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# *What's Your Game Plan?*

## **Sports Injuries**

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Sports medicine often involves analyzing the delicate balance between supply and demand. Injuries occur most often when the demand outstrips the supply. The stronger, more enduring the muscle, the less likely fatigue will occur. On the other hand, if demand wins out, the patient will develop microtears of the musculotendinous tissue, and will ultimately end up with some form of tendonopathy.

Rotator cuff tear pains are quite significant and, characteristically, cause pain at nighttime, disturbing a patient's sleep.

### *What is learned from the history ?*

As part of any history of a patient presenting with pain, physicians must ask pertinent pain-related questions (Table 1).

While asking these questions, it is important to think anatomically, so as to understand what structures might be injured. A past history of previous sports injuries/traumas, family history of arthritides, and medical history screening are important.

### **Alan's case**

Alan, 45, complains of pain on the upper/outer aspect of his right shoulder. The pain has been building over the past three months. He has no history of shoulder injury, but loves to play tennis three times a week. He has no problems sleeping, unless he lies on his right side.



His physical examination shows very little limitation in his active range of motion, but he does have pain with resisted testing of his right external rotators of his rotator cuff.

**How would you manage Alan's shoulder pain?**

**For a followup, go to page 82.**

### *What will the physical exam tell you?*

There are many important features to look for during the physical exam (Table 2). Part of the pain may be from mechanical limitations secondary to scar tissue/adhesions, and this is why

Table 1

### Questions to ask in a patient history

- Where is the pain located?
- When did the pain begin?
- What aggravates the pain?
- What alleviates the pain?
- What is the quality and quantity of the pain?
- What are the associated symptoms?

Table 2

### What to look for during the physical exam

- How patients take off their coat/sweater
- What their active range of motion is like
- Whether there is any evidence of looseness through the glenohumeral joint
- Whether there are any impingement signs
- Whether there is any compensatory movement

it is important to assess the patient through both an active and passive range of motion. If patients can't lift their arm, but you can lift it for them, a mechanical obstruction is less likely the problem. At that point, the integrity of the rotator cuff must be considered.

A thorough neurologic exam may be necessary to confirm there isn't an underlying cervical problem or other problem that may be contributing to the condition.

### *Should radiologic tests be performed?*

The decision to order a radiologic test should always be based on what you want

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### Frequently Asked Questions

#### 1. What is the labrum of the shoulder?

It is a soft tissue structure that offers greater stability to an already unstable joint. It attaches to the glenoid rim and the humeral head circumferentially, and deepens the cup of articulation for the shoulder.

#### 2. What is the most accurate radiologic test to diagnose a tear of the labrum of the shoulder?

It usually gets torn in a dislocation of the shoulder, and is best diagnosed by a magnetic resonance imaging arthrogram. X-rays are of no benefit.

#### 3. Can a rotator cuff tear be repaired arthroscopically?

Yes, but one really has to consider all of the pathology in the shoulder to determine how successful an arthroscopic repair would be. If the repair will not be as stable after arthroscopic assistance, an open repair should be pursued.

#### 4. What is an enthesophyte?

This term, in the shoulder, usually refers to a bone spur hanging from a degenerative acromioclavicular joint. This spur can act as a dagger, rubbing and digging into the rotator cuff muscle/tendon over the years. If this is seen in a radiologic report, the patient probably has some degree of impingement pain.

#### 5. What is the best initial treatment for a first time dislocation of the glenohumeral joint?

This is a very controversial area of discussion. I would immobilize the shoulder, with the arm kept in internal rotation across the chest for two weeks. Then I would get the arm/shoulder moving with a skilled physical/athletic therapist, and monitor the patient's progress each week. The whole rehabilitation process should take six to 12 weeks.

Table 3

### PRICE

#### P—Protect

#### R—Rest

- Don't completely rest the arm
- Place the patient on modified activity so as to not aggravate the shoulder

#### I—Ice

- Ice has an anti-inflammatory effect on the site of injury
- If heat feels better, heat should be used three times/day

#### C—Compression

- Wrap a tensor around the shoulder
- Only necessary when there is acute injury and a lot of swelling is anticipated

#### E—Elevate

to know and how the result will change the management strategy. If the result of the test is not going to change your management, there really is no logic in performing the test. Quite often, it is reasonable to wait and see how the patient recovers from treatment before getting any more aggressive with the workup. If there is suspicion of a tear of the rotator cuff, there may be some added value in performing a shoulder arthrogram, a soft tissue ultrasound, or a magnetic resonance imaging arthrogram, which will delineate structures even further for diagnostic purposes.

### *What are the treatment options?*

In sports medicine, there is a consistent approach applied to most injuries known as PRICE (Table 3).

Other important means of treatment include a course of physical therapy, local non-steroidal anti-inflammatory drugs (oral systemic and/or topical); and other pain medications (*e.g.*, acetaminophen), along with modified activity.

More advanced forms of supplemental treatment include acupuncture, massage therapy, cortisone injection(s), chiropractic therapy, and osteopathy. Skilled sports medicine practitioners can help co-ordinate all of these forms of treatment for their patients.

If conservative treatment fails, arthroscopic surgery should be considered for both diagnostic and therapeutic purposes. Whatever the form of treatment, physicians must ensure that it sits well with the patient. If not, other treatment options must be considered.

### *What is the GP's role?*

A physician's job is to restore and/or maintain a patient's quality of life. In sports medicine, patients facilitate this task, as there is a very high compliance rate. The reason for this is that patients are greatly motivated to do what they

are told in order to return to their normal lifestyle.

Another important job of the practitioner is to acknowledge that time has to be used as an asset. The key is setting the patients' expectations properly from the start of the treatment regimen, so they know exactly what to expect.

Physicians must also remember that their primary interest is in the well-being of the patient/athlete. It is important not to let outside sources influence medical decision-making. These influences include pressure from

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### Take-home message

#### *How should a sports injury be dealt with?*

- Most sports injuries can be treated using the PRICE method.
- More serious injuries can be treated with medication or surgery, but the practitioner must always consider the patient's feelings when deciding which method is best. When methods are felt to be inappropriate, the practitioner should give the patient other options.
- The practitioner must focus on the injury, however, emphasis must also be put on body parts surrounding the injury.

parents and coaches to return the athlete to his/her sport. Note that any shortcut attempted may ultimately turn into a "long-cut!"

Finally, spend time with patients and explain the situation to them. The more they know, the easier it will be to get them to co-operate along the way. Teamwork was never more evident than in sports medicine. In addition, when treating any condition, always try to address the core strength of the individual. Focusing only on the site of injury will not give the patient the best chance for long-term benefit. One must address the strengthening of all the muscles, distal and proximal, to the affected area. Being thorough is the key to a successful outcome. **Dx**

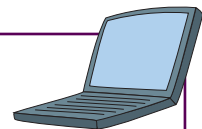
### A followup on Alan

Alan is having right shoulder pain. Shoulder pain can develop from a trauma, or from overuse. Clearly, there is no indication of trauma in this scenario.

His condition is related to overuse of his physical tolerance. His age is important, as once a person passes the age of 40, it is much easier to tear the rotator cuff. Moreover, the patient's condition has been building over a month, so this helps understand that he has pretty good function. However, his shoulder pain is slowly progressing, causing limitations due to pain.

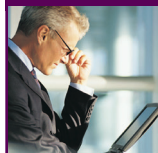
In Alan's case, there would be very little yield in performing an X-ray, as the results wouldn't alter the management plan. His problem sounds very much like a soft tissue issue. A magnetic resonance imaging scan or soft tissue ultrasound would be more useful if he doesn't progress in his treatment.

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