

NEWSLETTER

Shoulder Pain: PT vs. Surgery

Does shoulder pain due to impingement or rotator cuff tear require surgery to regain function and decrease pain?



Signs that physical therapy is likely to improve your shoulder pain:

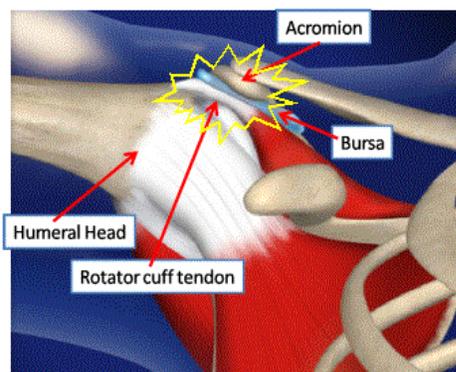
- Shoulder or upper arm pain
- Pain with movement: particularly overhead, out to side or across your chest
- Shoulder or upper arm pain at night
- Shoulder stiffness or loss of range of motion (ie: can't scratch behind your back or reach overhead)
- Poor posture
- Lack of serious trauma to your shoulder (fall, dislocation)

PROBLEM:

Subacromial Impingement Syndrome (SIS)

Shoulder pain accounts for 1/3 of physician office visits for musculoskeletal pain¹. Subacromial impingement syndrome is the most common cause of shoulder pain and is a broad term used to describe a spectrum of injuries including bursitis, tendonitis and partial tears of the rotator cuff. SIS occurs when the soft tissue structures that pass between the acromion process of the scapula, the coracoacromial ligament and the humeral head (the subacromial space, see image aside) are repeatedly stressed. This stress most commonly occurs with overhead or repetitive activities associated with work-related (painting, lifting) or recreational activities (tennis, swimming).

Contributing factors to SIS include spinal and joint mobility deficits, muscle weakness and poor posture.



Full-Thickness Rotator Cuff Tears (RCTs)

The same mechanical stresses and impairments that contribute to SIS can also contribute to rotator cuff tears, which are disruptions of the

rotator cuff tendons at they attach to the head of the humerus. The process of aging may also be enough to cause RTC as they are very common. At least 10% of Americans >60 years old have RCTs². Symptoms of RCTs can be almost indistinguishable from those of SIS and include pain, weakness, stiffness, and loss of function.

Fewer than 5% of individuals with RCTs are treated surgically. Interestingly, the failure rate of surgery ranges from 25%-90%, yet individuals with failed repairs report outcomes that are nearly identical to those whose repairs are intact. This raises the question: *Is it the post-operative physical therapy that is responsible for the positive outcomes or the surgical repair itself?*

EVIDENCE

Subacromial Impingement Syndrome (SIS)

A 2009 systematic review³ published in the Journal of Shoulder and Elbow Surgery reported that there was no evidence suggesting differences in outcomes in pain or shoulder function between patients with SIS that underwent surgery or participated in conservative care. A 2011 systematic review⁴ supported the earlier findings in addition to reporting that there was no difference in outcomes between patients with SIS that underwent arthroscopic surgery, open surgery or physical therapy.

Kuhn et al⁵ synthesized the results of numerous trials reporting positive effects of manual therapy and exercise on patients with SIS and outlined an evidence-based treatment strategy for SIS. The authors' developed a synthesized PT protocol, with highlights as follows:

- Supervised physical therapy 2-3x/week
- Treatment should include manual therapy (joint and soft tissue mobilization)
- Exercises should target joint mobility, muscle flexibility, rotator cuff strength and scapular strength (see aside for exercise examples)



Full-Thickness Rotator Cuff Tears (RCTs)

A common belief with injuries is "if something is torn, it must be repaired" in order to reduce pain and restore function. Recent evidence is finding that this may not be the case with RCTs. Kuhn et al² investigated the effects of the same PT protocol used in SIS in patients with atraumatic full-thickness RCTs diagnosed by an MRI.

The patients in this study received in-clinic physical therapy in addition to a standardized home exercise program for 12 weeks. At the 2-year follow up, 75% of patients reported a successful outcome, and elected NOT to have surgery. Interestingly, the vast majority of patients elected to undergo surgery by 12 weeks, with very few selecting surgery between 3-24 months of starting treatment.

The physical therapy program used in this study was highly effective in alleviating symptoms despite the fact that the patients continued to have rotator cuff tears. Based on the results of this study, it is recommended that physical therapy be attempted for full-thickness RCTs for 12 weeks prior to considering more invasive treatment.

SAMPLE EXERCISES:



1. Corner pec stretch
2. Cross chest posterior shoulder stretch



3. External rotator strengthening

4. Shoulder extension and scapular retraction strengthening



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If you or someone you know is experiencing shoulder pain **schedule an evaluation** with the orthopaedic experts at Waldron's Peak Physical Therapy,

References

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 2. Kuhn JE, Dunn WR, Sanders R, et al. Effectiveness of physical therapy in treating atraumatic full-thickness rotator cuff tears: a multicenter prospective cohort study. *J Shoulder Elbow Surg*. 2013;22(10):1371–1379. doi:10.1016/j.jse.2013.01.026.
 3. Dorrestijn O, Stevens M, Winters JC, van der Meer K, Diercks RL. Conservative or surgical treatment for subacromial impingement syndrome? A systematic review. *J Shoulder Elbow Surg*. 2009;18(4):652–660. doi:10.1016/j.jse.2009.01.010.
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 5. Kuhn JE. Exercise in the treatment of rotator cuff impingement: a systematic review and a synthesized evidence-based rehabilitation protocol. *J Shoulder Elbow Surg*. 2009;18(1):138–160. doi:10.1016/j.jse.2008.06.004.
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