**APPENDIX**

**Supplementary item 1.** Search terms

(((((((sacroiliac joint\* pain [tiab]) OR sacroiliac joint\* dysfunction [tiab]) OR sacroiliac dysfunction [tiab]) OR "Sacroiliac Joint"[Mesh]) OR sacroiliac joint\* [tiab])) AND ((((((((Sacroiliac joint\* fusion [tiab]) OR minimally invasive sacroiliac joint\* fusion\* [tiab]) OR sacroiliac joint\* arthrodesis [tiab]) OR minimally invasive sacroiliac joint\* arthrodesis [tiab]) OR Sacroiliac fusion\* [tiab]) OR triangular titanium implants [tiab]))) AND (((((((("Conservative Treatment"[Mesh]) OR Conservative treatment [tiab]) OR conservative management [tiab]) OR non-surgical treatment [tiab]) OR non-surgical management [tiab]) OR sacroiliac radiofrequency denervation [tiab]) OR sacroiliac injection\* [tiab]) OR sacroiliac intraarticular steroid injection\* [tiab])) AND (((((((((((((VAS [tiab]) OR VAS score [tiab]) OR Oswestry Disability Index [tiab]) OR SF-36 [tiab]) OR EQ-5D [tiab]) OR surgical outcome [tiab]) OR non-surgical outcome [tiab]) OR pain score [tiab]) OR patient satisfaction [tiab]) OR QALY [tiab]) OR costs [tiab]) OR adverse event\* [tiab]) OR readmission\* [tiab])

**Supplementary item 2.** Risk of bias tables

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Study** | **Study design** | **Bias due to confouding** | **Bias in selecting patients** | **Bias in classification of interventions** | **Bias due to deviation from intended intervention** | **Bias due to missing data** | **Bias in measure outcome** | **Bias in selection of the reported results** | **Other** | **Conclusion** |
| Vanaclocha et al. 2017 | Retrospective comparative case series | Low | Low | Low | Low | Moderate | Moderate | Moderate | Unclear | Moderate |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Study** | **Study design** | **Selection bias** | **Performance bias** | **Detection bias** | **Attrition bias** | **Reporting bias** | **Other bias** | **Conclusion** |
| Polly et al. 2016 | Randomized controlled trial | Low | High | Unclear | Low | Low | Unclear | Low |
| Dengler et al. 2019 | Randomized controlled trial | Low | High | Low | Low | Low | Low | Low |

|  |  |  |
| --- | --- | --- |
| **Author/year** | **Study design** | **Risk of bias** |
| Vanaclocha et al. 2017 | Retrospective comparative case series | * Bias due to confounding: Low   *Confounder analysis is accounted for*   * Bias of selecting patients: Low   *The indications and in- and exclusion criteria are clearly stated*   * Bias in classification of interventions: Low   *The classification between groups is clear.*   * Bias due to deviation from intended intervention: Low   *There was no crossover.*   * Bias due to missing data: Moderate   *Lost-to-follow-up is mentioned briefly.*   * Bias in measure outcome: Moderate   *PROM’s were used as primary outcome*   * Bias in selection of the reported result: Moderate   *Significance is not mentioned, although P-values are available in table.*   * Other bias: Unclear * **Overall: MODERATE** |
| Dengler et al. 2019 | Randomized controlled trial | * Selection Bias: Low *1:1 Web-based Randomization using block stratification* * Performance Bias: High   *Patients nor investigators were blinded.*   * Detection Bias: Low (PROMs& blinded radiologist) * Attrition Bias: Low *Withdrawals explained. Missing data is mentioned and not imputated.* * Reporting Bias: Low *Not significant differences are reported* * Other Bias: Low   *Conflict of interest is accounted for.*   * **Overall: LOW** |
| Polly et al. 2016 | Randomized controlled trial | * Selection Bias: Low *1:2 Web-based randomisation using block stratification* * Performance Bias: High *Patients not blinded, surgeon not mentioned* * Detection Bias: Unclear   *Blinding during assessment not mentioned.*   * Attrition Bias: Low *Both withdrawals and missing data are mentioned and explained* * Reporting Bias: Low *Not significant differences are reported* * Other Bias: Unclear   *Conflict of interest is mentioned and briefly described, but no further information is given.*   * **Overall: LOW** |

**Supplementary item 3.** Consensus Health Economic Criteria (CHEC) list.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1. Describes study population** | **2. Competing alternatives** | **3. Research question** | **4. Economic study design** | **5. Time horizon** | **6. Perspective** | **7. Relevant costs** | **8. Appropriately measured costs** | **9. Appropriately valued costs** | **10. Relevant outcomes** | **11.Appropriately measuredoutcomes** | **12. Appropriately valued outcome** | **13. ICER** | **14. discounted** | **15. Sensitivity analyses** | **16. correct conclusions** | **17. generalization** | **18. conflict of interest** | **19. ethical issues** | **Total +** |
| Cher et al. 2016 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 17 |