**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 |