AO SPINE



Minimally Invasive Spine Surgery (MISS-INC-L)

Invasiveness Classification

Criterion	0 Points	1 Point	2 Points
OR time	< 1 hour	1–3 hours	> 3 hours
Number of approaches	1	2	≥ 3
Blood loss	< 50 mL	50–200 mL	> 200 mL
Pedicle screw/ interspinous spacer	None	1 level	> 1 level or pelvic fixation
Muscle dissection	Minimal	Muscle splitting	Muscle detachment
Anesthesia	None / not required	Local anesthesia or sedation	General anesthesia
Number of levels treated	1	2–3	> 3 or pelvic fixation
Fusion technique*	None	Interbody fusion	Posterolateral fusion
Revision surgery	No	Decompression only	Instrumentation ± decompression

* Fusion technique points are additive.

Total score interpretation and classification

< 5 Minimally invasive | **5-10 Less invasive** | **> 10 More invasive**

Source: Härtl R, Bratescu R, Willett N, et al. A Modified Delphi Consensus Study to Quantify Surgical Burden of Degenerative Lumbar Spinal Procedures: The Minimally Invasive Spine Surgery Invasiveness Classification "MISS-INC (L)". *Global Spine Journal*. 2026.

© 2026 AO Foundation.. All rights reserved.
AO Foundation, Clavadelerstrasse 8, CH-7270 Davos, Switzerland