

Supplementary Table 7. Complications in the prospective comparative studies						
Studies	Variables	Percutaneous group		Open group		Follow-up* (months)
		Number of events	Total number of patients	Number	Total number of patients	
Parker et al. <sup>19</sup>	CSF leak	3	50	2	50	24†
	Surgical-site infection	0		2‡		24
	Screw malposition	2‡		1‡		
	Pseudarthrosis	0		0		
	Subsequent surgical intervention‡	2		3		
	Revision	2		1		
	Removal	0		0		
	Reoperation	0		2		
	Supplemental fixation	0		0		
Gu et al. <sup>21</sup>	Dural tear and CSF leak	2	44	1	38	20.6 ± 4.5
	Superficial wound infection	2		3		20.0 ± 3.3
	Overlong screws	1§		0		
	Screw malposition	0		0		
	Cage migration	0		0		
	Pseudarthrosis	3#		3#		
	Subsequent surgical intervention‡	0		0		
	Revision					
	Removal					
	Reoperation					
	Supplemental fixation					
Lee et al. <sup>22</sup>	Dural tear	1	72	0	72	24
	Surgical-site infection	0		1‡		24
	Cage migration	4**		6**		
	Screw malposition	1‡		0		
	Postoperative anemia	0		1		
	Postoperative pneumonia	1		1		
	Myocardial infarction	0		1		
	Pseudarthrosis	2††		1††		
	Subsequent surgical intervention‡	1		1		
	Revision	1		0		
	Removal	0		0		
	Reoperation	0		1		
	Supplemental fixation	0		0		
Mobbs et al. <sup>23</sup>	Dural tear	0	37	1	30	11.5 (5.4-20.1)
	Surgical-site infection	0		2		18.7 (8.1-40.0)
	Urinary tract infection	1		0		
	Hematoma	1‡‡		0		
	Paralytic ileus	0		3		
	Deep vein thrombosis	0		1		
	Postoperative radiculopathy	0		1§§		
	Pseudarthrosis	0		2‡		
	Subsequent surgical intervention‡	0		2		
	Revision	0		0		
	Removal	0		2		
	Reoperation	0		0		
	Supplemental fixation	0		0		
Kotani et al. <sup>24</sup>	CSF leak	0	43	0	37	32 (24-49)
	Surgical-site infection	0		0		40 (24-60)
	Screw malposition	0		0		
	Pseudarthrosis	1##		0		
	Subsequent surgical intervention‡	0		0		
	Revision					
	Removal					
	Reoperation					
Wang et al. <sup>25</sup>	Dural tear and CSF leak	3	25	5	27	Overall, 27.5
	Superficial wound infection	0		2		(12-38)
	Screw malposition	0		0		
	Pseudarthrosis	1***		1***		
	Subsequent surgical intervention‡	0		0		
	Revision					
	Removal					
	Reoperation					
	Supplemental fixation					
Wang et al. <sup>26</sup>	Dural tear and CSF leak	2	42	2	43	Overall, 26.3
	Graft dislodgement	1‡		0		(13-35)
	Local epidural hematoma	1‡		0		
	Screw malposition	0		1‡		
	Pseudarthrosis	1***		1***		
	Subsequent surgical intervention‡	2		1		
	Revision	0		1		
	Removal	0		0		
	Reoperation	2		0		
	Supplemental fixation	0		0		
	Schizas et al. <sup>27</sup>	Dural tear	1	18	0	18
Brachial plexus palsy due to arm positioning		1†††		0		24
L5 root paresis		1†††		0		
Transient L3 radicular pain		0		1		
Screw malposition		0		0		
PEEK cage fracture†††		0		1†††		
Screw loosening		2‡###		0		
Screw breakage		1§§###		0		

	Pseudarthrosis	3‡		0		
	Subsequent surgical intervention‡	2		0		
	Revision	0		0		
	Removal	2		0		
	Reoperation	0		0		
	Supplemental fixation	0		0		
Park et al. <sup>29</sup>	Screw malposition	1‡	32	0	29	12
	Cage migration	1‡		0		12
	Superficial wound infection	0		2		
	Deep wound infection	1‡		1‡		
	Pseudarthrosis	1‡		1‡		
	Subsequent surgical intervention‡	4		2		
	Revision	2		0		
	Removal	1		1		
	Reoperation	1		1		
	Supplemental fixation	0		0		

\* The values are given as the mean, with the range in parenthesis. † The values appear in order of percutaneous group and open group. ‡ Complications lead to a subsequent surgical intervention. Subsequent surgical intervention categorized as follows: a Revision is a procedure that adjusts or in any way modifies or removes *part* of the original implant configuration, with or without replacement of a component; a revision may also include adjusting the position of the original configuration (revision for migrated cage, removal of screws, etc.); a Removal is a procedure where *all* of the original system configuration are removed with or without replacement (removal for pain at operative site but after fusion, for pseudarthrosis, etc.); a Reoperation is any surgical procedure at the involved level(s) that does not removal, modification, or addition of any components to the system; and a Supplemental fixation is a procedure in which additional instrumentation not under study in the protocol is implanted. § One pair of screws was overlong and penetrating the front cortical bone of vertebra on the postoperative radiographs and CT scans. No related symptoms were observed without subsequent surgery during follow-up period. # The Bridwell's fusion grade III are still under follow-up without subsequent surgery. \*\* The patients had asymptomatic cage migrations that did not require revision. †† No report indicates whether subsequent surgery was performed or not. ‡‡ The patient developed a painful hematoma and presented sacral and bilateral leg numbness without motor function impairment. §§ The patient observed with treatment and the radiculopathy improved with time; however, the patient experienced long-term sensory impairment. ## The case had no symptoms, no implant failures or displacement, and no subsequent surgery was required. \*\*\* The patients refused subsequent surgery as they had no obvious symptoms of pseudarthrosis. ††† All cases made a full recovery. ‡‡‡ PEEK = polyetheretherketone; The PEEK cage was fractured during insertion into the disc space due to inadequate interbody distraction requiring replacement with a new implant. §§§ The patient refused subsequent surgery despite of persistent excruciating symptoms. ### These patients showed symptomatic nonunion with screw loosening or screw breakage.