There are two Sacroiliac (SI) joints. They connect both sides of the sacrum to the iliac part of the pelvic bones, forming the ring of the pelvis. The sacrum is usually formed by five vertebrae fused together (though it can be four or six). The SI joints are big and very strong and are synovial (fluid filled) joints. They are held together by thick and strong ligaments. They are subjected to a small rocking movement in opposite directions to each other when walking. They are subjected to twisting forces when the spine twists. They are under compressive forces when standing or walking, and extreme forces when
landing after a jump. The SI joints are ‘shock absorbers’, and transfer forces from the axial skeleton to the legs, and from the legs to the axial skeleton. In women, a large movement of the SI joints are needed to facilitate childbirth. No single muscle crosses the joints and moves the joints as a ‘prime mover’; instead, the joints are moved as a result of complex musculoskeletal movements such as walking.

What is Sacroiliac Joint Pain?

Sacroiliac pain is often described as pain that is focused in the lower portion of the back and the buttocks. It may radiate out to one hip. In some cases it may travel around to the front on one side, in the groin area. Some males may feel pain in the testicles as well. Pain may radiate down the back of one leg, to either the knee or the ankle, but will rarely be felt in the foot. The pain may be similar to sciatica. The pain may increase by walking or weight bearing on the affected side. Sneezing, coughing, rolling over in bed and bending may increase the pain. Stiffness in the lower back may be experienced as well.

The sacroiliac joint can become strained and inflamed, with or without a subluxation (this is a partial dislocation). The bones are slightly displaced, which stretches the ligaments that hold it together and causes them to become inflamed. Subluxation of an SI joint may be caused by bending and lifting to one side, or landing heavily on one leg. Pain can come from the joint surfaces or from the synovial membrane or fibrous capsule of the joint or from the ligaments that hold the joint together. These are rich in nerve endings, and therefore any inflammation or injury to this area results in pain. A subluxed SI joint may give the appearance of a short or long leg on that side, depending on the direction that the SI joint is subluxed. The resultant tilt of the base of the sacrum them puts a twist
and side-bending into the lower lumbar spine, and can cause dysfunction and symptoms in this region and sometimes above. A feeling that the leg, or hip, is rotated may accompany this condition, and the toes of one foot may turn out more than the other. One hip bone may appear higher than the other, and there may be asymmetry in the waist.

SI joint sprain may be accompanied by piriformis syndrome (see free PDF download on ‘Piriformis Syndrome’), though piriformis syndrome may occur without a SI sprain and be misdiagnosed as a SI sprain. Pain may radiate into one leg, either because there is pressure on some of the nerves to that leg, as some of them passes through the piriformis muscle (which crosses the SI joints); or because of a stretch of the hamstring or adductor muscles due to a shift of their origins caused by the ischial and pubic bones having moved by a subluxation of the SI joint.

The hormones of pregnancy soften the sacroiliac ligaments to allow extra movement of the sacrum, to enable the baby to pass through the pelvis at childbirth. Unfortunately this also means that pregnant women are more susceptible to sacroiliac joint strains. Also it is possible for one or both joints to become subluxed and ‘jammed’, which can lead to an obstructed delivery and an emergency caesarean if it is not corrected. Fortunately strained sacroiliac joints in pregnancy are easily treated, though it is important to see an osteopath who specializes in pregnancy, as not all osteopathic colleges train their students in the most suitable techniques. Unfortunately many pregnant women with sacroiliac joint strains are told that it is ‘normal’ and they have to live with it.

Sacroiliac Joint Pain may be the result of inflammatory disease processes such as ankylosing spondylitis, which can eventually lead to fusion of the SI joints. Fractures can be caused by acute trauma, such as a car accident, causing severe pain.

Conventional treatments include injections and surgery. Manipulation is best from an osteopath, who will make a complete bio-mechanical analysis of the joints and muscles of the spine and pelvic girdle; and treat where appropriate using both manipulation of the relevant joints and soft tissue work on the muscles.

Osteopaths have always believed the sacroiliac joints move and can become strained, and have always treated sacroiliac joint strains and dysfunction. Until recently, medical
doctors and physiotherapists didn't believe that sacroiliac joints could move, let alone become strained. This is because of the teachings of a famous British orthopaedic surgeon called James Cyriax, who died in 1985 at the age of 80. He always maintained that SI joints couldn't move or become strained, and that osteopaths were fraudulent for claiming that they could, which delayed the recognition of osteopaths. He taught crude and rough manipulation techniques to doctors and physiotherapists, ignoring underlying causes. Since his passing, it has become widely accepted that sacroiliac joints can move and become strained, and osteopaths are now widely recognized and regulated by statute. Unfortunately his methods are still widely practiced by doctors and physiotherapists.

Exercises

If you are looking to do exercises for sacroiliac joint pain then your first focus should be to stabilize the pelvis including the sacrum in proper alignment.

DO NOT do SI joint exercises in poor pelvic alignment, you will only stabilize the faulty alignment and cause more problems! See your osteopath first!

1) Learn neutral spine:

Neutral Spine is the healthiest and most stable position for the spine and pelvis taking in to account the natural curvature of the spine.

- **Standing:** Back up against a wall with your buttocks and shoulder blades leaning into the wall. Notice whether your lower back is against the wall or if there is an excessive arch there. The latter is more common.

  To achieve neutral keep the buttocks and shoulders against the wall and then draw the middle part of your back into the wall. You should feel the abdominal muscles engage and/or the ribs drawing in.

- **Lying:** Lying on a mat with your knees bent and feet hip width apart, arms at your side.

  Begin by releasing your tailbone down creating an arc in the lower back, move up into the mid back and draw it down without flattening the spine. The shoulder blades are down and heavy and the back of the neck is long, do this by drawing your chin down towards your chest leaving the size of a fist space there.
• Sitting: When sitting in a chair press your bottom right up against the back of the chair then stack the rest of the spine over it. Your collarbone is over your hip bones and your breastbone is right above the pubic bone. Navel drawn in gently.

Proper posture is the best way to reduce tension from sitting at work all day, on computers, driving, etc.

2) Pelvic Stabilization Exercises for Sacroiliac Joint Pain:

Wall squats

Position: Standing in neutral against the wall with your feet the length of your thighs away from the wall.

Action: Bend your knees no lower than a 90 degree angle keeping your weight in the heels evenly for both feet. Kneecaps should line up with the second toe in each foot. Repeat for 8-12 repetitions. Do 2-3 sets every other day.

Cues: Place hands on hip bones and make sure they stay level as you bend and lift, also keep the buttocks, shoulder blades, and mid part of the back against the wall throughout the exercise.

Pelvic clocks

Position: Lying on the floor with neutral spine and knees bent.

Action: Imagine your pelvis as a clock. 12 o'clock is at your navel, 6 is at your pubic or tailbone, 3 and 9 are the hip bones. Now imagine there is water in that clock or bowl and you are going to empty from 12 o'clock around clockwise and then counterclockwise feeling each number on the clock working.

Cues: Keep the knees still you are just mobilizing the pelvis.

Diaphragmatic Breathing

Position: Lying in neutral spine.

Action: Without changing the position of your spine inhale deeply through the nose filling up or expanding into the ribs and upper back, then exhale through your mouth expelling
the air again without changing the spine. On the exhale feel all the air leave your body feeling the muscles tighten around the waist as your abdomen flattens.

3) Strengthening Exercises for Sacroiliac Joint Pain:

Once you have a stable and aligned pelvis you can begin mobilizing exercises to continue strengthening.

**Leg Circles**

Position: Lying on the floor with one leg extended along the mat and the other at a 90 degree angle to the floor and a neutral spine.

Action: Keeping the pelvis still circle the thigh (leg) in the hip socket 6 times each direction. Switch legs.

Cues: Focus on keeping the torso and leg on the mat very still as you freely circle the leg in the air.

**Bridges**

Position: Lying in neutral with knees bent arms at your side.

Action: Inhale to prepare and exhale as you press into your heels lifting the pelvis up in neutral until weight is between shoulder blades not in the neck. Inhale hold then exhale to bring the tailbone and ribs down all at one time.

Cues: Focus on the navel drawn in to lift the pubic bone up to the ceiling. Weight even in the feet.

Rotation and side bending exercises can be added as you are symptom free in neutral spine.

**Stretching Exercises for Sacroiliac Joint Dysfunction**

The main objective of exercises for sciatic pain from sacroiliac joint dysfunction is to restore the range of motion in this joint which can be limited if the joint is inflamed.

Performing range of motion exercises directed at the SI joint can often restore normal movement and alleviate the irritation of the sciatic nerve. Three helpful exercises are:
Single knee to chest stretch.

Pull one knee up to the chest at a time, gently pumping the knee three to four times at the top of the range of motion. Do 10 repetitions for each leg.

Press-up.

From the prone position, press up on the hands while the pelvis remains in contact with the floor. Keep the lower back and buttocks relaxed for a gentle stretch. Hold the press-up position initially for five seconds, and gradually work up to 30 seconds per repetition. Aim to complete 10 repetitions.

Lumbar rotation—non-weight bearing.

Starting by lying on the back with both knees bent, keep the feet flat on the floor while rocking the knees from side to side. The thighs should rub together and the knees will not move very far. The lower spine should remain fairly still. Rock the knees for 30 seconds.