

## Was That X-ray Necessary?

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I always give my dentist a hard time. He wants to X-ray my mouth at least every two years; so far, I have fought him off for the past 15. I always try to limit the amount of radiation entering my body since I know for sure that I don't have a radiation deficiency. Who knows? If someday, I'm in severe pain and a diagnosis cannot be made, I might have to submit.

Some practitioners insist that every low back patient be X-rayed. I could never be that doctor's patient. History and examination are more than 99 percent sensitive for identifying the "red flags" of serious back pain.<sup>1</sup> Liebenson, in his excellent text,<sup>1</sup> lists some of the red flags of serious disease, including: being of an age younger than 20 or older than 50 years, trauma, history of cancer, night pain, fever, weight loss, pain at rest, significant corticosteroid use, recent infection, generalized systemic disease (diabetes), failure of four weeks of conservative care, cauda equina, saddle anesthesia, sphincter disturbance, and motor weakness in the lower limbs. These are the types of cases that might require imaging, laboratory and possible referral.

In an excellent study demonstrating the effect of evidence-based guidelines on managing acute low back pain, routine radiographs were not taken during the acute stage.<sup>2</sup> The researchers relied on a red-flag checklist based essentially on history, which proved to be very safe. The red-flag problems, such as tumor, infection or fracture, were determined based on history and examination.

Kendrick, et al.,<sup>3</sup> found that lumbar spine radiography in primary care patients with low back pain of at least six weeks duration is not associated with improved function, severity of pain or overall health status. Participants receiving X-rays were more satisfied with their care; however, they were not more reassured about having a serious disease causing their low back pain.

Kerry, et al.,<sup>4</sup> did an RCT (randomized controlled trial) on 659 patients and found that referral for lumbar spine radiography for first presentation of low back pain in primary care was not associated with improved physical function, pain or disability, but was associated with a small improvement in psychological well-being at six weeks and one year. It is questionable whether minor psychological improvement is worth the radiation.

Most episodes of back pain are probably not disc-related.<sup>5</sup> Whereas moderate or severe central stenosis, root compression and disc extrusions are likely to be diagnostically and clinically relevant, disc bulges, facet joint degeneration, end-plate changes and mild spondylolisthesis represent part of the aging process and are of only modest value in diagnosis or treatment decisions.<sup>6</sup> "Even when strict radiographic criteria are adhered to, 'disk degeneration' is demonstrated with equal incidence in subjects with or without pain."<sup>7</sup> A literature review determined that spondylosis, spondylolisthesis, spina bifida, transitional vertebrae, and Scheurermann disease were not associated with low back

pain.<sup>8</sup>

The majority of back patients should be reassured that the problem is not serious and improvement will take place soon. Patients should understand that most of the time, the structural changes (narrowed disks, for example) that are emphasized as the causes of their pain are not really significant. It is necessary to use methods that evaluate and improve patient function, always emphasizing that the patient remain as physically active as possible. For most back problems, using X-rays as a report of findings has lost its credibility.

### References

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