Time To Stop Using the Term Shoulder Impingement Syndrome

Shoulder problems labeled shoulder impingement syndrome often make it difficult to raise the arm overhead. Patients are able to raise the arm forward or out to the side to a certain point. But then the arm won't go any further without help from the other hand lifting it up.

Another sign of shoulder impingement is pain that occurs when raising the arm from about 90 degrees until the person gets the arm up to around 120 degrees of motion. Then the arm continues on its merry way to the top, no problem. Pain often occurs when bringing the arm back down -- and usually in the same place: when the arm is about 120 degrees away from the body moving back down to around 90 degrees. From 90 degrees down to the side is usually painfree.

This type of clinical presentation has been referred to as an impingement syndrome since the early 1970s when the term was first used. But better diagnostic tests such as MRIs, ultrasound, and arthroscopic exam are making it possible to clearly define the problem. And that may mean the term 'impingement syndrome' is out-of-date.

To make a case for clearer diagnostic categories for impingement syndrome, researchers from the University of Washington in Seattle conducted a systematic review. They looked at all the published studies on impingement syndrome and evaluated five specific topics:

1. the reliability of using clinical signs and tests to make the diagnosis of impingement
2. the idea that pressure on the rotator cuff by the acromion (bone across the top of the shoulder) causes impingement
3. evidence that contact with the coracocromial arch does not occur in normal shoulders, thus confirming this pressure as the real cause of the impingement
4. data to support the idea that bone spurs under the acromion can cause impingement and represent another reason to remove the acromion
5. evidence to support the idea that the best way to treat any impingement problem with the acromion or coracoacromial arch is with surgery to modify the anatomy (and take pressure off the rotator cuff tendons);the procedure to remove the bone is called an acromioplasty

Based on analysis of the hundreds of articles reviewed, the authors found it is possible to identify the underlying cause of impingement. But clinical tests and X-rays can be misleading. Clinical tests currently used to diagnose a rotator cuff problem (such as the Neer test or Hawkins sign) just aren't reliable. Advanced imaging with ultrasound, MRIs, or arthroscopy are really needed to reach a clear and accurate diagnosis.

The most likely causes of impingement are rotator cuff tendinosis, partial-thickness tear, full-thickness tear, bursitis, or tight posterior capsule. Any of these conditions can cause the clinical presentation of pain and limited motion we still refer to as impingement.

This information points to the need to change billing codes from the nonspecific terminology associated with 'impingement' to more accurate categories. Once that step has been taken, then it will be possible to conduct further research. Surgeons and Physical Therapists will be able to compare treatments for each specific diagnostic category and truly find out what works best for each one.

The authors concluded that using the term 'impingement syndrome' to describe this shoulder condition and to direct surgical treatment (acromioplasty) is not supported by evidence reported over the last 40 years. From what we can see now, there are patients who get better without acromioplasty when they are treated conservatively with steroid

injection, anti-inflammatory medications, and Physical Therapy. And there are patients who do not get relief from their painful symptoms after acromioplasty.

This study supports the idea that rotator cuff impairment is the root cause of the so-called 'impingement' problem. The authors further suggest that conservative care to rehabilitate the rotator cuff muscles will, in many cases, restore a more normal shoulder alignment and function, thus stopping the impingement and avoiding the need for surgery.

Where does that leave us? Who are the patients who can benefit from nonoperative treatment? And what works best for each one? These are the questions that yet remain and require further investigation. With more accurate diagnostic codes, this type of research can be conducted with meaningful answers obtained to these questions.

Reference: Anastasio Papadonikolakis, MD, et al. Published Evidence Relevant to the Diagnosis of Impingement Syndrome of the Shoulder. In The Journal of Bone and Joint Surgery. October 5, 2011. Vol. 93-A. No. 19. Pp. 1827-1832.

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