| Study	Instrumentation for PLF	Instrumentation for PLIF/TLIF	Definition of instability	Pre/postoperative slip (mm)	Pre/postoperative slip local disc angle (deg)
Abdu et al	80/293 (27.3%) had in-situ fusion. 213/293 (72.7%) had instrumentation with pedicle screws	Pedicle screw + interbody	Change of more than 10° of angulation or more than 4mm of translation of the vertebrae between flexion and extension. 3/80 (3.75%) of PLF group was unstable. 4/63 (6.3%) of PLIF/TLIF group was unstable.	NR	NR
Fujimori et al	Pedicle screws	Pedicle screws and interbody		PLF: 5.2±3.5 mm / 4.1±3.1 mm PLIF/TLIF: 5.3±2.9 mm / 1.7±2.3 mm	PLF: 4.2±3.5 / 4.5±2.6 deg PLIF/TLIF: 6±4.3/6±3.9 deg
Gottschalk et al	Pedicle screws	Pedicle screws + interbody	NR	NR	NR
Ha et al	Pedicle screws	Pedicle screws + interbody	Degree of slip >4mm and slip angle >10°. PLF: 8/21 (38.1%) unstable. PLIF/TLIF: 8/19 (42.1%) unstable	NR	PLF (stable): 3.8± 5.7 /6.4± 5.4 deg PLF (unstable): 6.9± 3.2 / 5.4± 5.7 deg PLIF/TLIF (stable): 6.1 ± 6.7/ 3.0 ± 5.3 deg PLIF/TLIF (unstable): 6.0 ± 9.1/ 5.7 ± 5.8 deg
Kuraishi et al	Pedicle screws	Pedicle screws + interbody	Meyerding grade II or more, slip ≥10 deg, or ≥4mm in maximum flexion/extension, and posterior opening ≥5 deg in maximum flexion	PLF: 7.2±3.9 / 6.4±4.1 mm. PLIF/TLIF: 5.7±3.0/ 1.8±2.6 mm.	PLF: 2.9°±7.2° / −0.5°±8.9° PLIF/TLIF: 6.9°±6.2° / 8.9°±5.7°

| Sivaraman et al | Pedicle screws | Pedicle screws + interbody | NR | NR | PLF: 16.6 / 22.7 deg
PLIF/TLIF: 15.6 / 21.2 deg |

NR, not reported

Supplementary Figure 1. Sensitivity analysis of complication rate

Studies	Estimate (95% C.I.)
Overall	1.091 (0.592, 2.008)
- Abdu 2009	1.002 (0.387, 2.597)
- Fujimori 2014	1.004 (0.519, 1.942)
- Gottschalk 2015	0.916 (0.457, 1.836)
- Kuraishi 2016	1.372 (0.830, 2.269)
- Sivaraman 2015	1.225 (0.648, 2.316)

Relative Risk (log scale)
0.41 0.82 1.09 2.04 2.6
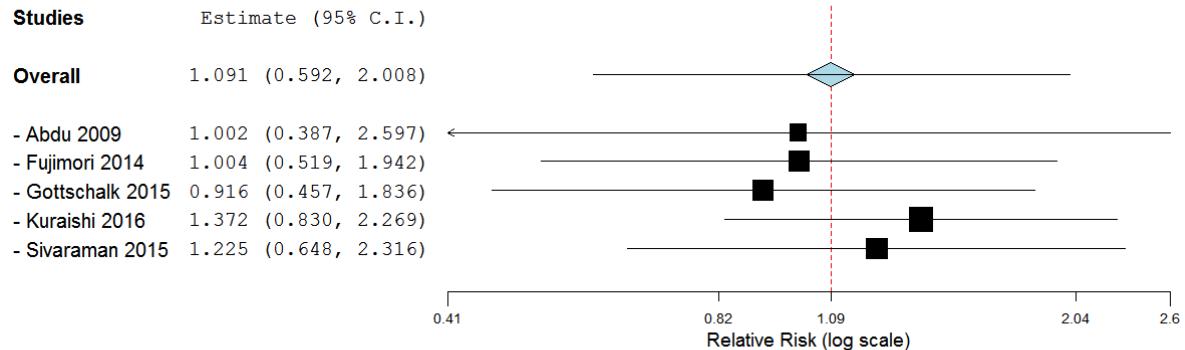
Supplementary Figure 2. Sensitivity analysis of fusion rate

Studies	Estimate (95% C.I.)
Overall	0.963 (0.914, 1.014)
- Abdu 2009	0.971 (0.917, 1.028)
- Fujimori 2014	0.971 (0.920, 1.026)
- Gottschalk 2015	0.911 (0.842, 0.986)
- Ha 2008	0.969 (0.917, 1.023)
- Kuraishi 2016	0.966 (0.916, 1.017)
- Sivaraman 2015	0.963 (0.913, 1.015)

Relative Risk (log scale)
0.84 0.96 1.03
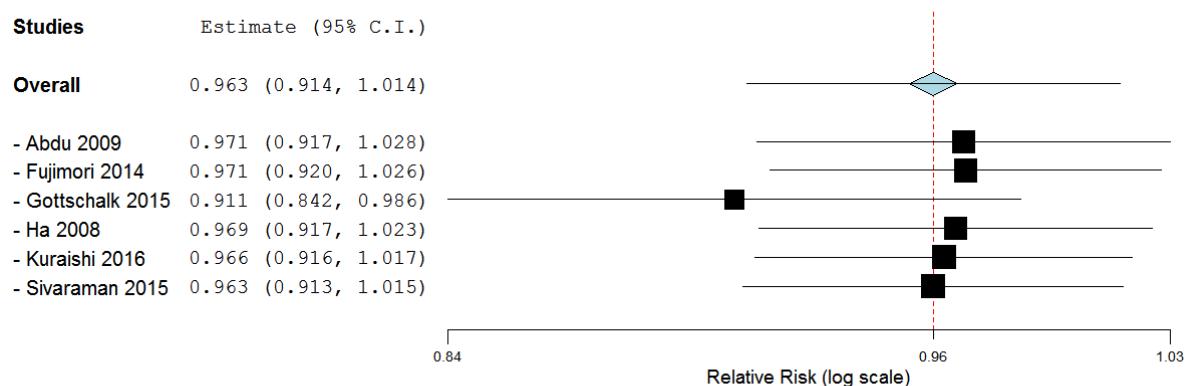
Supplementary Figure 3. Sensitivity analysis of reoperations

Studies	Estimate (95% C.I.)
Overall	1.126 (0.665, 1.905)
- Abdu 2009	0.965 (0.461, 2.018)
- Fujimori 2014	1.103 (0.647, 1.882)
- Gottschalk 2015	1.360 (0.655, 2.823)

Relative Risk (log scale)
0.49 0.97 1.13 2.43 2.7
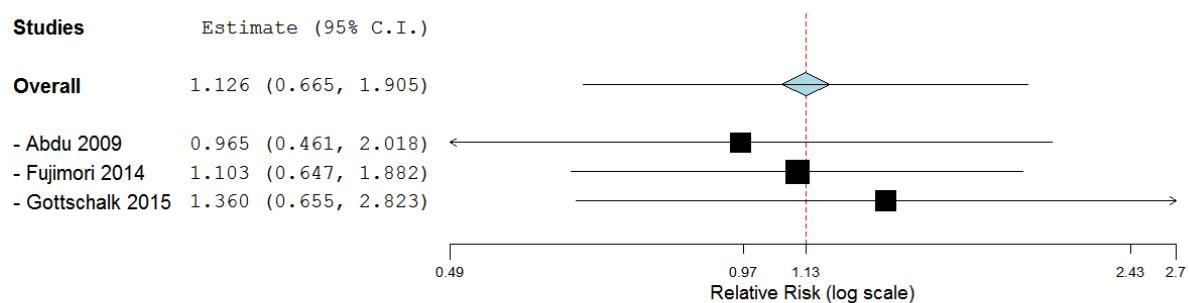
Supplementary Figure 4. Sensitivity analysis of postoperative ODI scores

Studies	Estimate (95% C.I.)
Overall	3.247 (-2.728, 9.222)
- Fujimori 2014	4.462 (-3.298, 12.223)
- Gottschalk 2015	4.740 (-5.171, 14.652)
- Ha1 2008	5.324 (-3.730, 14.379)
- Ha2 2008	0.791 (-3.244, 4.826)

Mean Difference
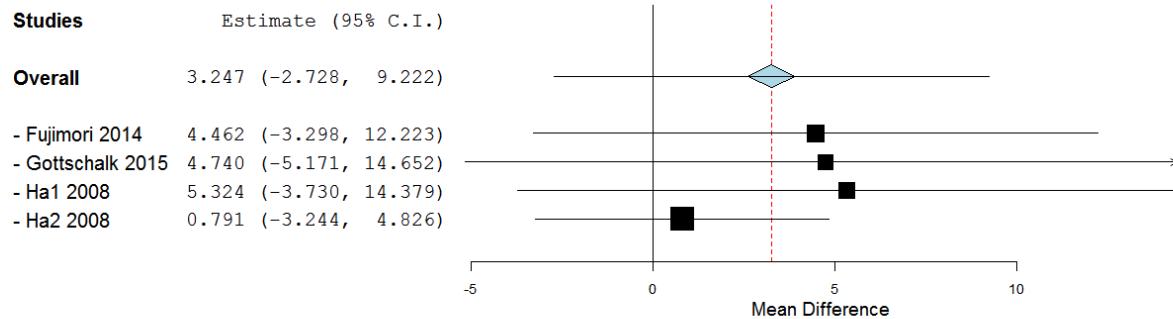
Supplementary Figure 5. Sensitivity analysis of postoperative VAS scores

Studies	Estimate (95% C.I.)
Overall	0.827 (-0.241, 1.894)
- Fujimori 2014	0.851 (-0.616, 2.318)
- Gottschalk 2015	1.186 (-0.472, 2.844)
- Ha1 2008	1.239 (-0.203, 2.680)
- Ha2 2008	0.318 (-0.290, 0.925)

Mean Difference