

ARTHROSCOPIC ACROMIOPLASTY REHABILITATION PROTOCOL

Introduction

Mechanical Impingement Syndrome is a common cause of acute and chronic shoulder pain in patients over 40 years of age. In this condition, the rotator cuff tendon and the surrounding bursa becomes “pinched” under the acromion when the arm is elevated above 90 degrees. In the majority of cases, this condition usually resolves with a period of rest, an exercise program and occasional cortisone injections. About 25% of patients will fail to improve with nonoperative treatment and surgery may be required. Patients under 25 years of age rarely have the compressive rotator cuff disease typically seen in older patients. In these younger patients underlying muscular weakness & imbalance, poor mechanics and glenohumeral instability (secondary impingement) should be identified and treated. Additionally, throwing athletes are more likely to develop “internal impingement” where injury occurs to the posterior labrum and posterior rotator cuff.

Acromioclavicular Joint Pain can sometimes be associated with impingement syndrome or can occur as an isolated problem. Pain in this joint can occur because of arthritic changes, joint sprain, separation after an acute injury or from osteolysis of the distal clavicle (which typically occurs in weight lifters). Again, rest and an exercise program usually results in improved symptoms. Occasionally, a cortisone injection is required and can have both a diagnostic and therapeutic benefit. In patients who fail conservative management, an open or arthroscopic distal clavicle resection may be required.

Partial or Complete Rotator Cuff Tears may also occur in conjunction with impingement syndrome. In general, patients with subacromial impingement have a partial tear that involves the subacromial (bursal) side of the rotator cuff. Patients with a partial tear on the glenoid (articular) side, often have underlying glenohumeral instability, “internal impingement” or other pathology. Many of these will become asymptomatic after treatment of the impingement syndrome with rest and rehabilitation. In patients who require surgery for the impingement syndrome, the partial rotator cuff tear can also be addressed. The surgical treatment, however, is somewhat controversial. In general, if more than 50% of the thickness of the cuff is involved,

the area should be debrided thoroughly and either repaired with a side to side closure or repaired back to bone (depending on the area of the cuff that is involved). If less than 50% of the thickness is involved, a debridement alone is usually satisfactory. Patients who require repair of a partial or complete rotator cuff tear will have a separate rehabilitation protocol.

Surgical Treatment for Mechanical Impingement

Open Technique: Open acromioplasty has been described by Neer and others as a “gold standard” treatment for subacromial impingement . This technique, however, requires detachment or dissection of the deltoid muscle, which in some cases can delay the postoperative rehabilitation. Using this technique, the anterior aspect of the acromion is debrided so that the rotator cuff has more room in the subacromial space. Over the past 10-15 years, many surgeons have begun performing this procedure with an arthroscopic technique.

Arthroscopic Technique: This technique can be performed on an outpatient basis where the patients are given general anesthetic with or without an interscalene block. The interscalene block will help with postoperative pain control. The advantage of this technique is that the arthroscope can be initially placed into the glenohumeral joint in order to identify and treat any other pathology that may be present. Afterwards, the scope is repositioned into the subacromial space where the bursal tissue is resected and an anterior acromioplasty is performed. The coracoacromial ligament, which also plays a role in impingement syndrome, is usually resected with a cautery device. The amount of acromion that is removed is generally based on the preoperative radiographs. If a distal clavicle resection is required, it can be performed with an arthroscopic technique also. The acromioclavicular joint is identified and the distal clavicle is resected using a burr type of device.

Younger patients with “secondary” or “internal” impingement should have a thorough examination under anesthesia followed by arthroscopy. Subtle instability, SLAP lesions and other abnormalities should be identified and treated. An acromioplasty and distal clavicle resection is only required if significant bony abnormalities are identified. In most cases resection of the inflamed bursa along with treatment of the intra-articular pathology is all that is required.

At the end of the procedure, a sterile dressing is applied and the patient is instructed to ice the shoulder regularly. The patient is given a follow up appointment with the surgeon usually 1-4 days postoperatively. At that point, patients are generally referred to physical therapy for supervision of the rehabilitation protocol.

REHABILITATION PROTOCOL

Phase I: Immediate Postoperative Phase

Goals:

- Restore passive and AROM as tolerated.
- Pain free sleep and activities of daily living to 90 degrees of forward elevation and abduction.

Weeks 0-4

- Cryotherapy (ice) to control pain and swelling.
- Passive, active-assistive and/or active ROM to tolerance (pendulum, pulley, PROM and/or wand exercises in all planes of motion.)
- Submaximal isometric strengthening exercises as tolerated.

Phase II: Intermediate Phase

Goals:

- Full, pain-free AROM and light work activities.

Weeks 4-12

- Cryotherapy as needed.
- Joint mobilization and stretching exercises.
- Tubing exercises, particularly for internal and external rotation with the arm at the side.
- Dumbbell exercises may be initiated as tolerated.
- Flexion and abduction strengthening should be kept to less than 90 degrees.
- Internal and external rotation can also be performed while lying on the side.
- Periscapular stabilization exercises as tolerated.

Phase III: Advanced Strengthening and Return to Sports

Goals:

- Pain-free work and/or athletic activity.

3-6 Months

- Begin heavier isotonic strengthening exercises. May begin strengthening above 90 degrees of forward elevation and abduction to tolerance.

Begin a sports specific functional progression. May return to full work or athletic activities once the patient is completely pain-free throughout an entire functional progression. Patient should maintain regular home exercise program: rotator cuff and periscapular muscle strengthening along with capsular stretching exercises.

As always progression through the Phases is individualized for each patient and a successful outcome is dependent on adequate communication between the patient, therapist and surgeon.