Delaware Physical Therapy Clinic

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Rehab Practice Guidelines for:

Repair of Large Rotator Cuff Tears with Retraction

Assumptions	1. Tears > 2.5 centimeters 2. Retraction
Primary surgery:	▪ Repair of supraspinatus tendon & infraspinatus tendons ▪ Subacromial decompression
Secondary surgeries (possible):	Distal clavicle excision
Expected # of visits:	20-43

NOTE: Large tears with retraction are typically open repairs and require longer healing times and potentially compromise the subscapularis. Check with the surgeon to determine the exact procedure.

Precautions	
Precautions	▪ **For all passive IR/ER guidelines check with surgeon** ▪ Primary repair (supraspinatus & infraspinatus) - **NO BEHIND THE BACK INTERNAL ROTATION (TOWEL STRETCH)** ▪ Primary repair (subacromial decompression) - **No heavy resisted flexion** for 6 weeks ▪ Primary repair (supraspinatus & split deltoid) - **No resisted ABD** for 8-12 weeks ▪ Primary repair (supraspinatus & infraspinatus) - **No resisted ER** for 8-12 weeks ▪ No additional precautions for distal clavicle excision ▪ **If subscapularis is compromised: No active IR** for 4 weeks. **No IR strengthening** for 6-8 weeks.

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Date of Surgery: _____

Repair of Large Rotator Cuff Tears with Retraction Rehab Protocol

Timeline	Treatment	Milestones[2]
Weeks 1-3 Dates: _____ to _____ ▪ No formal PT ▪ Use sling with ABD pillow 24 hrs/day[2] ▪ No driving	▪ Ice for pain and inflammation control ▪ Remove Sling TID for Pendulum exercises (Codman's)[2, 3]	▪ Sleep comfortably through the night wearing sling
Weeks 4-6 Dates: _____ to _____ ▪ Begin PT 2-3 visits/week ▪ Continue sling use 24 hrs/day[2] ▪ D/C ABD pillow ▪ ***If subscapularis is compromised: May initiate active IR week 5*** Total Visits: 6-9	▪ Modalities for pain and inflammation control as needed[3] ▪ Scar Mobilization when incisions healed ▪ Joint Mobilization ○ *If hypomobile* - grade III/IV mobilizations ○ *If normal*- grade I/II mobilizations PRN ▪ PROM exercises in all planes only to restrictions stated in milestones; **no IR in 0° abduction**[3, 6] ▪ Scapular control exercises[3,4,6] ○ Scap PNF ○ T-Band Rows, prone extension to plane of body ▪ Rhythmic stabilization exercises[2,3,6,7] ▪ Initiate HEP	▪ PROM: ○ **ER/IR** (90º ABD), **HOR ADD**: determined by the surgeon ○ **Flexion, ABD**: to tolerance up to 90º ▪ Normal glenohumeral jt. Mobility ▪ Normal scapulohumeral rhythm ▪ No hypomobility or hypersensitivity of the scars
Week 7-10 Dates: _____ to _____ ▪ D/C use of sling ▪ 1-3 visits/wk ▪ **May begin increasing resistance of flexion week 7** ▪ **May initiate behind the back IR (towel stretch) week 7** Total Visits: 10-21	▪ Progress ROM to milestones[2] ○ PROM → AAROM → AROM ▪ Begin pain-free sub-maximal isometrics at 8 wks[3] for flexion, extension, ABD, IR, ER ▪ Progress to ABD in gravity minimized positions progressing to gravity resisted[3] ▪ Progress to PRE's for all other shoulder motions (flexion, extension, IR) [3,6] ○ Can begin PRE if pain-free with isometrics ▪ Progress rhythmic stabilizations[2,3,6,7] ▪ Progress scapular strengthening exercises[2,3,4,6] ○ Progress serratus push-up plus to more horizontal surfaces ○ Bilateral ER/scap retraction in 0° ABD T-band ○ T-Band Rows ○ Prone mid-trap (MT) and low-trap (LT) exercises with scap retraction to plane of the body ▪ Modify HEP accordingly	▪ Full A/PROM for all motions except IR in 0º ABD
Weeks 11-12 Dates: _____ to _____ ▪ 1-3 visits/week Total Visits 12-27	▪ PRE's for ALL shoulder motions[2,3,6] ▪ Dynamic stabilization exercises[2,3,6,7] ○ Progress rhythmic stabilizations to more challenging and functional positions ○ Shoulder PNF ○ Inertial machine IR/ER beginning in less ABD/ER and progressing to more ABD/ER ▪ Continue to progress scapular stabilization/strengthening exercises[2,3,4,5,6] ○ Progress current exercises by increasing resistance/reps/sets ○ Closed chain exercises ○ Quadruped or tripod rhythmic stabilizations ○ Prone LT, MT, HOR ABD	▪ Maintain full A/PROM ▪ Independent with HEP ▪ Strength improving

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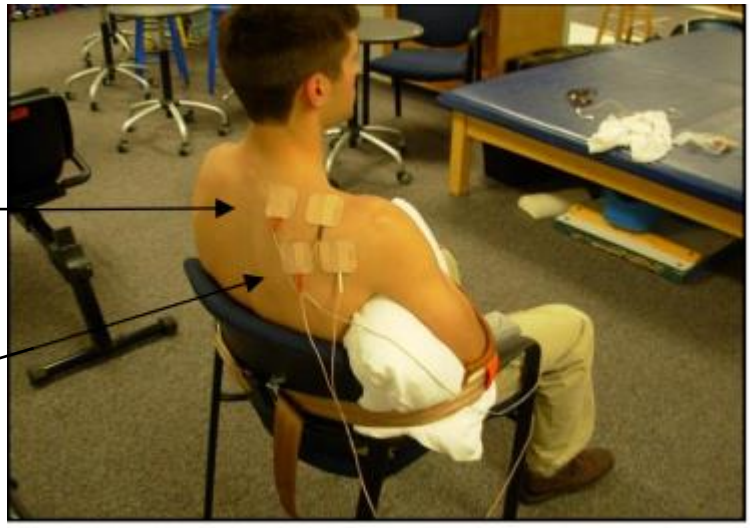
	○ Prone rows ○ Standing D2 PNF with T-band ▪ **PRN:** NMES using guidelines at end of protocol[8] ○ Infraspinatus starting 8-12 weeks ○ Supraspinatus starting 12-16 weeks	
Weeks 13-20 Dates: _____ to _____ ▪ 1-2 visits/week Total Visits: 20-43	▪ Progress strengthening program[2,3.6] ▪ Progress dynamic stabilization exercises [2,3,6,7] ○ Progress rhythmic stabilizations to more challenging and functional positions ○ Continue shoulder PNF ○ Inertial machine IR/ER beginning in less ABD/ER and progressing to more ABD/ER ▪ Progress scap strengthening/stabilization exercises[2,3,4,6] ▪ **PRN:** NMES to supraspinatus and infraspinatus using guidelines at end of protocol[8]	▪ MMT 5/5 all shoulder motions ▪ Full shoulder ROM equal to the uninvolved side ▪ Progress to gym program and/or HEP for strengthening
Weeks 21-36 Dates: _____ to _____ ▪ Physical therapy is as needed for sport/work specific activities	▪ Continue strengthening and dynamic stabilization exercises as HEP and/or in PT prn[2,3,6,7] ▪ Begin sport specific interval training program and/or throwing progression[2,6,7] ▪ Progression of sport/work specific rehabilitation following soreness rules[9]	▪ Return to sport/work

Neuromuscular Electrical Stimulation NMES Guidelines



▪ Patient Positioning: seated in a chair with arm in about 30° of elevation in scapular plane and neutral IR/ER using a mobilization belt to prevent movement

▪ Electrode Placement
○ Supraspinatus: both pads placed superior to spine of scapula. One pad placed at the medial border of the scapula and one pad placed at lateral border of scapula. Avoid the upper trapezius as much as possible.

○ Infraspinatus: both pads placed inferior to the spine of the scapula. One pad placed at the medial border of the scapula and one pad placed at the lateral border of the scapula.

▪ Parameters:
○ **EMPI 300PV unit:** Pulse width= 400 microseconds, frequency= 75 pulse per second, on time= 12 seconds, off time= 50 seconds, ramp time= 2 seconds. Intensity to tolerance, goal of visible tetanic contraction.

○ **Versastim:** Pulse width=2500Hz, frequency=75 bursts per second, on time=12 seconds, off time=50 seconds, ramp time=2 seconds. Intensity to tolerance, goal of visible tetanic contraction.

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References

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Updated: May 20, 2009

This Clinical Guideline may need to be modified to meet the needs of a specific patient.

The model should not replace clinical judgment.