**IMPINGEMENT-ROTATOR CUFF TEARS**

*Impingement* is a term used to describe the compression of the rotator cuff on the underside of the acromion bone of the shoulder. It is typically a degenerative process that can be divided into 3 progressive stages: 1) inflammation/bursitis of the cuff, 2) partial rotator cuff tear, 3) complete rotator cuff tear. The chance of having a FULL THICKNESS TEAR of the rotator cuff and not even know it, is about 10% per decade of life (i.e. a 60% chance of having a tear on MRI, without any symptoms, at age 50).

There can be many causes but the most common is age and degeneration (degenerative rotator cuff disease). This typically occurs in people over 35 yr old. With rotator cuff weakness, the impingement becomes worse as shoulder function deteriorates. Other causes include trauma, bone deformity, instability or muscle weakness (secondary impingement).

In the past, it was thought that the bone spurs cause impingement but that has been disproved. Evidence shows that age–related tendon degeneration actually leads to the spurs. Isolated removal of the spurs (decompression) is rarely needed but is often done when a tear is repaired. However, this is also an area of controversy and becoming less popular as it creates more pain and scarring.

In general, primary impingement should be treated as follows:

1) Trial of anti-inflammatories and rehab of the rotator cuff/scapula with progression to home exercises. This phase lasts for 2-3 months
2) Subacromial injection of steroid medication (for bursitis only): 1 or 2 is only as more can cause further damage to the rotator cuff tendons
3) Surgical treatment: arthroscopic removal of bone spurs and repair of torn cuff tendons. A complete, repairable tear should never be injected.
4) Rehab by a skilled shoulder therapist should accompany all of these treatments
5) Definitive treatment completed within 1 year of onset has the best outcomes.
Once the rotator cuff is torn completely, it should be repaired if symptomatic in active people, regardless of age. Recovery is lengthy (1 yr minimum) with return to many activities by 6 months. If the tear is asymptomatic (no pain and no loss of strength), then conservative treatment can be used as long as the tear is monitored clinically or by MRI every year to make sure it does not become larger. With advancing age, tears tend to heal more slowly and healing is often incomplete despite excellent clinical outcomes.

Arthroscopic techniques offer the safest and quickest recovery. Large open repairs are rarely used, even in massive tears. During surgery, the bone spurs (if present) are removed, the tear repaired and if there is any degeneration of the AC Joint (end of collar bone), that may be addressed as well. Any other incidental problems are typically treated at the same time.

If a tear enlarges, it should be repaired if possible. Some tears can progress to the point of being non-repairable, even in a matter of several months. These lead to significant and often permanent loss of function of the shoulder. Surgery at this stage is difficult and recovery lengthy and incomplete. Various advanced techniques can be used but results are not predictable. Failure rates can be as high as 50%.

There are several phases of recovery:

1. Surgery to reattach the torn tendon(s) to the bone using suture anchors (screws with sutures)
2. Protect the repair (not fully immobilize): This requires sling usage and caution to make sure the repair is not stressed too much for the first 6 weeks. Some activities are allowed and will be specified, as they depend on size/location/age of the tear, tissue quality, patient age etc
3. Motion: Passive motion for the first 6 weeks and as healing of the tear (6-8 weeks) progresses, active motion can begin. Ultimately, I like to see 80% of full motion by 3 months. If not, a minor procedure to clear out scar tissue may be required. However, it is better to be more stiff than to push too hard with motion and disrupt the repair (which requires another surgery to repair).
4. Strength: This portion of recovery lasts up to 12-18 months. I typically recommend 1-2 months in PT until a good home exercise program can be taught. Following that, a few visits back to PT every few months is helpful.
5. Return to Sports etc: This may start around 6 months but depends on a variety of factors. Full return may take 12-18 months especially in overhead activities.

NOTE: SMOKING leads to failed healing and should be stopped!

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