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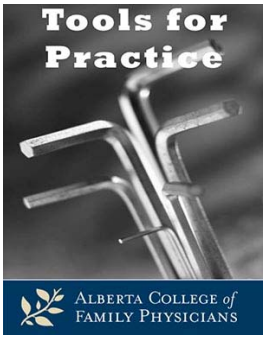

X-rays for Non-specific Low Back Pain: A non-specific pain?

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

Evidence

A recent meta-analysis, and a closer look at the best randomized controlled trial (RCT), help us here.

- Meta-analysis[1]: 6 trials (1804 patients): MRI/CT 2 trials & X-ray 4 trials. 0-44% had sciatica
  - Relatively good quality but lots of heterogeneity (except pain).
  - Short term & long-term outcomes of pain, function, quality of life, mental health and patient satisfaction did not differ significantly
    - Pain at 3 months borderline worse with x-ray (Standard Mean Difference 0.19, CI -0.01 to 0.39)
- RCT,[2] UK, 421 general practice patients with low-back pain ≥ 6 weeks
  - At 3 months statistically significant difference in:
    - Proportion of patients still in pain: 74% X-ray vs 65%, Number 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 6 more months, borderline but not statistically significant
  - However, ≥ 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] 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

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

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1. Lancet 2009; 373: 463-72.
2. BMJ. 2001 Feb 17;322:400-5.
3. JAMA 2003;289:2810-8.
4. http://www.topalbertadoctors.org/informed_practice/cpgs/low_back_pain.html.
5. http://www.kovacs.org/Imagenes/EuropeanGuidelineAcuteLBP.pdf.
6. Ann Intern Med. 2007;147:478-491.

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. Archived articles are available on the Towards Optimized Practice and ACFP websites.