

Early Return to Duty Following Full-Endoscopic L4–L5 and L5–S1 Discectomy in an Active Military Population

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Introduction

Lumbar disc herniation at L4–L5 represents a frequent cause of radicular pain and temporary unfitness for duty in young military personnel. In operational environments where rapid functional recovery is essential. Full-endoscopic lumbar discectomy (FELD) has emerged as a minimally invasive alternative to conventional microdiscectomy, potentially reducing tissue trauma, postoperative pain, and rehabilitation time. Data regarding return-to-work outcomes in military populations remain scarce.

Materials and Methods

We conducted a retrospective study of 80 consecutive active-duty military patients who underwent full-endoscopic lumbar discectomy for single-level L4–L5 or L5–S1 disc herniation at the Military Hospital of Tunisia between January 2021 and December 2025. Primary outcomes included operative time, Visual Analog Scale (VAS) for leg pain, Oswestry Disability Index (ODI), perioperative complications, recurrence rate, and time to return to active military duty. Follow-up assessments were performed at 6 weeks, 3 months, and 12 months.

Results

The cohort was predominantly male (82%) with a mean age of 33.4 ± 4 years. Disc levels were distributed as follows: L4–L5 (45%) and L5–S1 (55%). Mean operative time was 60 ± 15 minutes. No intraoperative conversions to open surgery were required.

VAS leg pain improved significantly from 8.1 ± 0.9 preoperatively to 2.1 ± 1.2 at 6 weeks ($p < 0.001$). Mean ODI decreased from $52\% \pm 8.4$ preoperatively to $16\% \pm 6.9$ at 3 months ($p < 0.001$).

The median time to return to light administrative duty was 15 days, while return to unrestricted active duty occurred at a median of 30 days. At 3 months, 86% of patients had resumed full operational military activity. Two patients (4%) experienced recurrent disc herniation requiring revision surgery within 12 months. No major neurological deficits or dural tears were recorded.

Conclusion

In this young and predominantly male Tunisian military population, full-endoscopic L4–L5 and L5–S1 discectomy provided significant pain relief, rapid functional recovery, and early return to active duty with low morbidity. These findings support FELD as an effective and strategically valuable surgical option in military healthcare systems where operational readiness is a priority.