STANFORD
SCHOOL OF MEDICINE
Stanford University Medical Center

DEPARTMENT OF ORTHOPEDIC SURGERY
SPORTS MEDICINE
Marc R. Safran, MD
Professor, Orthopaedic Surgery
Chief, Division of Sports Medicine

SPORTS HERNIA / ATHLETIC PUBALGIA / CORE MUSCLE INJURY

DESCRIPTION

This is an ill defined injury to the groin, involving the lower abdominal muscles and/inner thigh muscles, where they attach to the front of the pelvis. It generally is an overuse type injury, in that it does not involve a single acute episode. These muscles attach to the front of the pelvis on either side of the symphysis pubis joint. The symphysis pubis joint joins the two of the main bones of the pelvis. The symphysis pubis joint is made up of the pubic bones (portion of the pelvis), cartilage, a joint capsule and joint fluid. As there has recently been an association with femoroacetabular impingement (FAI) of the hip, there is some thought that limited hip rotation seen with FAI puts excessive stress on the pubic symphysis. The motion at the pubic symphysis is limited by the bony morphology, cartilage disc and ligaments of the pubis. The lower abdominal muscles and adductor muscles of the thigh may contract to limit motion at the pubic symphysis and get overloaded, as they are not biomechanically oriented to efficiently limit that motion, and may be injured as a result. Some other doctors think that there is a posterior wall weakness, though not true hernia, that is the cause of the pain.

FREQUENT SIGNS AND SYMPTOMS

- Pain, discomfort or ache, tenderness and swelling at the front of the pelvis at the pubic symphysis. The pain may extend to the groin, inner thigh and/or lower belly
- Symptoms usually start slowly and insidiously following the activity, and progress to affect the whole activity, becoming constant pain.
- Pain is worsened with pivoting on one leg, kicking a ball, sprinting, jumping, climbing stairs or sudden change of direction while running.
- Also pain is worse with stretching, particularly separating the legs/thighs or with bringing the thighs/legs together against resistance.
- Walking or running with a limp
- Weakness bending the hip or kicking
- Pain doing a sit up.

CAUSES

Unclear, but felt to be due to excessive or repeated stress to the pubic symphysis with vigorous activities or due to repeated tension from muscles that attach to the area, as noted above. There is an association with FAI.

RISK INCREASES WITH

- Sports that require repetitive kicking, such as soccer or football kicker, and sports that require repetitive jumping. It is also commonly seen in distance runners, fencers, ice hockey players and weight-lifters
- Previous osteitis pubis,
- Stiffness or loss of motion of the hip

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PREVENTIVE MEASURES

- Appropriate conditioning including cardiovascular fitness and pelvis, hip and core strength, endurance and flexibility
- Proper technique
- Hip flexibility

EXPECTED OUTCOME

Symptoms are reduced by stopping sporting activity. However, symptoms usually recur with return to sports. Overall, the condition is curable by avoiding the exacerbating activity but if symptoms return with continued activity, then surgery can resolve the problem.

POSSIBLE COMPLICATIONS

- Recurrent symptoms, especially if athlete resumes activity to soon
- Prolonged healing time if usual activities are resumed too early
- Chronic pain and inflammation of the lower abdomen and groin

GENERAL TREATMENT CONSIDERATIONS

Initial treatment consists of medications and ice to relieve pain and reduce inflammation. Modify the activities that initially caused the problem to occur by eliminating those activities, often with substituting them with other activities that do not cause symptoms. Core strengthening exercises are considered important. These can be carried out at home, though referral to an athletic trainer or physical therapist for further evaluation and treatment may be helpful.

Cortisone injection to the location of maximal tenderness may be attempted to relieve the symptoms and inflammation. Very slow and gradual return to sports is attempted after all symptoms have disappeared. If symptoms persist despite at least 3-6 months of conservative treatment and the athlete is unwilling or unable to give up participating in the sport, surgery may be necessary. Surgical options include standard hernia repair or other muscle techniques.

MEDICATION

- Non-steroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take if surgery planned within 7 days), or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed - contact your physician immediately if any bleeding, stomach upset or allergic reaction occurs.
- Pain relievers may be prescribed as necessary, usually after surgery. Use only as directed.
- Injections of corticosteroids to the area of maximal tenderness may be given to reduce inflammation and pain, to allow good effort with rehabilitation.
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HEAT AND COLD:

- Cold is used to relieve pain and reduce inflammation. Cold should be applied for 10 - 15 minutes every 2-3 hours for inflammation and pain, and immediately after any activity which aggravates your symptoms. Use ice packs or an ice massage.
- Heat may be used prior to performing stretching and strengthening activities prescribed by your physician, physical therapist or athletic trainer. Use heat pack or a warm soak.

NOTIFY OUR OFFICE IF

- Pain, tenderness or swelling worsens or does not improve despite 2-6 weeks of treatment
- New, unexplained symptoms develop. Drugs used in treatment may produce side effects.

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