What’s New in the Relief of Low Back Problems
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Studies show that sacroiliac (SI) joint disruption/dysfunction is a challenging condition affecting up to 25% of patients with axial low back pain.1

Patient education is a critical component of healthcare today. It is important that you are informed of your diagnostic and treatment options, including the type of device that your doctor will recommend. In this educational brochure, you will find information about low back problems caused by SI joint disruption/dysfunction and various treatment options for stabilizing the SI joint, including SI joint fusion using the iFuse Implant System®. We invite you to read on to learn about the diagnosis and procedure that could help restore your lifestyle.


A History of SI Joint Disruption & Dysfunction

SI joint disruption/dysfunction and associated symptoms have been well known for over a century. In fact, in the early 1900’s all symptoms which seemed to arise from the back were attributed to the SI joint, and all surgical cures were directed at that joint. However, none of the operations for the SI joint had greater than a 50% success rate, and frequently the patient was worse off than before the surgery.

In 1934, a paper was published on the disc as a source of symptoms in the back. As a result, disc treatment became the most common operation for orthopedic surgeons, and the SI joint was all but forgotten. Now, 70 years later, orthopedic and spine surgeons as well as pain specialists have recognized that the disc is not the only source of low back symptoms in the axial skeleton.

According to published scientific data, it’s common for pain from the SI joint to mimic disc or low back pain. Many patients go on to receive lumbar spine surgery instead of SI joint fixation, so SI joint disruption and dysfunction should be strongly considered in low back pain diagnosis.2

SI Joint in Back & Pelvic Symptomology

The SI joint is located in the pelvis; it links the iliac bones (pelvis) to the sacrum (lowest part of the spine above the tailbone).

Like any other joint in the body, the SI joint can be injured and/or become degenerative. When this happens, people can feel pain in their buttock and sometimes higher on the axial skeleton. This is especially true with lifting, running, walking or even sleeping on the involved side.

It is important to note that on occasion, patients who have not had symptomatic relief from lumbar spine surgery may actually have had other issues to begin with. This could include the SI joint, the hip, the spine, or any combination of these three pain generators.

Diagnosis of the SI Joint as a Source of Symptoms

The good news is that your surgeon can now distinguish between low back symptoms arising from the lumbar portion of the spine and the SI joint. A variety of tests performed during physical examination may help determine whether the SI joint is a source of your symptoms. In addition, X-rays, CT-scan or MRI are helpful in the diagnosis of SI joint-related problems. It is also important to remember that more than one condition (like a disc problem) can co-exist with SI joint disruption or dysfunction.

An often relied upon method to accurately determine whether the SI joint is the cause of your low back symptoms is to inject the SI joint with Lidocaine, a local anesthetic. Your surgeon will deliver the injection with either fluoroscopic or CT guidance to verify accurate placement of the needle in the SI joint. If your symptoms are decreased by a minimum of 75%, it may be surmised that the SI joint is either the source, or a major contributor, to your low back pain. If your symptoms do not change after SI joint injection, it is less likely that a problem with your SI joint is the cause of your low back symptoms.

Conservative Therapy

Once the SI joint is confirmed as a source of your symptoms, treatment can begin. Some patients respond to physical therapy, chiropractic manipulations, use of oral medications, as well as injection therapy. The anti-inflammatory effect of SI joint injections is not permanent and do not offer an opportunity to stabilize an incompetent SI joint.4

Intermittent use of a pelvic belt may provide symptomatic relief as well. These treatments are performed repetitively and frequently symptom improvement using these therapies is only temporary. At this point, your doctor may consider surgery for treating your SI joint.

SI Joint Fusion with the iFuse Implant System®

SI joint fusion is a surgical procedure in which the joint is fused to its intended position and weightbearing function. With the iFuse Implant System, this is accomplished by inserting three small titanium implants across the sacroiliac joint to stabilize and fuse it.

1. What are some causes for pain in the lower back, buttocks or pelvic region?

Low back pain is a common symptom that affects many people during their lifetime. For some, low back pain can be an acute, short-term problem. Others experience chronic, long-term symptoms. There are many structures in the lower back and pelvic area that can cause pain. Most commonly, people think of a “slipped disc” as a cause of low back pain. The word “sciatica” may be used when describing low back pain. Occasionally, hip problems can be confused with low back conditions. In fact, there are many causes of back pain, including arthritis of the back, osteoporosis, and a poorly aligned spine. The SI joint can be a significant contributor to pain in the lower back, pelvic region, buttocks, or legs.

2. Where is my SI joint?

The SI joint is located in the pelvis, linking the iliac bone (pelvis) to the sacrum (lowest part of the spine above the tailbone).

3. How does my SI joint work?

The function of the SI joint is to transfer weight and forces due to movement from your upper body through the pelvis to your legs and vice versa. Your pelvis acts as a central base through which large forces are transferred and dissipated. The primary role of the sacroiliac joint is to provide stability for the pelvis and to bear the load of the upper body.

4. Why does the SI joint start having problems?

If the motion in your pelvis is asymmetric, then dysfunction can occur in your SI joint. You could have asymmetric motion if your legs are significantly different in length. This can be congenital or caused due to an injury or illness such as polio or scoliosis. Other conditions that can predispose you to SI joint dysfunction include having one leg that is weaker, such as seen with hip osteoarthritis. These biomechanical conditions, or even wearing inappropriate footwear, can alter your gait and cause repetitive stress to your sacroiliac joint and related structures. Other potential causes of SI joint problems include degenerative disease, history of trauma, pregnancy/childbirth, and other unknown reasons.

5. How does the SI cause pain?

The SI joint is a synovial joint. This type of joint has free nerve endings that can cause chronic pain if the joint degenerates or does not move properly. The SI joint has been long known to cause pain in the lower back and buttocks. Like any other joint in the body, the SI joint can become arthritic or its support ligaments can become loose or injured. When this happens, people can feel pain in their back, especially with lifting, running or even walking. In these cases, the pain is felt in the back, sometimes similar to the pain caused by a “disc” or spinal arthritis.

6. How common are SI joint problems?

It is commonly reported in clinical literature that up to 25% of all low back pain is caused by the SI joint. Many risk factors are associated with lower back pain, and many are directly associated with lumbar disc injury. These may include, smoking, poor physical condition, positive family history, and occupational lifting.5,6,7

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Frequently Asked Questions

7. How is low back pain due to the SI joint manifested?
Many people have low back pain due to the SI joint that begins spontaneously. However, over half the time SI joint pathology can be related to a specific event, often an injury. It is difficult to directly relate any specific functioning difficulty (including walking, sitting, standing, sleeping on the affected side, job activity, bowel movements, cough, sneeze, etc.) to the sacroiliac joint as a source of pain. The most significant indication is the specific location of the pain below the L5 joint.

8. Who is at risk for SI joint problems?
Women may be at increased risk for SI joint problems because of their broader pelvises, the greater curve of their necks, and shorter limb lengths. In addition, pregnancy often leads to stretching of the pelvis, specifically in the sacroiliac ligaments. Injury from accidents is another predisposing factor for SI joint pain.

9. How would I know that my SI joint is not functioning properly?
If you have trouble sleeping comfortably, or frequently experience your knee giving way, pain in certain lying or bending positions, or tenderness in your buttocks, you may have SI joint disruption or dysfunction.

10. Will my doctor check for SI problems?
Doctors do not always look for the SI joint as a source of lower back pain, although many articles have been written about it. Sometimes your back pain may have been previously diagnosed as lumbar spinal pain. However, if your symptoms don’t fit what the doctor can see on an MRI, this may indicate that your pain is coming from a place other than the lumbar spinal region. Your doctor may determine if your SI joint is the source of your pain by ruling out other sources of pain as well as running specific tests.

11. What should I tell my doctor about my back or buttock pain?
The most important information you can give your doctor is the exact location of your pain. Try to notice when the pain occurs and how intensely you feel it in various locations, including your low back, buttocks, and legs. Also, be sure to tell your doctor about any previous injury that may have either directly affected your pelvis, or caused you to walk asymmetrically.
12. How will my doctor determine whether I have SI joint problems?

Your doctor will consider all the information you provide, including any history of injury, location of your pain, and problems standing or sleeping. Your doctor will also give you a physical examination. You may be asked to stand or move in different positions and point to where you feel pain. Your doctor may manipulate your joints or feel for tenderness over your SI joint. All of these can help establish a diagnosis of SI joint dysfunction.

In addition, X-rays, a CT scan, or MRI may be helpful in diagnosis of SI joint dysfunction. It is also important to remember that more than one condition (like a disc or hip problem) can co-exist with SI joint dysfunction and your doctor will need to check for other factors that may be causing your pain.

The most reliable method to accurately determine the cause of SI joint pain is to inject the SI joint with painkillers. Your doctor will deliver the injection with either fluoroscopic guidance or CT guidance to ensure that the needle is accurately placed in the SI joint. If, following the injection, your pain is decreased by more than 75%, then it can be concluded that the SI joint is either the source, or a major contributor, to your low back pain. If the level of pain does not change after the injection, it is less likely that the SI joint is the cause of your low back pain.

13. How easy is it to diagnose SI joint problems?

It is not always easy to diagnose SI joint dysfunction. Sometimes your physical findings may indicate a SI joint dysfunction, but chronic changes may also be seen in your lumbar spine. Your doctor may discuss the difficulty of making a correct diagnosis in the presence of multiple abnormalities. To confirm the SI joint as the source of low back pain, injections are invaluable. Provocation tests are helpful for localizing the pain source.

14. What are some options for treatment of SI problems?

There are several options for treating SI joint dysfunction. Some people respond to physical therapy, chiropractic manipulations, and exercises. Others require more interventional treatments including various oral medications, or therapeutic injections. Usually pain improvement using these therapies is temporary and treatments may need to be performed repeatedly to treat recurrent pain. Long-term pain relief can be accomplished through a surgical procedure known as sacroiliac joint arthrodesis or SI joint fusion. This procedure reduces pain by stabilizing and fusing the joint and eliminating the joint motion.

15. How well does SI joint fusion work?

SI joint fusion has been shown in clinical publications to resolve back pain with a high degree of reliability. By fusing the SI joint, the joint may be immobilized in its intended position and weight-bearing function.
Who is Eligible to Have SI Joint Fusion?

The iFuse Implant System consists of fusion implants and associated surgical instruments. The fusion implants may be used even when a person has previously had other orthopedic or spine surgeries and implants. SI joint problems may coexist with lumbar, spine or hip conditions. Read on to learn about how appropriate diagnosis and surgical treatment of SI joint symptoms has changed patient’s lives.

Case 1: SI Joint Fusion after Hip Replacement

Raymond Dickerson, 68 years of age:
“...I went to my doctor with persistent low back problems several years after undergoing hip replacement surgery. I was spending many hours in physical therapy without experiencing any relief.

Due to the severity of the symptoms, my physician recommended minimally invasive surgery (MIS) after he diagnosed it using CT guided injections, which provided temporary relief. Within three months of MIS surgery, I experienced significant relief. In the subsequent months, I continued to improve, and at one year, the MIS iFuse procedure has helped return me to a normal lifestyle.”

Case 2: Job-related Repetitive Stress Injury

Peter Haskins, 57 years of age:
“My lower back symptoms hampered my ability to function efficiently at work. My job requires repetitive bending and twisting movements that left me virtually unable to walk to the car at the end of the day. After many years of attempts to treat what were thought to be disc symptoms, additional diagnostic testing was suggested. I was given a CT guided injection to the SI joint, which resulted in short term relief of my symptoms. My doctor explained that the temporary resolution of my problems demonstrated the SI joint as the source of my problems. After a discussion of the options, I elected to undergo MIS SI joint surgery in hope of finally having longterm relief. A year later, I am now finally able to live, work and thrive again.”

This handout is meant for informational purposes only and should not be mistaken for medical advice or treatment. Patients must consult their physician prior to making any treatment decisions. Individual results and activity levels after surgery vary and depend on many factors including age, weight and prior activity level.

There are risks and recovery times associated with surgery and there are certain individuals who should not undergo surgery. Only a physician can tell you if this product and associated procedure are right for you and your unique circumstances. To locate a trained specialist to perform the iFuse procedure, please contact SI-BONE at 1-866-737-2510, e-mail patientinfo@si-bone.com, or visit www.si-bone.com.