

# The mechanics of injury

*George Ampat explains that sacroiliac joint dysfunction and low back pain can be a frequently overlooked consequence of road traffic accidents*



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**'Given the problems [...] with regard to diagnosis it is important to instruct the right expert who has the relevant experience to confirm the diagnosis. The most important aspect of diagnosing sacroiliac joint dysfunction lies in obtaining an accurate history of the patient.'**

**A** century ago, sacroiliac joint dysfunction (SIJD) with its associated symptoms was the most frequently diagnosed cause of low back pain. It was diagnosed by physical examination and treated mainly with physical therapy.

However, over the last 70 years in particular, there has been a focus on investigating degenerative vertebral discs as the most common cause of low back pain. This condition often results following injury during road traffic accidents.

The sacroiliac joints (also referred to as the SI joints or SIJ) are the joints in the pelvis which, as the name would suggest, link the sacrum (the lowest part of the spine) and the ilium (the inner part of the ring of the pelvis). The human body has two matching sacroiliac joints; one on the left and one on the right. They are nearly immovable, only ever moving about 2-4mm at any point.

## The difficulty with diagnosis

As the sacroiliac joint barely shows up on an MRI scan, any dysfunction of the joint is often missed, especially if MRI scans are the only diagnostic tool relied on. MRI scans, as intricately sensitive as they can be, are guilty of diagnosing bad discs as the problem when they are not and then completely missing sacroiliac joint dysfunction. Although degenerate discs can cause back pain, they can also be completely asymptomatic and, for some patients, may never cause any trouble at all.

Hence SIJD goes undiagnosed and untreated in many patients for years. Some patients go on to receive lower spine fusion instead of treatment for sacroiliac joint dysfunction. To avoid

unnecessary lower spine treatment, including unnecessary lower spine fusion and other surgeries, SI joint disorders should be strongly considered in any low back pain diagnosis.

## Just how often is this problem overlooked?

It has been reported that up to 22.5% of patients with low back pain had sacroiliac joint problems. In a review of 1,293 cases of low back pain treated over a 12-year period, it was revealed that sacroiliac joint dysfunction and joint syndromes in the buttocks were the most common referred-pain conditions.

There is also evidence that patients who undergo lower spine fusion have a higher chance of pain originating from the SI joint. This may be because of altered/increased load bearing following fusion surgery or maybe from a missed diagnosis of sacroiliac joint dysfunction in the first instance.

## How the sacroiliac joint becomes injured during road traffic accidents

Road traffic accidents are a very common cause of sacroiliac joint dysfunction and low back pain. Drivers just a few milliseconds before an accident, who can see the impending collision ahead of them, are extremely likely to slam their right foot down onto the brake and for quick, powerful braking the leg is often locked straight. As this leg is firmly locked, the rest of the body is thrown forward on impact while the hips are pushed into the seat. When the body moves forward and the right leg is fixed, the movement that occurs

happens at the right sacroiliac joint, causing it immense strain as it is forced to move more than it is naturally capable. For this reason, it is usually the right sacroiliac joint that is affected following a road traffic accident.

People who suffer an accident such as this may complain of low back pain and may undergo an MRI scan. Unfortunately, as MRI scans don't pick up sacroiliac joint dysfunction, the diagnosis can be missed. Instead, what the MRI scan usually finds is natural vertebral disc degeneration. Often, it is then wrongly assumed that the accident has caused the degeneration of the discs to advance and cause the patient's low back pain. This can lead to low back pain continuing for some time without ever being properly addressed.

**How to diagnose and treat SI joint dysfunction**

Given the problems highlighted above with regard to diagnosis it is important to instruct the right expert who has the relevant experience to confirm the diagnosis. The most important aspect of diagnosing sacroiliac joint dysfunction lies in obtaining an accurate history of the patient.

Patients with low back pain who are suffering with a dysfunction of the sacroiliac, whether they know it or not, usually complain that their pain is one-sided and point to the upper part of the buttock as the main site of pain. An antecedent history of an accident before the onset of pain can be a very good indicator that the sacroiliac joint is the problem; either a road traffic accident, a fall onto the buttock or even a sudden jerking movement such as a near slip when the patient just manages to regain balance. Patients also usually state that they are unable to sit or lie still for long periods; lying on the side where their pain occurs often becomes a significant issue. More importantly, moving about seems to provide relief. This is one of the classic signs of sacroiliac joint dysfunction. Examination may reveal point tenderness (pain on pressing firmly) over the sacroiliac joint and stress tests of the sacroiliac joint will usually be positive. Unfortunately there is no accurate method of investigating sacroiliac dysfunction. MRI scans and bone scans may provide some information but it is not foolproof.

The gold standard for identifying sacroiliac joint dysfunction is by

reverse diagnosis using an injection of local anaesthetic. Under x-ray controlled sterile conditions, an anaesthetic is injected into the sacroiliac joint; if the pain is relieved then a positive diagnosis of sacroiliac joint dysfunction can be made. For this reason, once the patient's history and examination findings suggest

time. When the patient has relief for a prolonged period, then we can assume that the pain did originate from the sacroiliac joint. The injection potentially provides a window of opportunity for the patient, during which they will be in significantly less pain, to practice physical therapy exercises and improve core stability. Sometimes the injection

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SIJD, it is reasonable to suggest the injection.

Injection of a steroid along with the local anaesthetic would provide both treatment and diagnosis in one sitting. Usually following a steroid injection, there is increased pain for a few days, however this will settle with

may need to be repeated, but usually long-term relief and control is enjoyed with regular exercise.

A free sheet of core stability exercises which can be useful for sufferers of sacroiliac joint dysfunction can be downloaded from [www.feetandspine.com](http://www.feetandspine.com). ■

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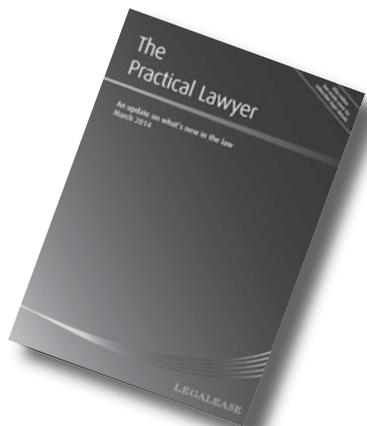
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