

Supplementary Table S1. Sensitivity analyses for the adjusted association between each preoperative bone-quality predictor and cage subsidence

Scenario	Lower-instrumented-vertebra HU ^{a)} (per 1 SD ↓)		Upper-instrumented-vertebra HU ^{a)} (per 1 SD ↓)		Global VBQS (per 1 SD ↑)		Segmental VBQS (per 1 SD ↑)	
	Adjusted OR (95% CI)	p-value	Adjusted OR (95% CI)	p-value	Adjusted OR (95% CI)	p-value	Adjusted OR (95% CI)	p-value
Primary analysis (cluster-robust SE; original composite outcome) ^{b)}	0.40 (0.20–0.81)	0.011	0.49 (0.25–0.97)	0.042	1.07 (0.56–2.01)	0.843	1.08 (0.59–2.00)	0.796
Naïve standard errors (no patient-level clustering)	0.40 (0.21–0.78)	0.007	0.49 (0.26–0.94)	0.031	1.07 (0.63–1.79)	0.809	1.08 (0.64–1.83)	0.761
Excluding L1–L2 and L5–S1 cases (n=85, 21 events)	0.40 (0.19–0.81)	0.011	0.50 (0.25–0.97)	0.042	1.15 (0.62–2.13)	0.658	1.16 (0.64–2.10)	0.631
Posterior-disc-height- only outcome ^{c)} (n=91, 21 events)	0.75 (0.45–1.25)	0.267	1.01 (0.57–1.79)	0.963	1.19 (0.75–1.89)	0.469	1.12 (0.69–1.80)	0.646

Model adjusting for age, L5–S1 level, and cage placement position (no interaction term). The L5–S1 covariate was omitted from the third row, in which all L5–S1 cases were excluded. HU: Hounsfield unit, SD: standard deviation, VBQS: vertebral bone quality score, OR: odds ratio, CI: confidence interval, SE: standard error.

^{a)}Each cell shows the adjusted odds ratio (95% confidence interval) and p-value for the bone-quality predictor in a reduced multivariable logistic-regression,

^{b)}Identical to the model reported in Table 3 of the main manuscript, ^{c)}Outcome operationalisation of Koo et al.¹⁾—cage subsidence defined as ≥ 2 mm reduction in posterior disc height alone—applied to the same 91-level dataset.

Reference

1. Koo B, Park J, Hong JY. Predictors of cage subsidence after oblique lumbar interbody fusion. J Clin Med 2025;14:8956.