

# **The role of sacroiliac joint dysfunction in the genesis of low back pain: the obvious is not always right**

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## FROM ABSTRACT:

### Background context

It is a common practice to link low back pain with protruding disc even when neurological signs are absent.

Because pain caused by sacroiliac joint dysfunction can mimic discogenic or radicular low back pain, we assumed that the diagnosis of sacroiliac joint dysfunction is frequently overlooked.

### Purpose

To assess the incidence of sacroiliac joint dysfunction in patients with low back pain and positive disc findings on CT scan or MRI, but without claudication or objective neurological deficits.

### Methods

Fifty patients with low back pain and disc herniation, without claudication or neurological abnormalities such as decreased motor strength, sensory alterations or sphincter incontinence and with positive pain provocation tests for sacroiliac joint dysfunction were submitted to fluoroscopic diagnostic sacroiliac joint infiltration.

### Results

The mean baseline VAS pain score was 7.8.

Thirty minutes after infiltration [of the SI joint with anesthesia], the mean VAS score was 1.3.

Forty-six patients [out of 50] had a VAS score ranging from 0 to 3, eight weeks after the fluoroscopic guided infiltration.

### Conclusions

Sacroiliac joint dysfunction should be considered strongly in the differential diagnosis of low back pain in this group of patients.

## THESE AUTHORS ALSO NOTE:

“Low back pain is second only to common cold as a cause of primary care office visits in the USA.”

"Approximately 90% of adults have experienced back pain at some point of time in their lives."

Low back pain is responsible for direct care expenditures ranging from \$5 billion to more than \$20 billion annually and as much as \$50 billion per year in indirect costs.

Medical residents are not usually taught to consider sacroiliac joint dysfunction as a cause for low back pain.

This study used 200 patients with low back pain who were prior treatment failures from NSAID drugs, physical therapy and intramuscular injections. They were fluoroscopic guided injected with a combination of anesthetic and steroid into their SI joints.

## DISCUSSION

"Chronic persistent low back pain is commonly linked with positive disc findings on CT or MRI imaging. However, these imaging techniques are not always helpful, because they have a poor degree of correlation with clinical signs."

"It is not rare to have positive disc findings in asymptomatic patients."

"Nearly 25% of asymptomatic individuals below the age of 60 years and 33% of older patients have evidence of disc herniation on MRI scans"

"The diagnosis accuracy of the tissue origin of chronic low back pain and referred lower extremity symptoms based on clinical criteria are about 19–24%."

Estimated prevalence of SI joints causing low back pain is 13 to 30%.

"The SIJ has a rich nociceptive innervation." Its anterior portion is innervated by the posterior rami of the L2–S2 roots, and its posterior aspect is innervated by the posterior rami of L4–S3.

The piriformis muscle is located close to the SIJ, originating at the anterior aspect of the sacrum and inserting into the greater trochanter of the femur. SIJ problems can cause piriformis spasm and provoke sciatic irritation, with "pain radiating to the buttock, the posterior calf, and to the anterior and lateral calf and foot mimicking radiculopathy."

"The current gold standard for the diagnosis of the SIJ syndrome is fluoroscopically guided infiltration of local anesthesia leading to at least an 80% reduction in VAS scores."

Three physical tests showed good correlation with the diagnosis of SIJ dysfunction: SIJ compression test (94% agreement), the thigh thrust test (90% agreement), Yeoman's test (88%) agreement.

Studies have "concluded that manipulations appear to be successful in many patients suffering from SIJ dysfunction" but failed in many others.

## CONCLUSIONS

- 1) The incidence of SIJ dysfunction in patients with low back pain and discopathy on CT or MRI scans and without neurological deficits appears to be higher than previously described.
- 2) Pain in SIJ dysfunction can radiate towards the calf and foot mimicking radicular pain.
- 3) "Physicians seeing patients with low back pain should have a high index of suspicion for SIJ dysfunction, especially in the absence of neurological deficits."

## KEY POINTS FROM DAN MURPHY

- 1) Because pain caused by sacroiliac joint dysfunction can mimic discogenic or radicular low back pain, the diagnosis of sacroiliac joint dysfunction is frequently overlooked.
- 2) "Low back pain is second only to common cold as a cause of primary care office visits in the USA."
- 3) "Approximately 90% of adults have experienced back pain at some point of time in their lives."
- 4) Medical residents are not usually taught to consider sacroiliac joint dysfunction as a cause for low back pain.
- 5) "Chronic persistent low back pain is commonly linked with positive disc findings on CT or MRI imaging. However, these imaging techniques are not always helpful, because they have a poor degree of correlation with clinical signs."
- 6) "Nearly 25% of asymptomatic individuals below the age of 60 years and 33% of older patients have evidence of disc herniation on MRI scans"
- 7) Estimated prevalence of SI joints causing low back pain is 13 to 30%.
- 8) The SI joint has a rich nociceptive innervation by the posterior rami of the L2-S3 roots.

- 9) The piriformis muscle is located close to the SIJ, originating at the anterior aspect of the sacrum and inserting into the greater trochanter of the femur. SIJ problems can cause piriformis spasm and provoke sciatic irritation, with "pain radiating to the buttock, the posterior calf, and to the anterior and lateral calf and foot mimicking radiculopathy."
- 10) "The current gold standard for the diagnosis of the SIJ syndrome is fluoroscopically guided infiltration of local anesthesia leading to at least an 80% reduction in VAS scores."
- 11) Three physical tests showed good correlation with the diagnosis of SIJ dysfunction: SIJ compression test (94% agreement), the thigh thrust test (90% agreement), Yeoman's test (88%) agreement.
- 12) Manipulation is successful in many patients suffering from SIJ dysfunction.
- 13) The incidence of SIJ dysfunction in patients with low back pain and discopathy on CT or MRI scans and without neurological deficits appears to be higher than previously described.
- 14) Pain in SIJ dysfunction can radiate towards the calf and foot mimicking radicular pain.
- 15) "Physicians seeing patients with low back pain should have a high index of suspicion for SIJ dysfunction, especially in the absence of neurological deficits."
- 16) Sacroiliac joint dysfunction should be considered strongly in the differential diagnosis of low back pain in this group of patients.