

X-ray scans for nonspecific low back pain

A nonspecific pain?

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Clinical question

In patients with nonspecific low back pain (LBP), do lumbar x-ray scans modify any patient outcome?

Evidence

- A meta-analysis¹ (N=1804) examined 2 magnetic resonance imaging (MRI) and computed tomography (CT) trials and 4 x-ray trials; 0% to 44% of patients had sciatica.
 - The trials were of relatively good quality but there was a lot of heterogeneity (except with pain).
 - Short-term and long-term outcomes of pain, function, quality of life, mental health, and patient satisfaction did not differ significantly.
 - Pain at 3 months approached significantly worse with x-ray scan (standard mean difference 0.19, 95% CI -0.01 to 0.39).
- A UK RCT² of 421 general practice patients with LBP for 6 weeks or longer found
 - at 3 months statistically significant differences in
 - the proportion of patients still in pain (74% in x-ray group vs 65%, number needed to harm [NNH]=12),
 - the proportion of patients requiring follow-up doctor visits (53% in x-ray group vs 30%, NNH=5), and
 - self-rated health status (lower in x-ray group);
 - after 6 more months the differences were borderline but not statistically significant.
 - However, 80% of both groups *wanted* x-ray scans.
 - Those who received x-ray scans were more satisfied.
 - X-ray scan and clinical findings were not correlated.

Context

- Early MRI and CT also do not improve outcomes.¹
- An RCT comparing MRI directly with back x-ray scans also found no difference.³
- Guidelines from Alberta,⁴ Europe,⁵ and the United States⁶ all discourage routine back x-ray scans for nonspecific LBP.
- Nonspecific LBP* is LBP without recognizable or known pathology (eg, infection, tumour, osteoporosis, ankylosing spondylitis, fracture, inflammatory process, radicular syndrome, or cauda equina syndrome).^{4,6}
- These results and recommendations do not apply to LBP with suspected specific pathology (eg, progressive neurologic changes). Such patients require further investigation.

Bottom line

In nonspecific LBP, x-ray scans do nothing to improve outcomes and might worsen some (such as pain).

Implementation

Management of back pain is difficult and is complicated by the belief that x-ray scans are necessary to provide reassurance to the patient.⁷ As a result, x-ray scans are ordered very frequently for such patients.⁸ Because x-ray scans for nonspecific LBP increase physician workload,⁹ expose patients to very high doses of radiation, and might actually worsen short-term outcomes, many trials have been conducted to discourage this practice.¹⁰ Patients should be counseled about the benign nature of the pain and advised to remain physically active.¹¹ Educational handouts might increase patient satisfaction with back pain consultations.¹² The National Health Service has a handout that clarifies the role of x-ray scans.¹³ 🌱

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The opinions expressed in this Tools for Practice article are those of the authors and do not necessarily mirror the perspective and policy of the Alberta College of Family Physicians.

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