

5.0. Osteoarthritis

Population: Adults (aged 18-64 years)
Exposure: Duration, frequency and/or intensity of OPA, or a compositional score reflecting total volume of OPA.
Comparison: No OPA, or a lesser duration, frequency and/or intensity, no or a smaller compositional score of total volume of OPA.
Outcome: Osteoarthritis

Certainty assessment							Summary of findings	Certainty	Importance
No of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations			

Occupational risk factors for osteoarthritis of the knee: a meta-analysis (McWilliams 2011) (131)

8 ^a	2 cohort 3 cross sectional 3 case control	Serious ^c	Serious ^d	Not serious	Not serious	Publication bias ^e	Heavy or manual work (546.853 subjects) was associated with knee osteoarthritis (OR=1.45, 95% CI; 1.20-1.76) Cohort studies; 1 study non-significant increase 1 study non-significant decrease Case-control; 3 study significant increase Cross sectional; 1 study non-significant decrease 1 study non-significant increase 1 study significant increase	Very low ⁱ	Critically
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Men and women's occupational activities and the risk of developing osteoarthritis of the knee, hip or hands: A systematic review and recommendations for future research (Gignac, 2019) (132)

11 ^p	6 cohort 2 case control 3 cross sectional	Serious ^f	Serious ^g	Not serious	Serious ^h	None	Cumulative physical workloads were associated with a moderate level of evidence for an hip OA among men. Heavy physical demands yielding mixed evidence for knee OA. mixed evidence for cumulative physical loads and sitting, standing and walking being associated with hip OA. Evidence was also mixed for physically demanding work related to developing OA in multiple joints.	Very low ^j	Critically
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Occupational activities and osteoarthritis of the knee (Palmer, 2012) (133)

This article was excluded from further analyses as it was judged to not provide an accurate summary of the available evidence. (AMSTAR2 rating)

a: Toivanen 2010; Kohatsu 1990; Elsner 1996; Yoshimura 2006; Riyazi 2008; Andrianakos 2006; Fernandez-Lopez 2008; Kim 2010.

b: Ezzat 2013; Toivanen 2010; Apold 2014; Felson 1991; Karkkainen 2013; Kujala 1995; Sahlstrom 1997; Vingard 1991; Olsen 1994; Ratzlaff 2012; Rubak 2014.

c: Early adult life is thought to be important for the development of OA, but recall of activities in the past maybe biased or inaccurate. The differences in measurement could contribute to variability, although the current job is likely to be similar to the longest-held job for many subjects.

d: High heterogeneity has been observed (I² 80.9)

e: There appears to be a strong likelihood of publication bias within the literature for occupation and knee OA

f: Our quality appraisal identified several constraints and limitations to study designs and measurement. Most research utilized case-control or cross-sectional designs with few longitudinal studies and no interventions. There is potential for recall bias across all methods of collecting work history, which is a limitation of most of the studies reviewed.

g: Serious risk of inconsistency; heterogeneity has been described.

h: Serious risk of imprecision; No RR-OR reported, no CI reported.

i: : Rated from high to very low because of serious risk of bias, inconsistency and publication bias

j: Rated from high to very low because of serious risk of bias, serious inconsistency and serious imprecision