

## Subacromial Impingement Rehabilitation Program

The Gundersen Health System Sports Medicine Subacromial Impingement Rehabilitation Program is an evidence-based and soft tissue healing dependent program which allows patients to progress to vocational and sports-related activities as quickly and safely as possible. Individual variations will occur based on patient tolerance and response to treatment. For **primary** impingement, treatment emphasis on strengthening and Sapega-McClure technique to address selective hypomobility; for **secondary** impingement emphasize strengthening and neuromuscular control / rhythmic stabilization exercises. Contact us at 1-800-362-9567 ext. 58600 if you have questions or concerns.

Phase I: 0-2 weeks	Phase II: 2-4 weeks	Phase III: 4-6 weeks+
<b>AROM:</b> Pain-free ROM with gradual return to full ROM	<b>AROM:</b> Pain-free ROM with Gradual return to full ROM	<b>AROM:</b> Full with no limits
<b>Modalities:</b> Cryotherapy Phonophoresis/ US Iontophoresis patch or using phoresor IFC if c/o pain	<b>Modalities:</b> Cryotherapy Phonophoresis/ US Iontophoresis patch or using phoresor IFC if c/o pain	<b>Modalities:</b> Cryotherapy Phonophoresis/ US Iontophoresis patch or using phoresor IFC if c/o pain
<p><b>RX: Recommendations:</b> Limit activities that cause an increase in symptoms</p> <p>Sapega-McClure technique if selective hypomobility</p> <ol style="list-style-type: none"> <li>Active warm-up: UBE, Rower</li> <li>Heat in stretch (1<sup>st</sup> TERT) TERT=Total End Range Time</li> <li>Mobilizations / ROM: Physiologic mobilizations Emphasis on inferior and posterior glides in scapular plane Accessory movements PROM / AAROM / AROM</li> <li>Therapeutic exercises: Scapulo-thoracic (Moseley) GH exercises (Townsend) Isotonic IR/ER in scaption Isokinetic IR/ER in 30/30/30 Sidelying ER Total arm strengthening Biceps curls Triceps extensions</li> </ol> <p>Core stability training CV conditioning</p> <ol style="list-style-type: none"> <li>Ice in stretch position (2<sup>nd</sup> TERT)</li> <li>HEP for 3<sup>rd</sup> TERT</li> </ol>	<p><b>RX: Recommendations:</b> Gradual increase in functional activities</p> <p>Sapega-McClure technique if selective hypomobility</p> <ol style="list-style-type: none"> <li>Active warm-up: UBE, Rower</li> <li>Heat in stretch (1<sup>st</sup> TERT) TERT=Total End Range Time</li> <li>Mobilizations / ROM: Physiologic mobilizations Accessory movements PROM / AAROM / AROM</li> <li>Therapeutic exercises: Scapulo-thoracic (Moseley) GH exercises (Townsend) Isotonic IR/ER in scaption Isokinetic IR/ER in 30/30/30 Sidelying ER Prone ER with hor abduction Lower trapezius exercises Total arm strengthening Biceps curls Triceps extensions</li> </ol> <p>Body blade IR/ER CKC exercises Rhythmic stabilizations OKC Perturbation training CKC Perturbation training Plyometric exercises</p> <p>Core stability training CV conditioning</p> <ol style="list-style-type: none"> <li>Ice in stretch (2<sup>nd</sup> TERT)</li> </ol>	<p><b>RX: Recommendations:</b> Gradual increase in activities</p> <p>Sapega-McClure technique if selective hypomobility (see previous)</p> <p>Scapulothoracic (Moseley) GH exercises (Townsend) Isotonic IR/ER Isokinetic IR/ER gradual progression to 90/90 Prone strengthening exercises Total arm strength PNF patterns</p> <p>Body blade progression CKC exercise progression Rhythmic stabilizations OKC/CKC Perturbation training Plyometric exercises Impulse IR/ER</p> <p>Core stability training CV conditioning</p> <p>Sport-specific exercises if strength scores 75% or &gt; and/or ER/IR ratio 2/3</p> <hr/> <p><b>Testing:</b> 4-6 wks Isokinetic IR/ER Test (30/30/30 or 90/90 if overhead athlete/laborer)</p> <hr/> <p><b>Return to Work/Sport</b> No Pain + Full ROM Isokinetic Strength - 90% Functional Testing – 90%</p>

### Subacromial Impingement References

- Burke WS, Vangsness CT, Powers CM. Strengthening the supraspinatus: a clinical and biomechanical review. *Clin Orthop*, 2002; 402: 292-8
- Davies GJ, Dickoff-Hoffman S: Neuromuscular testing and rehabilitation of the shoulder complex. *JOSPT* , 1993; 18(2): 449-458
- Davies GJ, Durall C: Typical rotator cuff impingement syndrome: It's not always typical. *PT magazine*, 2000; 59-72
- Davies GJ, Ellenbecker TS: Total arm strength rehabilitation for shoulder and elbow overuse injuries. *An Orthopedic Physical Therapy Home Study Course* 1993. 1-22
- Davies GJ, Ellenbecker TS: Documentation enhances understanding of shoulder function. *Biomechanics* 1999, 47-55
- Davies GJ, Ellenbecker TS: Focused exercise aids shoulder hypomobility. *Biomechanics* 1999, 77-81.
- Desmeules F, Cote CH, Fremont P. Therapeutic exercise and orthopedic manual therapy for impingement syndrome: a systematic review. *Clin J Sport Med*, 2003; 13: 176-82
- Kamkar A, Irrgang JJ, Whitney SL: Nonoperative management of secondary shoulder impingement syndrome. *JOSPT* , 1993; 17: 212-224
- Machner A, Merk H, Becker R, Rohkohl K, Wissel H, Pap G. Kinesthetic sense of the shoulder in patients with impingement syndrome. *Acta Orthop Scand.*, 2003; 74: 85-8
- Manske RC, Davies GJ: Postrehabilitation outcomes of muscle power (torque-acceleration energy) in patients with selected shoulder dysfunctions. *Journal of Sport Rehab*, 2003; 12(3): 181-198
- McClure PW, Blackburn LG, Dusold C. The use of splints in the treatment of joint stiffness: biological rational and algorithm for making clinical decisions. *Physical Therapy*, 1994; 74: 1101-1107
- Morrison DS, Greenbaum BS, Einhorn A. Shoulder impingement. *Orthop Clin North Am.*, 2000; 31: 285-93
- Moseley JB, Jobe FW, Pink M, Perry J, Tibone J. EMG analysis of the scapular muscles during a shoulder rehabilitation program. *AJSM*, 1992; 20: 128-134
- Sapega AA, Quedenfeld TC. Biophysical factors in range of motion exercises. *Physician and SportsMedicine*, 1981; 9: 57-65
- Schulte RA, Davies GJ: Examination and management of shoulder pain in an adolescent pitcher. *Phys Ther Case Reports*, 2001; 4(3): 104-121
- Townsend H, Jobe, FW, Pink M, Perry J. Electromyographic analysis of the glenohumeral muscles during a baseball rehabilitation program. *AJSM*, 1991; 19: 264-272
- Wang JC, Horner G, Brown ED, Shapiro MS. The relationship between acromial morphology and conservative treatment of patients with impingement syndrome. *Orthopedics*, 2000; 23: 557-559