PM&R knowledge NOW®

A resource on Physical Medicine and Rehabilitation (PM&R) topics developed by the American Academy of Physical Medicine and Rehabilitation (AAPM&R)

Impingement Syndromes of the Shoulder

Condition: Impingement syndrome of the shoulder (also called shoulder impingement syndrome [SIS]) is a condition that occurs when the tendons of the rotator cuff muscles are squeezed as they pass through the shoulder.

Background: The space between the arm bone (humerus) and the top of the shoulder (acromion) is called the subacromial space. The rotator cuff is a group of muscles that provides stability to the shoulder joint and passes through the subacromial space. When this space is narrowed because of spurs or an irregularly shaped shoulder acromion bone, the rotator cuff muscles can impinge on normal movement of the shoulder and cause pain. This type of impingement is the most common cause of shoulder pain, accounting for 40% of shoulder disorders. SIS can also be caused by a lack of stabilization of the shoulder blade, compression of the rotator cuff between the shoulder and top of the arm bone, injury, or repeated overuse of the rotator cuff muscles.

Risk Factors: SIS affects athletes and persons older than 40 years. Lately, an increase in shoulder injuries in young athletes has been seen, likely due to the increase in year-round sports.

History and Symptoms: Patients describe pain on the front and outside of the shoulder, especially with overhead activities such as throwing, painting or reaching a high shelf.

Physical Exam: A physical medicine and rehabilitation (PM&R) physician will perform a physical exam to evaluate pain, weakness, muscle balance, stability, and range of motion. The neck will also be examined to make sure it is not contributing to the shoulder pain. Furthermore, a PM&R physician will evaluate a patient's ability to perform daily activities and understand the common movements of athletes and workers, also known as biomechanics. Clinical shoulder pain/disability tools and questionnaires may also be used to aid in diagnosis and treatment plans.

Diagnostic Process: X-rays and MRI may be used to evaluate the cause of the syndrome or pinpoint the injury. A PM&R physician may also use ultrasound to obtain real-time information about the severity and cause of the shoulder condition.

Rehab Management: A PM&R physician is uniquely trained to create a well-structured rehabilitation program for patients with SIS. Their specialized training allows work with physical therapists, athletic trainers and case managers to create the best treatment plan for the patient. These treatments start with rest, modification of activities, and pain medications. A physical therapist will work to re-establish normal shoulder strength and range of motion. As the therapist continues to work on coordination of muscles, a trainer may be involved with integrating the entire movement into occupational and/or sport-specific training. If pain limits the patient from participating in physical therapy, a PM&R physician can provide an injection of steroids into the shoulder to provide temporary relief, allowing therapy to continue. In more recalcitrant cases, other injections may include dextrose (called prolotherapy) or platelet rich plasma. Injections are usually performed with ultrasound guidance to assure the medications gets to the precise location where it is needed. While most patients are successfully

treated within 3 months of a rehabilitation program, surgery may be necessary in patients who do not improve after 3-6 months of treatment.

Other Resources for Patients and Families: Patients should be educated on SIS and the treatment options available. Patients, families, coaches, and employers should be made aware that recovery can be slow and that rushing back to participation (as in throwing athletes) can result in additional injuries.

Frequently Asked Questions

What is PM&R?
Physical medicine and rehabilitation (PM&R), also known as physiatry, is a primary medical specialty that aims to enhance and restore functional ability and improve quality of life to those with injuries, physical impairments or disabilities affecting the brain, spinal cord, nerves, bones, joints, ligaments, muscles and tendons. PM&R physicians, known as physiatrists, evaluate and treat the whole body, maximize patients' independence in their daily life and are experts in designing comprehensive, patient-centered treatment plans to empower patients to achieve their goals. By taking the whole body into account, they can accurately pin-point problems, decrease pain, assist in recovery from devastating injuries and maximize overall outcomes and performance with non-surgical and peri-surgical options. To learn more, visit www.aapmr.org/aboutpmr.

What makes PM&R physicians unique?
PM&R physicians' training focuses not just on treating medical conditions, but on enhancing the patient's performance and quality of life in the context of those medical conditions. They focus not only on one part of the body, but instead on the development of a comprehensive program for putting the pieces of a person's life back together – medically, socially, emotionally and vocationally – after injury or disease. PM&R physicians make and manage medical diagnoses, design a treatment plan and prescribe the therapies that physical therapists or other allied therapists perform or that are carried out by the patients themselves. By providing an appropriate treatment plan, PM&R physicians help patients stay as active as possible at any age. Their broad medical expertise allows them to treat disabling conditions throughout a person's lifetime.

Why see a PM&R physician?
A PM&R physician will thoroughly assess your condition, needs, and expectations and rule out any serious medical illnesses to develop a treatment plan. By understanding your condition and goals, you and your PM&R physician can develop a treatment plan suited to your unique needs.

How do I find a PM&R physician near me?
Visit www.aapmr.org/findapmrphysician or contact your primary care physician for a referral.