

S I JOINT DYSFUNCTION

Sacroiliac joint dysfunctions are common terms used to describe the pain of the sacroiliac joint. It is usually caused by abnormal motion (i.e. hyper- or hypo-mobile) or malalignment of the sacroiliac joint. Sacroiliac joint syndrome is a significant source of pain in 15% to 30% of people with mechanical low back pain.

SI joint dysfunction is known by other terms as well, such as SI joint syndrome, SI joint disorder, SI joint disease, SI joint strain, and SI joint inflammation.

CAUSES: Causes of SI joint dysfunction include the following conditions:

- **Hypermobility:** When the ligaments that connect the sacrum to the pelvis are too loose this can lead to instability and too much movement in the SI joints.
- **Pregnancy:** During pregnancy the ligaments stretch to allow the pelvis to widen. This along with the extra weight a woman gains during pregnancy causes extra wear on cartilage and can lead to an inflammatory response in the SI joints.
- **Injury:** A forceful impact from incidents such as a direct fall onto the buttocks, a car accident, or sports injury can strain or tear the ligaments of the SI joints.
- **Degenerative joint diseases** such as arthritis can cause deterioration in the SI joints. Arthritis can lead to the wearing down of the cartilage, and the fluid that typically reduces friction in the cartilage during movement can become inflamed, leading to SI joint dysfunction.
- **Ankylosing spondylitis** is a chronic inflammatory disease that causes inflammation between vertebrae and facet joints and between the spine and pelvis. It may lead to the SI joints fusing, resulting in reduced flexibility.
- Wearing a walking boot following foot or ankle surgery or choosing to wear non supportive shoes most days can cause degenerative inflammatory sacroiliitis.
- **Uneven leg length:** Sacroiliac joint pain can be triggered when one leg is weaker or longer than the other which creates uneven movement and stress in the pelvis.

SYMPTOMS: Common symptoms include:

- pain in the lower back
- pain in the buttocks, hips, and pelvis
- pain in the groin
- pain limited to just one of the SI joints
- increased pain when standing up from a sitting position
- stiffness or a burning sensation in the pelvis
- numbness
- weakness

- pain radiating down into the thighs and upper legs
- feeling like your legs may buckle and not support your body

DIAGNOSIS:

Imaging test: X-ray: lumbosacral spine plain (AP and lateral views), pelvis (AP view)

MRI: investigation of choice; highly sensitive for active sacroiliitis.

Ultrasound: useful in pregnancy to detect posterior ligamentous pathology.

Special test: Provocative SI joint tests include:

Patrick's test or figure of 4 test also called flexion, abduction and external rotation test (FABER): This test is used to evaluate for pathology of the sacroiliac joint. The patient lies supine on the examination table and is asked to place one foot on the opposite knee (placing the hip in flexion abduction external rotation). While supporting the pelvis with one hand the physician presses firmly down on the flexed knee while supporting the pelvis at the opposite anterior superior iliac spine. A positive finding of this test is pain in the sacroiliac joint of the leg being tested.

Gaenslen's test: Performed with the affected side hip extended off examination table and unaffected side hip and knee flexed and held by patient. Shearing across SI joint causes pain.

SI joint compression test: Performed with patient in side lying on exam table medially directed force applied over the iliac crest on the affected side and reproduction of pain is considered positive

Anterior sacral thrust test: Performed with patient positioned prone on the examination table anteriorly directed force is applied to the sacrum. The test is considered positive if pain is reproduced in the SI joint.

SI distraction test: With the patient supine on the examination table a posteriorly directed force is applied over the ASIS, the test is considered positive when pain is reproduced in the SI joint.

TREATMENT:

Conservative: These can include:

- Anti-inflammatory medications, including nonsteroidal, anti-inflammatory drugs (NSAIDs) such as aspirin, ibuprofen, and naproxen
- Muscle relaxants
- Oral steroids, for short-term use only
- Tumor necrosis factor inhibitors (TNF inhibitors) to treat AS
- Corticosteroid injections into the joint

- Radiofrequency ablation which uses energy to deactivate the nerves that are causing your pain.

Surgical: Surgery is considered at the last. In sacroiliac joint fusion surgery small plates and screws hold the bones in the SI joint together so the bones fuse or grow together. Your doctor may suggest this surgery if the pain is chronic and the combination of physical therapy, medications, or minimally invasive interventions hasn't been effective.

PHYSIOTHERAPY: It includes;

Modification of Activities of Daily Living (ADLs): Modify the activities like repetitive twisting and asymmetrical movements which worsen the symptoms and create strain on SI joints.

Education regarding posture & body mechanics:

The suggestions may include avoidance of:

- Sitting in asymmetric positions with knees crossed or shifted to one side
- Standing with the knees locked (hyperextended) and weight shifted to one side
- Twisting to one side for long periods or repeatedly: It is better to move the entire torso and prevent this strain on the SI joint especially in the spine.
- Sleeping on one side with lack of support under the waist and between the knees. This allows the trunk to bend to one side and may put the spine and hip in an asymmetric position for long periods leading to muscle stiffness/shortness and strain on the SI joint.

Braces: The use of a brace such as a sacroiliac belt provides stability during daily activities as your strength returns and flexibility improves.

Flexibility exercises: Stretching exercises may be prescribed to improve muscle flexibility and movement.

Strengthening exercises: Strengthening exercises improve the stability of the sacroiliac and spinal joints. They also help reduce pain.

Manual therapy: Hands-on (manual) therapy such as massage can help correct SIJ dysfunction. Your physical therapist will choose what techniques work best to improve your condition.

Modality: Some modalities that may be used during treatment include

- Ultrasound
- Short Wave Diathermy
- IFT
- TENS
- Moist heat pack

