

## Executive summary

Since 2011, the Swedish Agency for Health Technology Assessment and Assessment of Social Services (SBU) has had a mandate from the Swedish government to systematically assess the evidence for associations between occupational exposures and health issues.

A wide range of occupational exposures were investigated, including physical work load, vibration, noise and other work-related environmental factors.

### Background

Osteoarthritis is a chronic joint disorder characterized by pain and reduced joint function. Osteoarthritis affects more people than any other joint disease and it is a major cause of physical disability. The disease has a multifactorial aetiology and complex pathogenesis.

### Objective

The objective of this review was to assess the scientific basis describing the influence of occupational exposures on osteoarthritis.



## Conclusions

This systematic literature review has uncovered a substantial body of evidence in support of increased risk of hip and knee osteoarthritis associated with a variety of occupational exposures. Efforts of prevention are warranted.

- ▶ People with the following occupational exposures more often develop knee and hip osteoarthritis than people who are not subjected to the specified exposure to the same degree; those who:
  - work with manual handling (e.g. lifting)
  - have physically demanding work tasks
  - walk at work
  - have climbing tasks at work (e.g. climbing stairs or ladders)
- ▶ People with the following occupational exposures more often develop hip osteoarthritis over time than people who are not subjected to the specified exposure at work to the same degree; those who:
  - work in a bent or twisted position
- ▶ People with the following occupational exposures more often develop knee osteoarthritis over time than people who are not subjected to the specified exposure at work to the same degree; those who:
  - work in a kneeling or squatting position
  - experience heavy lifting in combination with a kneeling or squatting posture
  - work standing up
- ▶ Women and men with similar occupational exposures develop osteoarthritis to a similar extent.

## Method

A systematic review was undertaken following the PRISMA statement and standard methods used by SBU adapted to an occupational context. A literature search covering the period 1980 to January 2016 was conducted in international medical databases. Studies that fulfilled strict inclusion criteria were assessed for relevance and quality by two experts independently, using pre-set protocols. After conducting independent assessments, the two experts had to agree on a mutual relevance and quality classification. Some articles required all four participating experts to make a collective assessment. The strength of the scientific evidence was assessed with the Grading of Recommendations Assessment, Development and Evaluation (GRADE) system. Occupational exposure and osteoarthritis were investigated in both male and female working populations.

## Results

A total of 35 observational studies (of 79 reviewed by the experts) were classified as having moderate or high quality and were thus eligible to be included. There were only enough studies available to make conclusions of associations possible for the hip and the knee. There is an association between occupational exposure and osteoarthritis.

### Projektgrupp

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