

PHYSICAL THERAPY PRESCRIPTION

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Keck Medicine
of USC

PATIENT STICKER

DATE: _____

SWIMMER'S SHOULDER PHYSICAL THERAPY PRESCRIPTION

Underlying problem includes:

Weakness / fatigue of scapular stabilizers (especially retractors); Inflexibility of pectoral muscles;
Anterior capsular laxity; Posterior capsular/Rotator cuff tightness; Posterior rotator cuff weakness

Rx: Development of core strength: lumbar stabilization, abdominals, pelvic girdle

- Avoid/correct excessive anterior pelvic tilt/lumbar lordosis
- Initial phase (Acute pain):
Modalities as needed – Phonophoresis / Iontophoresis / Soft Tissue Mobilization / E-stim
Cryotherapy / Ultrasound / Submaximal isometrics / Progress to isotonic exercises
- Endurance training for scapular stabilizers: focus on Serratus Anterior, Rhomboids, Lower Trapezius, and subscapularis: Push-ups with a plus; Scapular elevation (scaption); Rows; Press-ups; Upper body ergometry for endurance training; Prone lying horizontal flys; Side-lying external rotation, prone rowing into external rotation; Push-ups onto a ball
- Proprioceptive Neuromuscular Facilitation (PNF) patterns to facilitate agonist/antagonist muscle co-contractions
- Rotator cuff (external rotation) strengthening: goal is ER:IR ratio at least 65%
- Stretching of pectoral muscles, posterior capsule, posterior rotator cuff, latissimus

Treatment: _____ times per week

Duration: _____ weeks

**Please send progress notes.

Physician's Signature: _____

Frank Petrigliano, MD, Attending Orthopaedic Surgeon, USC

SHOULDER PAIN IN SWIMMING

PATHOLOGY

Underlying pathology is Rotator Cuff tendonitis / bursitis due to:

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1. Impingement of Rotator Cuff tendons during swimming stroke.
2. Rotator Cuff fatigue due to overuse – contributes to impingement.
3. Imbalance between internal and external rotators, resulting in impingement.
4. Joint laxity often plays some role.

STROKE FLAWS ASSOCIATED WITH SHOULDER PAIN

- 1) Hand entry that crosses midline
- 2) Impingement exacerbated by thumb-first hand entry
- 3) Lack of body roll
- 4) Breathing only on one side may lead to compensatory cross-over on non-breathing side
- 5) Improper head position (eyes forward is WRONG > this impedes normal scapulothoracic motion)
- 6) New freestyle teaching is to use early hand exit
- 7) Proper balance in water comes from pushing the center of buoyancy (sternum) and head into water in order to float the legs

STROKE ALTERATIONS TO DECREASE PAIN

- 1) Avoid straight arm recovery
- 2) More body roll
- 3) Breathe bilateral
- 4) Early catch, early recovery
- 5) Don't keep head up (look down)
- 6) Little finger first hand entry

TREATMENT FOR EARLY PHASE

1. Ice BEFORE and AFTER practice
2. Proper warm-up before hard training sets
3. Identify and minimize / avoid strokes which precipitate pain. Train with different strokes. Decrease use of hand paddles. Do more kicking sets to provide shoulder rest.
4. Stretching shoulder and periscapular muscles. Emphasize posterior shoulder capsule stretching.
5. Specific strengthening exercises for external rotators, scapular stabilizer muscles. Perform exercises below horizontal (below eye level).

BASIC PRINCIPLES

1. Rotator Cuff and scapular stabilizer strengthening
2. Avoidance of impingement positions during rehabilitation
3. Restoration of muscle strength, balance, and flexibility

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4. Emphasis on Serratus Anterior and Subscapularis

STRENGTHENING EXERCISES

General Principles: Start with low loads. As endurance improves, may progress to sport-mimicking exercise, such as swim bench. Maintain proper scapulohumeral rhythm during exercises. Exercises should begin in the scapular plane. Start with open chain exercises.

IF PAIN PROGRESSES

1. Reduction in training volume and dryland training. Eliminate painful strokes for 2-weeks, then gradually resume.
2. Continue icing, stretching.
3. Anti-inflammatory medication (non-steroidal anti-inflammatory medication)
4. Consider subacromial injection (only if refractory)
5. X-Ray/MRI