Imaging strategies for low-back pain: systematic review and meta-analysis.

Chou R, Fu R, Carrino JA, Deyo RA.
Oregon Health and Science University, Portland, OR, USA.

**Abstract**

**BACKGROUND:** Some clinicians do lumbar imaging routinely or in the absence of historical or clinical features suggestive of serious low-back problems. We investigated the effects of routine, immediate lumbar imaging versus usual clinical care without immediate imaging on clinical outcomes in patients with low-back pain and no indication of serious underlying conditions.

**METHODS:** We analysed randomised controlled trials that compared immediate lumbar imaging (radiography, MRI, or CT) versus usual clinical care without immediate imaging for low-back pain. These trials reported pain or function (primary outcomes), quality of life, mental health, overall patient-reported improvement (based on various scales), and patient satisfaction in care received. Six trials (n=1804) met inclusion criteria. Study quality was assessed by two independent reviewers with criteria adapted from the Cochrane Back Review Group. Meta-analyses were done with a random effects model.

**FINDINGS:** We did not record significant differences between immediate lumbar imaging and usual care without immediate imaging for primary outcomes at either short-term (up to 3 months, standardised mean difference 0.19, 95% CI -0.01 to 0.39 for pain and 0.11, -0.29 to 0.50 for function, negative values favour routine imaging) or long-term (6-12 months, -0.04, -0.15 to 0.07 for pain and 0.01, -0.17 to 0.19 for function) follow-up. Other outcomes did not differ significantly. Trial quality, use of different imaging methods, and duration of low-back pain did not affect the results, but analyses were limited by small numbers of trials. Results are most applicable to acute or subacute low-back pain assessed in primary-care settings.

**INTERPRETATION:** Lumbar imaging for low-back pain without indications of serious underlying conditions does not improve clinical outcomes. Therefore, clinicians should refrain from routine, immediate lumbar imaging in patients with acute or subacute low-back pain and without features suggesting a serious underlying condition.

**Comment in**

Is immediate imaging important in managing low back pain? [J Athl Train. 2011]

Imaging for low-back pain. [Lancet. 2009]


PMID: 19200918 [PubMed - indexed for MEDLINE]