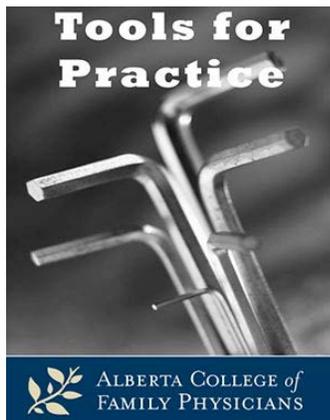


Tools for Practice is proudly sponsored by the Alberta College of Family Physicians (ACFP). ACFP is a provincial, professional voluntary organization, representing more than 3,800 family physicians, family medicine residents and medical students in Alberta. Established over fifty years ago, the ACFP strives for excellence in family practice through advocacy, continuing medical education and primary care research. www.acfp.ca

Reviewed: July 13, 2016
Evidence Updated: No new evidence
Bottom Line: No change
First Published: January 4, 2010



X-rays for Non-specific Low Back Pain: A non-specific pain?

Clinical Question: In patients with lower back pain, do lumbar X-rays modify any patient outcome?

Bottom-line: In non-specific low back pain, X-rays do nothing to improve outcomes and may worsen some (such as pain).

Evidence:

Meta-analysis, and a look at the best Randomized Controlled Trial (RCT).

- Meta-analysis:¹ six trials (1,804 patients); MRI/CT two trials and X-ray four trials. 0-44% had sciatica.
 - Relatively good quality but lots of heterogeneity (except pain).
 - Short- and long-term outcomes of pain, function, quality of life, mental health and patient satisfaction did not differ significantly.
 - Pain at three months borderline worse with X-ray (Standard Mean Difference 0.19, Confidence Interval -0.01 to 0.39)
- RCT,² UK, 421 general practice patients with low-back pain ≥ 6 weeks
 - At three months statistically significant difference in:
 - Proportion of patients still in pain: 74% X-ray vs. 65%, Numbers Needed to Harm (NNH) 12.
 - Proportion of patients requiring follow-up doctor visit: 53% X-ray vs. 30%, NNH 5.
 - Self-rated health status: 5% worse in X-ray group.
- After six more months borderline but not statically significant.
- However, $\geq 80\%$ of both groups want X-rays.
 - Those with X-rays were more satisfied with the visit.
 - X-rays findings did not correlate to clinical findings.

Context:

- Early MRI and CT also do not improve outcomes.¹
- A RCT comparing MRI directly to back X-ray also found no difference.³

- Three guidelines from Alberta,⁴ Europe,⁵ and US^{6,7} all discourage routine back X-rays for non-specific low back pain.
- Non-specific low back pain is low back pain without recognizable or known specific pathology (e.g. infection, tumour, osteoporosis, ankylosing spondylitis, fracture, inflammatory process, radicular syndrome, or cauda equina syndrome).⁴⁻⁶
- These study results/recommendations do not apply to back pain with suspicion of specific pathology (such as progressive neurologic changes or infection).
 - These patients warrant further investigation.

Original Authors:

G Michael Allan MD CCFP, G Richard Spooner MD CCFP

Updated:

Ricky D Turgeon BSc(Pharm) ACPR PharmD

Reviewed:

G. Michael Allan MD CCFP

References:

1. Chou R, Fu R, Carrino JA, et al. Lancet 2009; 373: 463–72.
2. Kendrick D, Fielding K, Bentley E, et al. BMJ. 2001 Feb 17; 322: 400-5.
3. Jarvik JG, Hollingworth W, Martin B, et al. JAMA 2003; 289: 2810–8.
4. <http://www.topalbertadoctors.org/cpgs/885801>. Accessed 27-AUG-2013.
5. [http://www.kovacs.org/descargas/EuropeanGuidelinesfortheManagementofAcuteNonspecificLowBackPain\(54paginas\).pdf](http://www.kovacs.org/descargas/EuropeanGuidelinesfortheManagementofAcuteNonspecificLowBackPain(54paginas).pdf) Accessed 27-AUG-2013.
6. Chou R, Qaseen A, Snow V, et al. Ann Intern Med. 2007; 147: 478-491.
7. Chou R, Qaseem A, Owens DK, et al. Ann Intern Med 2011; 154: 181-9.

Tools for Practice is a biweekly article summarizing medical evidence with a focus on topical issues and practice modifying information. It is coordinated by G. Michael Allan, MD, CCFP and the content is written by practising family physicians who are joined occasionally by a health professional from another medical specialty or health discipline. Each article is peer-reviewed, ensuring it maintains a high standard of quality, accuracy, and academic integrity. If you are not a member of the ACFP and would like to receive the TFP emails, please sign up for the distribution list at <http://bit.ly/signupfortfp>. Archived articles are available on the ACFP website.

This communication reflects the opinion of the authors and does not necessarily mirror the perspective and policy of the Alberta College of Family Physicians.