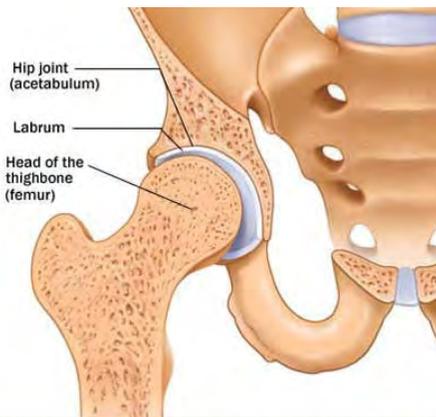
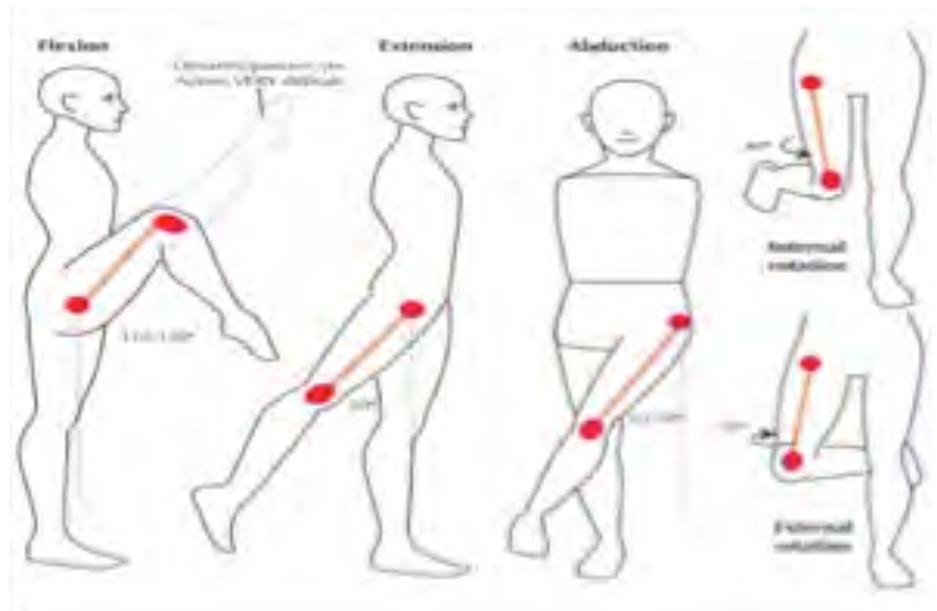


The What, Where and Why of FAI: Femoroacetabular Impingement

By Ryan Schreiter, DO and Mark Sakr, DO

Hip pain is a common complaint among athletes. A particular area of recent focus is Femoroacetabular impingement (FAI). FAI typically affects young athletes. FAI is a specific hip or groin pain caused by anatomic abnormalities that affect the normal range of motion of the hip. This mechanical mismatch can injure the surrounding tissue of the hip joint, specifically, the labrum. Initial injury to the labrum can then progress in degenerative joint disease that has the potential to lead to arthritis. These

Hip Range of Motion Done on Physical Exam



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IN THIS ISSUE

The What, Where and Why of FAI: Femoroacetabular Impingement

5 Things to Aid in Weight Loss

Coach's Corner:
Staying Fit in Youth Sports

Choosing Wisely:
Don't Routinely Order X-Ray For
Diagnosis of Plantar Fasciitis/Heel
Pain

abnormalities in anatomy and mechanics are now thought to be a cause of hip osteoarthritis. The prevention of injury is a priority of sports medicine physicians leading to in-depth research in FAI. Advances in FAI management hope to aid in the prevention of osteoarthritis, which has the possibilities of prolonging pain-free athletic careers.

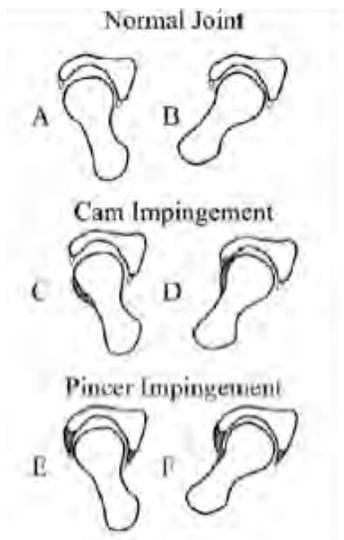
Understanding femoroacetabular impingement begins with basic anatomy. The hip is a ball and socket joint made up of the femur (thigh bone) and the pelvic bone called the acetabulum. The acetabulum is then surrounded by cartilage called the labrum which acts as a gasket for the hip joint. Normally, this ball and socket engineering allows for a wide range of motion seen in extremes in athletes playing hockey, gymnastics and dancing.

Any changes in the normal anatomy in the hip can cause pathology. Patients

with FAI will complain of pain, usually worsened with prolonged sitting or standing as well as activities that require deep bending at the hip. Another complaint will be clicking, locking or catching of the hip. Subtle changes in the normal anatomy of the hip's ball and socket joint can result in pain and chronic hip problems that can be on-going for those patients and athletes with FAI.

FAI can have specific findings during a physical exam. Patients and athletes will complain of chronic on-going, deep, groin or side of the leg to buttock pain. Pain during provocative testing often occurs. One common position is bending at the hip, adduction and internal rotation of the hip joint. Another sign affected patients will show is when the patient cups his or her hand around the outside of the hip forming a C-shape which is commonly called the "C-sign".

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Two proposed causes of FAI are changes in the bones themselves: cam impingement and pincer impingement.

The cam lesion is defined as an



Cam lesion indicated with the arrow on the femur.

abnormal shape of the femur bone going into the socket. The cam lesion is most commonly present in young males. It can present as vague hip pain with hip bending, adduction and

internal rotation. The lesion causes a mechanical pressure to the hip's labrum, which then also affects the articular cartilage. Cam lesions are initially diagnosed on a plain X-ray film, seen below. Findings can be obvious or subtle.

Pincer impingement is an abnormal shape of the acetabulum or hip socket. This impingement is more common in active, middle aged women. Pincer impingement occurs because additional bone extends over the normal edge of the acetabulum causing over-coverage of the hip joint. The labrum can be pinched under the prominent rim of the acetabulum which then affects the articular cartilage. Two deformities may also be present in cases in which the FAI would be termed mixed and defined as a combined form of impingement.

After the diagnosis of FAI is made, the proper treatment plan is set into place. Most commonly, treatment begins



X-ray of the hip showing an obvious pincer lesion indicated by the white arrow

with physical therapy and medications for inflammation and pain control. It is important that physical therapy focuses on strengthening

and range of motion of the hips. Improving strength in the hips and muscles surrounding the joint will help to alleviate stress in the already abnormal areas of the hip ball and socket joint. Another recommendation can be simply lifestyle modification. These changes in a daily routine can also help limit stress to the hip areas.

For more severe cases or if the mechanical problems of FAI do not improve, a physician may recommend injection and/or surgical intervention. Two options of surgery are open incision and arthroscopy. Research continues to grow in the field of hip arthroscopy or minimally invasive surgery. Hip arthroscopy could be a possibility for patients with the diagnosis of FAI in the hands of a skilled surgeon. The focus of surgical treatment is to correct the mechanical abnormalities of the bones called osteotomy, as well as consideration for repair to the labrum based on the surgeon's findings.

Non-surgical and surgical treatments of femoroacetabular impingement continue to be an evolving field of study in sports medicine. As research studies continue in the diagnosis and treatment of FAI, patients and their physicians will be able to address this issue even more effectively and help patients with FAI stay in the game.

5 Things to Aid in Weight Loss

By Jeffrey Bytowski, DO

With the New Year upon us, many of us will embark on losing that holiday weight and then some. Unfortunately, less than 10% of people stick with their plans and keep the weight off during the year. Many fail their "diet" or exercise programs, but here are five simple things you can do without changing either of those to get you started on the way to a healthier you! You may need to be evaluated by a physician for any weight loss or exercise program if you have any significant medical or joint problems. Here are five ways to help you lose weight without a specific diet or exercise program:

1 Chew thoroughly and slow down.

Your brain needs time to process what you have eaten. Faster eaters are much

more likely to be obese. You may even consider counting how many times you chew in the beginning to help you slow down. Also sit down and put down the electronics when you eat! Don't eat on the go.

2 Serve yourself smaller portions.

This may include using smaller plates or bowls. Consider using a salad plate instead of a regular size one.

3 Drink water regularly and before meals.

Drinking a glass of water prior to your meal will help you eat less. Drinking water throughout the day will also help with unhealthy snacking. Also consider replacing water for that sugary beverage or diet drink at meals.

4 Eat more protein.

Eating protein can help you feel fuller and help you keep lean muscle mass versus losing fat. Most people will eat fewer calories if they increase their protein consumption to 30% of daily calories. Good sources of protein include eggs, fish, grass-fed meats, chicken, and Greek yogurt.

5 Sleep more and avoid stress.

Lack of sleep can disrupt hormones and diminish your willpower in times of stress causing you to reach for the quick, unhealthy meal or snack. Getting good sleep will help your body recover and maybe even motivate you to start eating better and exercising!

COACH'S CORNER

Staying Fit in Youth Sports

By Trent Christensen, MD

Childhood obesity and poor physical fitness are common problems in the U.S. Overeating, drinking sugary beverages and lack of exercise often contribute to being overweight. One of the ways children can improve their fitness is by joining an organized sports team.

There are many different organized sports for children to choose from. Soccer, baseball, and basketball are common sports that children play. Organized sports incorporate both high amounts of exercise and through proper coaching, can provide a foundation of living healthy lives. There are three basic concepts that some coaches are teaching their athletes to help them be healthier.

- 1. Drink right.** Many drinks that children consume contain high amounts of calories. The best drink while playing sports is water. Most sports drinks are unhealthy and can contribute to obesity. Sports drinks can contain up to nine teaspoons of sugar in a 20 oz. bottle.
- 2. Snack smart.** Children often snack on the wrong types of food. Desserts, soda and pizza are the top three sources of calories in a typical child's diet. Healthy alternatives to these types of foods are fruits and vegetables.
- 3. Move more.** Joining an organized team does not automatically mean you're getting exercise. Many kids who join a team still do not move enough during practice or games. It is important to run, jump, shoot and pass as much as possible while playing. Kids should feel tired after practicing or playing games.

By following these three rules, children can live healthy lives and have fun doing it!

Source: http://www.usyouthsoccer.org/us_youth_soccer_launches_first-of-its-kind_nationwide_child_obesity_prevention_training_for_coaches/



Resource courtesy of SportsMedToday.com.

**Choosing
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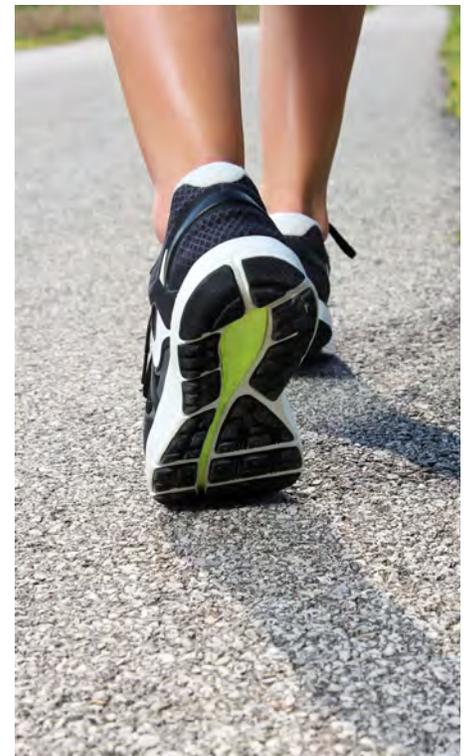
An initiative of the ABIM Foundation

Don't Routinely Order X-Ray For Diagnosis of Plantar Fasciitis/ Heel Pain

By Benjamin Oshlag, MD

Choosing Wisely® is an initiative of the American Board of Internal Medicine and is supported by multiple medical societies, including the American Medical Society for Sports Medicine. Each society was asked to contribute five diagnostic tests or treatments that both physicians and patients should question. The highlight this issue is the American College of Occupational and Environmental Medicine's "number 4" recommendation:

Don't routinely order X-ray for diagnosis of plantar fasciitis/heel pain in employees who stand or walk at work, as the diagnosis is in most cases
continued on next page...



evident from the worker's history and physical examination. X-ray is not recommended except in cases where a serious underlying medical condition is suspected, such as fracture or infection.

Plantar fasciitis is a disorder of the insertion of the plantar fascia as it inserts on the calcaneus (heel bone), causing pain in the heel and bottom of the foot. It is usually most severe following a period of rest, such as when waking up and taking the first steps of the day and can worsen with dorsiflexion of the foot and toes. The pain typically improves with walking or other activities, and may resolve through course of the day.

The underlying cause of plantar fasciitis is not fully understood, however it is thought that microtears, tissue breakdown and scarring play a larger role than inflammatory processes. Risk factors include jobs or activities which require long periods of standing, a period of rapid increase in activity level, obesity, high arches and excessive pronation of the foot while walking. Tightness in the Achilles tendon and poorly fitting shoes have also been identified as risk factors.

The diagnosis can be made with a history and physical exam alone. During the exam, the patient will be tender along the inside part of the heel and into the sole of the foot. X-ray evaluation typically is not necessary, unless there is a suspicion for a more serious problem that might be revealed on imaging. These include fracture (broken bone) or



Plantar fasciitis

Inflammation of the plantar fascia

infection, though with a history typical of plantar fasciitis and in the absence of trauma or infectious symptoms, these are far less likely.

Heel spurs are occasionally seen in conjunction with plantar fasciitis and can be found in up to 10% of the population. Only five percent of those with heel spurs have foot pain however, and the pain from plantar fasciitis is not a result of spurring. The presence of a heel spur does not affect management of the patient and therefore is not a reason to obtain X-rays in a patient with suspected plantar fasciitis.

Initial treatment of plantar fasciitis usually involves conservative methods,

including rest, medications and a stretching program. Ice massage or rolling on a frozen water bottle, can also be effective. Formal physical therapy, orthotics (shoe inserts) and night splints can also be considered. Injections may be effective in some cases, however repeat injections should be limited due to the risk of side effects. Surgery can be considered in prolonged cases but is usually not necessary.

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Editor-in-Chief: Jeffrey Bytowski, DO

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