

Appendix Table 2; Overview of methodological quality assessment

	<b>Study participation [32]</b>	<b>Defined sample [33]</b>	<b>Study attrition / complete follow up [32]</b>	<b>Outcome measurement [32]</b>	<b>Study confounding [32]</b>	<b>Statistical analysis and reporting [32]</b>	<b>Provision of data [32]</b>	<b>Blinded outcome [33]</b>	<b>Overall statement of risk of bias</b>
	<b>Representative sample [33]</b>								
	<i>Data related to outcome may be different for participants and eligible non-participants / Participants selected by random selection or as consecutive cases</i>	<i>Description of source of participants and inclusion and exclusion criteria</i>	<i>Data related to outcome may be different for completing and non-completing participants</i>	<i>Measurement of the outcome may be different related to the baseline level</i>	<i>Outcome may be distorted by another factor related to outcome</i>	<i>Reported results may be spurious or biased related to analysis or reporting</i>	<i>Studies must provide raw data, percentages, or continuous outcomes</i>	<i>Assessor blinded and unaware of other measures at time of outcome was measured</i>	<i>Low, unclear or high rating</i>
Barrey et al. [43]	Low ROB	Low ROB	Moderate ROB	Low ROB	Moderate ROB	Moderate ROB	Low ROB	Low ROB	<b>Unclear ROB</b>
Boissiere et al. [44]	Low ROB	Low ROB	Moderate ROB	Low ROB	Moderate ROB	Moderate ROB	Low ROB	Low ROB	<b>Unclear ROB</b>
Cobo Soriano et al. [45]	Low ROB	Moderate ROB	Low ROB	Low ROB	Low ROB	Low ROB	Low ROB	Moderate ROB	<b>Unclear ROB</b>

Cuéllar et al. [63]	Moderate ROB	Low ROB	Low ROB	Low ROB	Moderate ROB	Moderate ROB	Low ROB	Moderate ROB	<b>Unclear ROB</b>
Debnath et al. [64]	Moderate ROB	High ROB	Moderate ROB	Low ROB	Moderate ROB	Low ROB	Low ROB	Moderate ROB	<b>High ROB</b>
Franke et al. [65]	Low ROB	Low ROB	Low ROB	Low ROB	Moderate ROB	Low ROB	Low ROB	Moderate ROB	<b>Unclear ROB</b>
Ghogawala et al. [46]	Moderate ROB	Low ROB	Moderate ROB	Low ROB	Low ROB	Low ROB	Low ROB	Low ROB	<b>Unclear ROB</b>
Godil et al. [47]	Low ROB	Low ROB	Moderate ROB	Moderate ROB	Moderate ROB	Low ROB	Low ROB	Low ROB	<b>Unclear ROB</b>
Hagenmaier et al. [48]	Moderate ROB	Low ROB	High ROB	Low ROB	Moderate ROB	Low ROB	Low ROB	Moderate ROB	<b>High ROB</b>
Inage et al. [49]	High ROB	Moderate ROB	Moderate ROB	Moderate ROB	Moderate ROB	Low ROB	Low ROB	Moderate ROB	<b>High ROB</b>
Kanter et al. [66]	Moderate ROB	Low ROB	Low ROB	Low ROB	Moderate ROB	Low ROB	Low ROB	Low ROB	<b>Unclear ROB</b>
Kleeman et al. [50]	Low ROB	Low ROB	Low ROB	Moderate ROB	Low ROB	Low ROB	Low ROB	Moderate ROB	<b>Unclear ROB</b>
Kok, Donk, et al. [51]	Low ROB	Moderate ROB	Low ROB	Low ROB	Moderate ROB	High ROB	Moderate ROB	Moderate ROB	<b>High ROB</b>
Kok, Grevitt, et al. [52]	Low ROB	Moderate ROB	Low ROB	Low ROB	Moderate ROB	Moderate ROB	Moderate ROB	Moderate ROB	<b>Unclear ROB</b>
Lara-Almunia et al. [53]	Moderate ROB	Moderate ROB	Low ROB	Moderate ROB	Moderate ROB	Moderate ROB	Low ROB	Moderate ROB	<b>Unclear ROB</b>

Lee et al. [54]	Low ROB	Moderate ROB	Moderate ROB	Low ROB	Moderate ROB	Low ROB	Low ROB	Moderate ROB	<b>Unclear ROB</b>
Mao et al. [55]	Moderate ROB	Moderate ROB	High ROB	Low ROB	Moderate ROB	Low ROB	Low ROB	Low ROB	<b>High ROB</b>
Pavlov et al. [56]	Low ROB	Low ROB	High ROB	Low ROB	Moderate ROB	Low ROB	Moderate ROB	Moderate ROB	<b>High ROB</b>
Pereira et al. [57]	Low ROB	Low ROB	Low ROB	Moderate ROB	Low ROB	Moderate ROB	Low ROB	Moderate ROB	<b>Unclear ROB</b>
Pimenta et al. [58]	Moderate ROB	Moderate ROB	Low ROB	Low ROB	Moderate ROB	Low ROB	Low ROB	Moderate ROB	<b>Unclear ROB</b>
Rhee et al. [67]	Low ROB	Moderate ROB	Low ROB	Low ROB	Moderate ROB	Low ROB	Low ROB	Moderate ROB	<b>Unclear ROB</b>
Tobler and Ferrara [59]	Moderate ROB	Moderate ROB	High ROB	Low ROB	Moderate ROB	Low ROB	Moderate ROB	Moderate ROB	<b>High ROB</b>
Trouiller et al. [60]	Moderate ROB	Moderate ROB	Low ROB	High ROB	Moderate ROB	Moderate ROB	Moderate ROB	Low ROB	<b>High ROB</b>
Tsahtsarlis and Wood [61]	Low ROB	Moderate ROB	Low ROB	Low ROB	Moderate ROB	Low ROB	Moderate ROB	Moderate ROB	<b>Unclear ROB</b>
Xu et al. [62]	Low ROB	Low ROB	Low ROB	Low ROB	Moderate ROB	Moderate ROB	Moderate ROB	Moderate ROB	<b>Unclear ROB</b>

*Abbreviation: ROB: risk of bias*

**Article name:** Pain and disability after first-time spinal fusion for lumbar degenerative disorders: a systematic review and meta-analysis

**Journal name:** European Spine Journal

**Author names:** Niek Koenders, Alison Rushton, Martin L. Verra, Paul C. Willems, Thomas J. Hoogeboom, J. Bart Staal.

**Corresponding author:** Niek Koenders, [niek.koenders@radboudumc.nl](mailto:niek.koenders@radboudumc.nl)