Hughston Health Alert

6262 Veterans Parkway P.O. Box 9517 Columbus GA 31908-9517

VOLUME 10, NUMBER 4 | *For a Healthier Lifestyle* | FALL, 1998

The Sacroiliac Joint

When Your Back's Against the Wall

Located between the sacrum (tailbone) and ilium (hip bone) in the pelvis, the sacroiliac (SI) joint (Fig. 1) is a common but frequently overlooked source of low back pain. SI joint pain is not specific to any particular age group, occupation, or sporting activity.

Establishing the diagnosis

Diagnosing SI joint dysfunction can be difficult because the symptoms and physical findings of this condition are also seen in other well-recognized causes of low back pain (including a herniated, or slipped, disc). Your physician can diagnose SI joint dysfunction by carefully reviewing your clinical history and performing a thorough physical examination (see page 3). Plain x-rays, CT, and MRI are not usually helpful in establishing the SI joint as a source of low back pain, other than ruling out back pain that may be caused by a disc herniation, pinched nerve, inflammation, or infection.

Symptoms

The main symptom is a sharp or aching pain in the lower back, usually to one side. This pain is frequently felt in the groin (Fig. 2A) and usually extends down the back of the thigh and occasionally as far as below the knee (Fig. 2B). SI joint pain is increased when you are sitting for long periods of time (such as in an automobile or during a long plane ride) and is frequently alleviated by standing or walking. Rarely are there associated neurologic problems in the lower extremities (knee, leg, foot), such as numbness, tingling, or weakness.

Inside This Issue:

- Rehabilitation of the Sacroiliac Joint
- The Reality of Fibromyalgia
- Creatine
- Nutritional Guidelines for the Athlete

Figs. 2A (left)& 2B (right) Pain drawings of typical sacroiliac joint dysfunction
Pain is usually unilateral (one sided) and does not seem to originate in the lumbar area.

Fig. 3 Patrick's test
Patrick's test stresses the hip and SI joints. A positive test produces back, buttocks, or groin pain.

Physical findings

Although there is no direct method for isolating SI joint dysfunction during a physical examination, there are several tests that can help your physician localize the pain in the SI joint during examination (Figs. 3, 4, & 5).

Treatment

Most patients can be successfully treated by SI joint manipulation, mobilization, and a prescribed exercise routine to maintain joint mobility (see next article). Temporary use of nonsteroidal anti-inflammatory drugs (such as ibuprofen) or occasional joint injection may be helpful. Studies are now being conducted to discover the advantages of surgically fusing a sacroiliac joint that has not benefited from conventional treatment, but surgery is generally a last resort for patients who continue to have pain.

If you have any current back problems, such as sharp pains or constant stiffness, don't hesitate to see your physician. With proper treatment, you can get "back" to a normal, healthy lifestyle.

Thomas N. Bernard, Jr., M.D.
Columbus, Georgia

Fig. 4 Gaenslen's test
Gaenslen's test is performed with the patient supine (on the back). The hip joint is maximally flexed on one side and the opposite hip joint is extended. This maneuver stresses both sacroiliac joints simultaneously.

Fig. 5 Yeoman's test
Yeoman's test stresses the sacroiliac joint by extending the leg and rotating the ilium. A positive test produces pain over the back of the sacroiliac joint.

Rehabilitation of the Sacroiliac Joint

The sacroiliac (SI) joint is a very irregularly shaped joint located where the ilium (hip bone) and the sacrum (tail bone) meet (see below). The joint has very little motion; however, the limited motion it does have is very important to the proper functioning of the lumbar spine, as well as the hip.

The SI joint is susceptible to traumatic (sudden, forceful injury) and inflammatory conditions. Common causes of injury are slips or falls; however, it also can be "injured" by overuse. Overuse can result from frequent and prolonged bending or sitting for extended periods of time. Occasionally, intense pain can arise from doing something as simple as bending over to pick up a pencil or tie a shoe.

Fig. 2 **Physical therapist manipulation**

Fig. 4 **Prone leg lift strengthening exercise**

Fig. 5 **Alternate arm and leg strengthening exercise**

Fig. 3 **Stretching exercise**

How is SI joint dysfunction treated?

Treatment of SI joint dysfunction actually begins with an examination by a physician to rule out any disorders that may be serious enough to warrant surgery. Once the physician has eliminated the possibility of any serious ailments, a referral to a skilled manual physical therapist is in order to restore normal range of motion (Fig. 2). Once normal mobility has been attained by appropriate and specific manipulation/mobilization techniques, stretching exercises are begun to maintain the mobility of the joint (Fig. 3). After the SI joint has been free of pain for a short period of time, specific strengthening exercises can be started (Figs. 4 & 5).

Although SI joint dysfunction is a relatively common ailment, it is frequently misdiagnosed and mistreated. Most low back problems related to joint dysfunction or weak muscles can be treated conservatively and effectively by a skilled manual physical therapist.

William D. Jones, P.T., CSCS
Columbus, Georgia

The Reality of Fibromyalgia

Fibromyalgia (FM) is a chronic (long-lasting) pain syndrome. Some believe that FM is an inflammation of fibrous tissue; however, this is a misnomer because there is no confirmed inflammation in the soft tissues (skin, ligaments, tendons, and muscles). Instead, FM is actually a collection of signs and symptoms (not a disease) that affect several million people in the United States. Most cases of fibromyalgia are found in females (90%), usually in the third decade of life (20s); however, FM can affect males and females of all ages. Symptoms include, but are not limited to, fatigue, generalized muscle aches, spasms, soft-tissue swelling, difficulty sleeping, migraine headaches, depression, anxiety, irritable bowel, and memory trouble.

The mystery

FM is a troubling problem for both patients and medical professionals because it is not diagnosable with any blood test, x-ray, or neurologic examination. However, the American Academy of Rheumatology has developed criteria for the diagnosis of FM. The criteria include the following:

- Having dispersed pain in the trunk and extremities (arms, hands, legs, feet) for at least 3 months and
- Having at least 11 of 18 specific tender points detected by physical examination (Fig. 1).

What causes FM?

Despite ongoing research, the cause of FM is unknown. Most experts believe that lack of sleep (leading to neurochemical deficiencies in the brain) and psychological factors contribute to FM. Some studies have shown that physical injury, viral infection, and emotional trauma can also lead to FM symptoms. Specific soft-tissue abnormalities, however, have not been associated with FM.

Is FM a disabling condition?

It depends on whom you ask. There is general agreement among medical professionals that FM should not lead to disability claims. There is no apparent disease of the muscles or joints, and a person will not become disfigured or disabled from FM. Unfortunately, there is no existing "pain-o-meter" (pain-measuring device) to validate its existence. The chronic pain cycle in FM consists of pain, inactivity, and physical or emotional deconditioning (Fig. 2, p. 6). Poor sleep and poor nutrition can worsen this condition. Unless the cycle is broken, pain is certain to increase as a person's physical and emotional health declines.

How is FM treated?

There has been no specific treatment approach to withstand the rigors of scientific investigation, but some people with FM have had success with a variety of treatment methods.

Initially, a person with FM symptoms should be formally examined by a qualified medical professional to rule out any other specific medical conditions, joint dysfunctions, or soft-tissue restrictions. The focus would then be to address the deficiencies, break the pain cycle of inactivity and deconditioning, restore proper sleep patterns, improve nutrition, and increase emotional stability. Education is paramount, and information is available to help cope with depression, stress management,

Fig. 1

Fig. 2 **Chronic Pain Cycle**

physical conditioning, energy conservation, nutrition, sleep, and chronic pain-management strategies. This information can be obtained from sources such as health professionals, local and state chapters of the Arthritis Foundation, the Internet, and local support groups.

Nonsteroidal anti-inflammatory drugs (such as ibuprofen), non-narcotic analgesics, muscle relaxants, and tricyclic antidepressants are frequently prescribed for people with FM and have been helpful with temporary relief of pain, restful sleep, and decreased morning stiffness. Corticosteroids, immunosuppressants, and narcotic analgesics are not recommended.

Physical and occupational therapy is often ordered by physicians to further evaluate and treat any detected musculoskeletal dysfunction. If no movement dysfunctions are present, generalized stretching, strengthening, and aerobic conditioning will follow. Some individuals may benefit from other measures, such as heat, ice, nerve stimulation, and massage. Aquatic or pool therapy may also provide a soothing environment for exercise. The ultimate goal of rehabilitation efforts is to promote independence and educate individuals on management techniques so they can return to their normal activities.

Depending on the severity of the depression and anxiety, psychological or psychiatric counseling may be recommended to address the cognitive and behavioral aspects of dealing with chronic pain. Local support or self-help groups may also fulfill emotional needs.

Despite the puzzling nature of FM, clinicians are hard at work to discover its causes and to provide the best care possible. Remember, it is important to consult your physician if you feel that you or anyone close to you may be suffering from FM. Only then will you be taking the first step in coping with this problem.

Richard J. McKibben, M.S., P.T.
Columbus, Georgia

Creatine

Too Good to Be True?

The notion that athletes are willing to experiment with performance-enhancing drugs or dietary supplements to gain a competitive advantage is not new. The current rage in gyms around the country is the dietary supplement known as creatine monohydrate. This compound is a synthetic version of creatine phosphate, an amino acid found naturally in most body cells, particularly skeletal muscle. Both forms of creatine are involved in manufacturing adenosine triphosphate (ATP), which produces the energy that skeletal muscles need to contract and the body needs to move.

Because the body does not store much ATP, it must have a mechanism to replenish ATP if activity is to continue. The ability to replenish ATP is then linked to the amount of creatine stored in muscle. In theory, if creatine levels are increased, ATP production is enhanced, allowing you to prolong workout sessions, achieve greater strength and power levels, and increase lean body tissue.

Creatine supplementation is usually in two phases. Initially, relatively large doses (20-25 grams/day) are ingested for 5 to 7 days to saturate muscles with creatine. A maintenance phase follows, involving much lower amounts to be taken indefinitely.

Studies examining the performance-enhancing ability of creatine supplementation are conflicting. The following points reflect literature findings to date and should be considered and discussed with a physician before making a decision to supplement your diet with creatine:

- Studies show that roughly 1/3 of individuals using creatine supplementation are unable to absorb extra amounts into their muscles, thus

experiencing no improvement in performance or lean tissue mass.

- Recreational athletes appear to be able to ingest ample amounts of creatine in a normal diet that includes meat and fish. Positive effects of supplementation may be limited to higher-level athletes whose creatine levels are depleted at faster rates than can be replenished through diet.
- Creatine supplementation may be counterproductive for some athletes. Endurance athletes, such as marathoners, long-distance runners, and cyclists, may find the extra muscle mass undesirable as performance times are slowed.
- Given the role of creatine in energy production, supplementation appears most appropriate for serious athletes involved in sports requiring short bursts of explosive power, such as football, sprinting, wrestling, and weightlifting.
- The literature to date has focused on the short-term effects of creatine supplementation. The potential effects of use over a period of months or years are not yet known.

Brian McCluskey, Ph.D.
Columbus, Georgia

Nutritional Guidelines for the Athlete

Besides having to work on strength and conditioning to maximize performance, an athlete must fulfill his or her nutritional needs. Athletes need more calories to replenish their energy than nonathletes. It is important that the athlete's diet consists of adequate amounts of protein, carbohydrates (CHO), fat, and the 50-plus nutrients the body needs. These cannot be provided in any one food or supplement.

Foods High in Iron

eggs	2	2 mg
liver	2 oz.	2 mg
beef	2 oz.	2 mg
lima beans	1 cup	2 mg
fortified cereal	½ cup	2 mg
pork	2 oz.	1.5 mg
turkey	2 oz.	1.5 mg
broccoli	1 cup	1.5 mg
prune juice	½ cup	1.5 mg
turnip greens	1 cup	1.5 mg
collard greens	1 cup	1.5 mg
shredded wheat	¾ cup	1.5 mg

Fats and CHOs are the main sources of energy for an athlete. CHOs are the most efficient fuel for the body. Protein is used as an energy source only when CHOs and fats are not available. Because muscle is made of protein fibers, many people believe extra dietary protein will increase muscle strength. This is simply not true. Excessive amounts of protein have not been proven to enhance performance or muscle strength. In fact, the body cannot store excess protein, but instead will convert it to fat for storage. A well-balanced diet should provide plenty of protein (1.0-1.5 grams of protein/kilogram of body weight per day); therefore, excessive amounts of protein are not needed. Also, a diet too high in protein can deprive the body of CHO. This may lead to dehydration due to the increase in water requirements necessary to eliminate the nitrogen by-product of protein through the urine.

Dietary Sources Of Calcium

skim milk	1 cup	302 mg
lowfat yogurt	1 cup	415 mg
Swiss cheese	1 oz.	272 mg
cheddar cheese	1 oz.	204 mg
brick cheese	1 oz.	191 mg
pink salmon	3 oz.	167 mg
canned sardines	3 oz.	372 mg
cooked broccoli	1 cup	136 mg

Athletes sometimes look for that one item that may give them the winning edge. Through the years, many foods have been promoted as helping to improve performance. These claims are based on anecdotal evidence without scientific documentation. Therefore, these performance "promoters" are only more expensive forms of protein, sugar, vitamins, or fat.

Since most athletes ingest adequate amounts of calories, vitamin and mineral supplementation is only needed in special situations. A vegetarian or someone allergic to milk may need a supplement to make up for foods missed in the diet. Many athletes take megavitamin supplements, but there is no scientific study showing vitamin intake in excess of the Recommended Daily Allowance (RDA) will significantly enhance performance.

Two minerals requiring special attention are iron and calcium. Iron is important because it helps to circulate oxygen within the body and is involved in energy production. Iron RDA for men is 10mg/day and 15mg/day for women. Red meat is the richest source of iron, although fish and poultry are good also. Fortified breads and cereals, beans, and green leafy vegetables contain iron as well. Foods rich in vitamin C help increase iron absorption. Studies show that some female athletes, in particular, do not get enough calcium. Calcium supplements may be recommended if intake is less than 800 to 1200 mg/day. For most athletes, supplements do not need to be routinely consumed.

There is no shortcut to the gold medal. It takes a combination of good training and conditioning along with proper nutrition to provide optimal performance.

Leslie Balhatchet, R.D., L.D.
Columbus, Georgia

What are growing pains?

The cause of growing pains is unknown. It is a condition in which children, girls more than boys, have limb pain for unknown reasons. The symptoms usually involve the legs more than the arms and occur between the ages of 4 and 12. The pains are primarily deep in the muscles of the thigh and calf, often occurring at the end of the day and waking the child from sleep. The condition is intermittent, with pain episodes occurring week-to-week for 1 year, but eventually disappearing over a 1- to 2-year period. Limping, altered gait, or warm, swollen joints are not associated with this condition. If your child's growing pains do not resolve or progressively worsen, he or she should be seen by a physician. Stretching, massage, heat, and ibuprofen can help alleviate some of the discomfort. Lastly, children and parents should be reassured that this condition is common and eventually, the child will "grow out of it."

Robert Gazmamarian, M.D.
Glendale, California

The *Hughston Health Alert* is a quarterly publication of the Hughston Sports Medicine Foundation, Inc. The Foundation's mission is to help people of all ages attain the highest possible standards of musculoskeletal health, fitness, and athletic prowess. Information in the *Hughston Health Alert* reflects the experience and training of physicians at The Hughston Clinic, P.C., of physical therapists and athletic trainers at Rehabilitation Services of Columbus, Inc., of physicians who trained as residents and fellows under the auspices of the Hughston Sports Medicine Foundation, Inc., and of research scientists and other professional staff at the Foundation. The information in the Hughston Health Alert is intended to supplement the advice of your personal physician and should not be relied on for the treatment of an individual's specific medical problems.

Send Inquiries to Medical Writing, Hughston Sports Medicine Foundation, Inc., P.O. Box 9517, 6262 Veterans Parkway, Columbus GA 31908-9517 USA.

Copyright 1998, Hughston Sports Medicine Foundation, Inc. *ISSN# 1070-7778*

Editor
George M. McCluskey, III, M.D.

Managing Editor
Daniel Archilla
Art Director
Carolyn M. Capers, M.S.M.I., C.M.I.

Editorial Board
Thomas N. Bernard, Jr., M.D.
Patricia L. Brewster, FACMPE
Clark H. Cobb, M.D.
David T. Curd, M.S.
William C. Etchison, M.S.
Bruce A. Getz, ATC
Leland C. McCluskey, M.D.
Teri Mingee, M.S., P.T.
Leslie E. Neistadt, ELS
Reuben Sloan, M.D.
Jessie G. Wright, M.S., R.D., L.D.
Jill Yates, R.N., O.N.C.

President & CEO Hughston Sports Med. Fdn.
James E. Crissey, M.S.

Hughston Web Page

http://www.hughston.com

Health Hint

Lack of a proper daily diet can result in vitamin deficiencies. However, you may not realize that tobacco, alcohol, and certain lifestyles can also deprive your body of much needed nutrients. For instance, smoking can reduce available vitamin C, alcoholic beverages can hamper your body's ability to use vitamins B and C, and a stressful lifestyle can affect nutrient absorption. So, remember to eat well and stay healthy.

Hughston Health Alert

P.O. Box 9517
Columbus GA 31908-9517

U.S.
POSTAGE PAID
COLUMBUS, GA
PERMIT NO. 99
NONPROFIT ORG.