Appendix Specified criteria list for the methodological quality assessment

Study population

• 1. Positive if the study population was selected before any clinical or radiological sign of hip OA was present

Positive if (sub-) groups were selected at a uniform point of the disease or exposure

• 2. Positive if the cases and the controls were drawn from the same source population (primary study base)

• 3. Positive if the participation rate of the cases/population selected and invited to participate at baseline was at least 80%

• 4. Positive if the controls selected and invited to participate at baseline was at least 80%

• 5. Positive if at least seven of the following 12 items were reported at baseline

  – Age (mean and standard deviation)
  – Sex (number and/or percentage)
  – Weight (mean and standard deviation)
  – Body Mass Index (BMI) (mean and standard deviation)
  – Race
  – Job description
  – Sport/leisure time exposure
  – History of trauma
  – Smoking
  – Hormone replacement therapy
  – Signs of OA in other joints (OA objectivated in other joints, Heberden’s nodes) What is meant by the word “objectivated”? 
  – Characteristics of OA on x ray or other imaging techniques
Assessment of risk factors

- 6. Positive if the exposure assessment was blinded with respect to disease status
- 7. Positive if the exposure was measured in an identical way for the whole studied population
- 8. Positive if the exposure was assessed before the disease outcome

Assessment of hip OA

- 9. Positive if the way of assessing hip OA was identical for the entire studied population
- 10. Positive if the measurement instruments used for observing or identifying the presence of hip OA were reproducible
- Positive if (waiting for) a (total) hip replacement (THR) was used as an outcome measure for hip OA
- 11. Positive if the measurement instruments used for observing or identifying the presence of hip OA were standardised using validated definitions[35, 36]
- 12. Positive if (waiting for) a THR was used as an outcome
- Positive if the classification of the radiological osteoarthrosis was standardised using the Kellgren and Lawrence[37] or the Croft[30] classification
- Positive if the classification of the clinical OA was standardised using the ACR criteria[38]

Study design

- 13. Positive if a prospective design was used
- 14. Positive if the total follow up time was ≥3 years
- 15. Positive if the total number of withdrawals was ≤20% (when a retrospective cohort design was used, a negative score was assigned)
• 16. Positive if demographic/clinical information was presented for completers and withdrawals (when a retrospective cohort design was used, a negative score was assigned)

**Analysis and data presentation**

• 17. Positive if frequency or percentage (or mean and standard deviation/CI) of the outcome(s) of the risk factor(s) were used

• 18. Positive if confounding variables were used in the statistical analysis. (Validated techniques such as multivariate regression or Mantel-Haenszel must have been used)

• Positive if (sub-) group analysis were made in the case of a heterogeneous population at baseline

• Positive if no subgroup analysis was made in the case of a homogeneous cohort at baseline

• 19. Positive if there was at least corrected for the confounders age and sex by means of matching, restriction or adjustment in the analysis