening for 12 weeks
- No internal rotation or cross-body stretching for 12 weeks
- No pushing motions
- No grade III or IV posterior joint mobilizations for 12 weeks

Latarjet Guidelines: This is an open procedure used to treat recurrent shoulder dislocations that are a consequence of bone loss and/or a fracture of the glenoid. The coracoid is used as a bony block on the glenoid and the conjoint tendon and lower subscapularis are used as a sling to counteract ligamentous instability.

- Review surgical protocol and determine if the subscapularis is split or taken down
    - See subscapularis precautions if taken down.
- No anterior joint mobilizations
- Joint mobilizations above a grade 1 can start at week 6
- No cross-body stretching until week 12
- It is common to lose terminal ER even toward the end of rehab (never force this motion)

Subscapularis Precautions: Please refer to if repair of subscapularis performed

- No ER past 30 degrees for 12 weeks
- No cross-body adduction for 12 weeks
- No active IR or IR behind the back for 12 weeks
- No weight bearing through UE or supporting arm for 12 weeks

Phase 1: Protection (0-6 weeks)

GOALS:

- Maximally protect the surgical repair (capsule, ligaments, labrum, suture anchors)
- Achieve staged ROM goals- do NOT significantly exceed
- Patient education on postoperative restrictions
- Minimize shoulder pain & inflammatory response
- Ensure adequate scapular function

PRECAUTIONS:

- Sling use for 4-6 weeks including sleeping (out of sling for short periods to perform exercises or supported in sitting, or self-care)
- Limit use of UE, stay within staged ROM goals, and avoid lifting with arm.
- Towel roll placed underneath arm to avoid humeral extension for ROM & support

Post-Operative to 3 weeks	***Weeks 4 to 6***
ROM Goals by Week 3 *PROM* ▪ Forward elevation to 90 degrees ▪ ER in scapular plane to 20 degrees (No ER at 90° abd) ▪ No abduction or internal rotation *Elbow/wrist/hand ROM as tolerated (avoid significant biceps contraction)* *Modalities/cryotherapy PRN*	*ROM Goals by Week 6* *PROM* ▪ Forward elevation to 135 degrees ▪ IR to 50 degrees ▪ Abduction to 115 degrees ▪ ER in scapular plane to 30 degrees (**week 6:** 35-50 degrees) ▪ ER at 90 degrees abduction to 30 degrees *Start AAROM* ▪ Cane & wall walks to 135 degrees ▪ Pendulum exercises (unweighted) *AROM* ▪ Forward elevation 115 degrees *Strengthening* ▪ Submaximal isometrics (ER, abduction, flexion, extension, IR) ▪ Scapular stabilization (scapular clocks) *Modalities/cryotherapy PRN*

MILESTONES TO PROGRESS TO PHASE 2:

1. Appropriate healing of surgical repair by adhering to precautions & immobilization guidelines
2. Achieved staged ROM goals but not significantly exceeded
3. Minimal to no pain (0-2/10) with ROM

Phase 2: Intermediate (7-12 weeks)

GOALS:

- Achieve staged ROM goals- do NOT significantly exceed
- Minimize shoulder pain
- Begin to increase strength & endurance
- Increase functional activities

PRECAUTIONS:

- Do not perform stretching beyond staged ROM
- Avoid terminal ER stretching at 90 degrees abd unless significant tightness present
- Do not perform strengthening that places a large load in the position of horizontal abduction and ER
- Do not perform scaption with internal rotation (empty can position)

Weeks 7 to 9	***Weeks 10-12***
ROM Goals by Week 9 *PROM* ▪ May perform posterior joint mobilization ▪ Forward elevation to 155 degrees ▪ IR (at 90 ºabd) to 60 degrees (weeks 8-9) ▪ ER (at 20º abd) to 60 degrees ▪ ER (at 90 ºabd) abduction to 75 degrees *AROM* ▪ Forward elevation 145 degrees *Strengthening* ▪ Begin light UBE ▪ Dynamic ER & IR ISOM walkouts ▪ Isotonic PREs within above ROM -Scapular stabilizers (rows, shoulder ext, protraction, horizontal abd with palm down & prone scaption) -ER & IR isotonic with band/weight (towel roll/scapular plane) ▪ Elbow flexion/extension ▪ CKC activity in standing with table/wall (fixed distal segment, no push-ups) *Neuromuscular Reeducation:* ▪ Rhythmic stabilization (start in neutral positions)	*ROM Goals by Week 12* *PROM* ▪ WNL all planes *AROM* ▪ Elevation WNL *Strengthening* ▪ Isotonic PREs in all planes (ex: Thrower's Ten Program; ER/IR at 90° abd) ▪ Resistive PNF patterns with external resistance ▪ Progress CKC activity (fixed distal segment, no push-ups) ▪ Core strengthening PRN *Neuromuscular Reeducation:* ▪ Reactive- ball drops, wall dribbles, etc *Functional Activity* ▪ Initiate a walk to jog progression program (with physician clearance)

MILESTONES TO PROGRESS TO PHASE 3:

1. Staged ROM goals with minimal to no pain (0-2/10) and without substitution patterns
2. Appropriate scapular posture at rest & normalized scapulohumeral rhythm
3. Strength activities completed with minimal to no pain (0-2/10)

Phase 3: Advanced Activity (12-24 weeks)

GOALS:

- Normalize strength, endurance, neuromuscular control, and power
- Gradual and planned build-up of stress to anterior capsulolabral tissues
- Gradual return to full ADLs, work, and recreation

PRECAUTIONS:

- Do not increase stress to shoulder in a short period or uncontrolled manner
- Do not progress into activity-specific training until full ROM and strength are achieved
- Avoid weight lifting exercises that place stress to anterior capsule (e.g. lat pulldowns behind the head, tricep dips)
- If patient does not perform velocity dependent tasks during work/sport/ADLs do not perform plyometrics

CRITERIA FOR PLYOMETRIC TRAINING

1. Adequate strength of scapular stabilizers & rotator cuff: MMT 4+/5 (70-80% bilateral comparison with handheld dynamometer)
2. Involved extremity ER to IR ratio >66% (isokinetic or handheld dynamometry testing)
3. Pain-free ADLs and with previous strengthening
4. Minimum 3 weeks of multi-plane activity at increased speed of movement

Post-Operative weeks 12 to 16	***Weeks 16-20***	***Weeks 20 to 24***
ROM ▪ Terminal ER stretches ▪ Self-capsular stretched, AROM, and passive stretching PRN *Strengthening* ▪ Advance isotonics ▪ PREs weight-lifting program: bicep curls, tricep press-downs, rows ▪ Prone CKC activity (plank hold with elbows straight; fixed distal segment, no push-ups) *Neuromuscular Reeducation* ▪ Initiate plyometric progression with double-arm plyometric (2 handed drills) ▪ Progress into single-arm plyometrics: Ball catch/toss drills (90 degrees abd)	*ROM* ▪ May begin more aggressive stretching techniques (low-load long-duration stretching) *Strengthening* ▪ Begin overhead PREs: lat pulldowns (hands in front of head) ▪ Continue PREs weight-lifting program ▪ CKC push-ups (avoid elbow flexion >90°) *Functional Activity* ▪ May begin interval sports progression program once below criteria met	*ROM* ▪ Stretching PRN *Strengthening* ▪ PREs weight-lifting program: may begin dumbbell pec exercises (pec fly's) ▪ Avoid barbell bench press until 6 months

MILESTONES TO INITIATE INTERVAL PROGRESSION PROGRAMS (e.g. throwing)

1. Clearance from physician
2. Muscular strength >80% bilateral comparison for rotator cuff & scapular stabilizers
3. Involved extremity ER to IR ratio $\geq$75% (isokinetic or handheld dynamometry testing)
4. Full functional ROM with appropriate scapulohumeral rhythm (overhead athlete see appendix)
5. Able to complete an UE plyometric progression program

Phase 4: Return to Sport/Activity

CRITERIA TO DISCHARGE FOR RETURN TO FULL SPORT ACTIVITY

1. Physician clearance
2. Normal arthrokinematics of the glenohumeral & scapulothoracic joints (overhead athlete see appendix)
3. Muscular strength >90% bilateral comparison for rotator cuff & scapular stabilizers
4. Involved extremity ER to IR ratio ≥75% (isokinetic or handheld dynamometry testing)
5. Completion of an interval sport progression program
6. Return to game play for the overhead throwing athlete ~ 9 months

Appendix:

The Overhead Athlete:	**Side to side differences (throwing arm vs non-dominant arm)**
Total rotational ROM at 90° abd (ER plus IR)	< 5 degrees**
Shoulder flexion	≤ 5 degrees
Shoulder ER	5 degrees more
Horizontal Adduction	<15 degrees

*****Please note that if Latarjet procedure performed it is common to lose some external rotation (never force this motion). Therefore, above ROM may not apply for this procedure***

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Completed Date: 07/14/2018