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[15 August 2012 - Volume 37 - Issue 18 - p 1617–1627](#)

doi: 10.1097/BRS.ob013e318251887b

Occupational Health/Ergonomics

Early Imaging for Acute Low Back Pain: One-Year Health and Disability Outcomes Among Washington State Workers

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Abstract

Study Design. A population-based, prospective cohort study.

Objective. To evaluate the association of early imaging and health and disability status 1 year following acute low back injury, among a population-based sample of Washington State workers' compensation claimants.

Summary of Background Data. Use of early diagnostic magnetic resonance imaging (MRI) for low back pain (LBP) contributes to increasing health care costs but may not lead to better outcomes than delayed imaging. In the worker's compensation system, LBP is common and costly. This research examines the association between early MRI among workers with LBP and health outcomes (pain intensity, Roland disability score, and 36-Item Short Form Health Survey scores) and disability status 1 year after injury.

Methods. This nonrandomized prospective cohort study of Washington State workers' compensation claimants with nonspecific LBP used administrative claims and interview data. Multivariable regression methods were used to estimate change in health outcome scores, the relative risk of disability at 1 year, and the rate of recovery 1 year after injury.

Results. Of 1226 participants, 18.6% received early MRI. Most (77.9%) had mild/major sprains and 22.1% had radiculopathy. Participants with early MRI differed significantly at baseline in pain, function, and psychosocial variables. After adjusting for covariates, early imaging was not

associated with substantial differences in 1-year health outcomes for sprains or radiculopathy. For workers with mild/major sprain, early imaging was associated with a 2-fold increase in the likelihood of work disability benefits at 1 year (adjusted relative risk: 2.03, 95% confidence interval: 1.33–3.11). Early imaging was not associated with an increased risk of long-term disability for workers with radiculopathy (adjusted relative risk: 1.31, 95% confidence interval: 0.84–2.05). For both groups, early MRI was associated with longer disability duration ($P < 0.001$).

Conclusion. Among workers with LBP, early MRI is not associated with better health outcomes and is associated with increased likelihood of disability and its duration. These associations warrant further testing in a randomized controlled trial. Our findings suggest that adherence to evidence-based guidelines is an important factor in ensuring that workers receive the highest quality care for occupational injuries.

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