

**Effect of routine diagnostic imaging for patients with musculoskeletal disorders: A meta-analysis****Yasmine Karel**

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**Purpose:** The increasing use of diagnostic imaging has led to high expenditures, unnecessary invasive procedures and/or false-positive diagnoses, without certainty that the patients actually benefit from these imaging procedures. This review explores whether diagnostic imaging leads to better patient-reported outcomes in individuals with musculoskeletal disorders.

**Method:** Databases were searched from inception to September 2013, together with scrutiny of selected bibliographies. Trials were eligible when: 1) a diagnostic imaging procedure was compared with any control group not getting or not receiving the results of imaging; 2) the population included individuals suffering from musculoskeletal disorders, and 3) if patient-reported outcomes were available. Primary outcome measures were pain and function. Secondary outcome measures were satisfaction and quality of life. Subgroup analysis was done for different musculoskeletal complaints and high technological medical imaging (MRI/CT).

**Results:** Eleven trials were eligible. The effects of diagnostic imaging were only evaluated in patients with low back pain ( $n = 7$ ) and knee complaints ( $n = 4$ ). Overall, there was a moderate level of evidence for no benefit of diagnostic imaging on all outcomes compared with controls. A significant but clinically irrelevant effect was found in favor of no (routine) imaging in low back pain patients in terms of pain severity at short [SMD 0.17 (0.04–0.31)] and long-term follow-up [SMD 0.13 (0.02–0.24)], and for overall improvement [RR 1.15 (1.03–1.28)]. Subgroup analysis did not significantly change these results.

**Conclusion:** These results strengthen the available evidence that routine referral to diagnostic imaging by general practitioners for patients with knee and low back pain yields little to no benefit.

**Biography**

Yasmine Karel has almost completed her Ph.D. at the age of 28 years from the Erasmus University in Rotterdam. She is a teacher and researcher for the department of Health at the Avans University of Applied Sciences and has been a board member of the European Society for Shoulder and Elbow Rehabilitation.

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