

Anterior and Lateral Lumbar Interbody Fusion

Understanding Your Risks

This document explains the risks and possible complication rates for patients undergoing a combination of **anterior lumbar interbody fusion (ALIF)** and **lateral lumbar interbody fusion (LLIF)** with pedicle screw fixation. The information is based on large studies and national data to help you make an informed decision about your surgery.

Common Risks and Estimated Incidence:

- **Any complication:** 20–35% (includes both minor and major complications; higher than single-approach fusion)[\[2\]](#)[\[3\]](#)[\[5\]](#)[\[9\]](#)
- **Vascular injury:** 1–3% (major vessel injury, including iliac vein/artery; risk is higher with ALIF and at L4-L5)[\[1\]](#)[\[5\]](#)[\[9\]](#)
- **Visceral injury (bowel, ureter):** 0.3–0.6% (more common with anterior or lateral approaches)[\[5\]](#)[\[9\]](#)
- **Neurological complications:** 4–12% (includes nerve root injury, new or worsened weakness, numbness, or cauda equina syndrome; higher with LLIF)[\[2\]](#)[\[3\]](#)[\[11\]](#)
- **Retrograde ejaculation (males):** 0.4–2.7% (mainly with ALIF at L5/S1)[\[1\]](#)[\[5\]](#)
- **Deep vein thrombosis (DVT)/pulmonary embolism (PE):** 0.7–1.5% (risk is higher with anterior approaches)[\[5\]](#)[\[7\]](#)
- **Postoperative ileus (bowel slowdown):** 4–7% (especially with ALIF)[\[5\]](#)[\[9\]](#)
- **Surgical site infection (superficial/deep):** 1.4–5.8%[\[5\]](#)[\[9\]](#)
- **Urinary tract infection:** 3.3%[\[5\]](#)
- **Pseudoarthrosis (nonunion):** 0.5–5% at 5 years with posterior fixation; higher without[\[1\]](#)[\[2\]](#)
- **Cage migration or subsidence:** 1–10% (risk factors include undersized cage, high disc height, and multilevel fusion)[\[2\]](#)[\[11\]](#)
- **Hardware complications (screw loosening, rod fracture):** 1–6%[\[2\]](#)[\[8\]](#)
- **Reoperation (within 5 years):** 6–10% (for adjacent segment disease, hardware failure, or nonunion)[\[1\]](#)[\[2\]](#)[\[4\]](#)

- **Readmission (within 30–90 days):** 4–7%[\[5\]](#)
- **Blood transfusion:** 8–12% (higher with combined approaches)[\[5\]\[9\]](#)

Serious or Rare Risks:

- **Gastrointestinal complications (including bowel injury, ileus, or obstruction):** 4.9%[\[5\]\[9\]](#)
- **Mortality:** 0.2–0.3% (higher with anterior approaches)[\[5\]\[7\]](#)
- **Myocardial infarction (heart attack):** 0.4%[\[5\]](#)
- **Stroke:** 0.2%[\[5\]](#)
- **Sepsis:** 1.1%[\[5\]](#)
- **Incisional hernia:** 0.6% (mainly with ALIF)[\[5\]](#)
- **Hematoma/seroma requiring evacuation:** 1.4%[\[5\]](#)
- **Permanent neurological deficit:** 1–2.5% (higher with LLIF)[\[11\]](#)
- **Symptomatic screw misplacement:** 2.1%[\[8\]](#)
- **Durotomy (spinal fluid leak):** 0.2–1% (less common than with posterior approaches)[\[5\]\[10\]](#)

Risk Factors for Increased Complications:

- **Advanced age, higher BMI, diabetes, tobacco use, and osteoporosis** are linked to higher complication rates and poorer outcomes.[\[1\]\[2\]\[5\]](#)
- **Revision surgery and multilevel fusion** increase the risk of durotomy, infection, and hardware complications.[\[2\]\[8\]](#)
- **Combined approaches** may increase operative time, blood loss, and perioperative morbidity compared to single approaches.[\[3\]\[5\]\[9\]](#)

Patient Acknowledgment:

By signing below, you acknowledge that you understand the above risks, their estimated frequency, and the potential for both common and rare complications associated with combined anterior and lateral lumbar interbody fusion with pedicle screw fixation. All your questions have been answered to your satisfaction.

Signature: _____ **Date:** _____

Patient Name: _____ **DOB:** _____

References

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