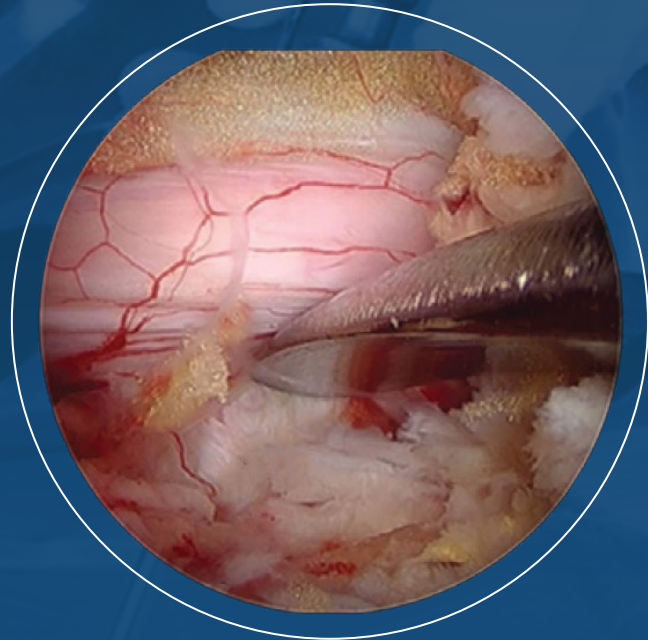
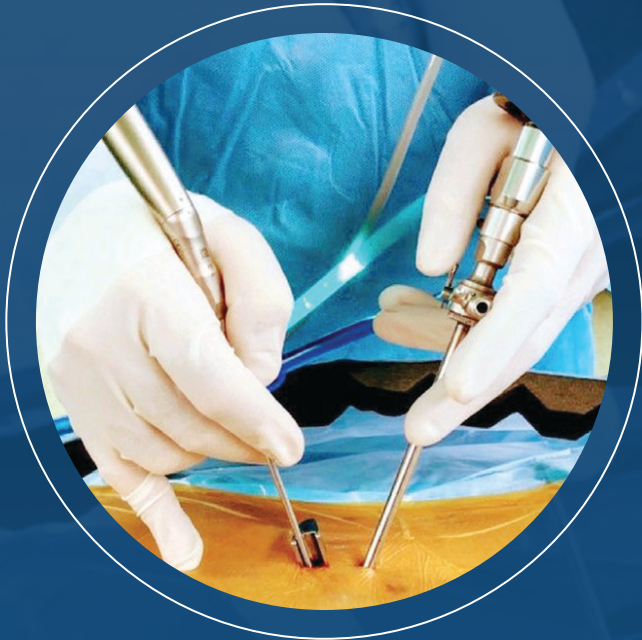


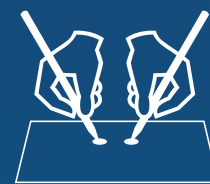
AMPLIFY[®]
SURGICAL

dualPortal[®]



THE dualPortal[®] SPINAL ENDOSCOPY

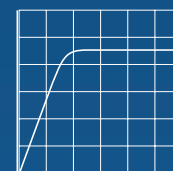
The dualPortal[®] solution is a novel two-portal endoscopic approach to the spine that allows surgeons to easily learn and perform a wider array of lumbar spine procedures with lower cost compared to the conventional one-portal technique. It also provides flexibility to perform endoscopic lumbar fusions with the dualX[®] Expanding Interbody Fusion System.



Greater
Flexibility



Enhanced
Visualization



Shallow
Learning Curve

dualPortal®

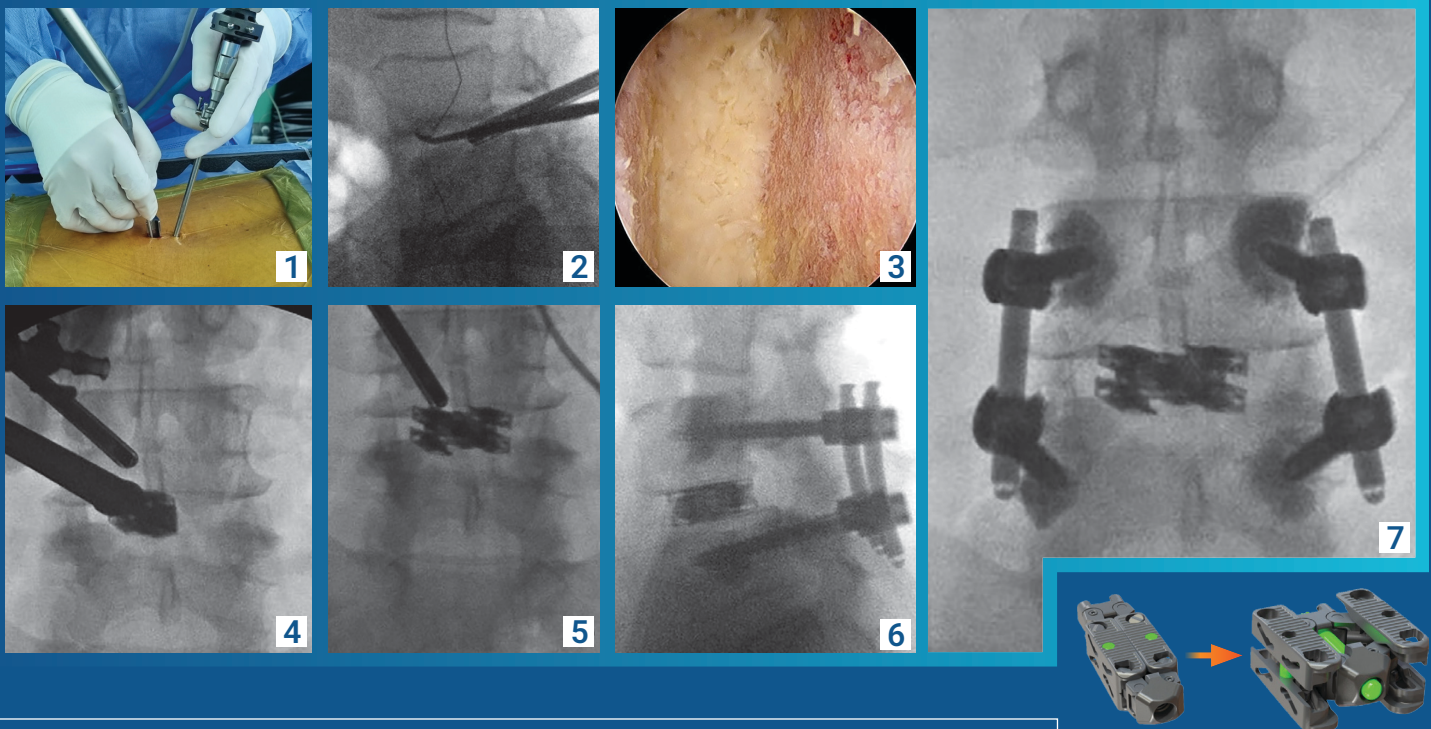
Compared to uni-portal spine endoscopy.

- **Shorter Learning Curve:** similar workflow to a familiar posterior approach.
- **Lower Cost:** compatible with widely available endoscopic systems.
- **Versatility:** accommodates a variety of lumbar procedures, including multi-level fusions.

CASE STUDY: dual[LIF]®

A 63-year-old female patient presented with low back pain, lower left extremity. (A) The preoperative imaging showed degenerative spondylolisthesis with central stenosis, facet and ligamentum hypertrophy at L4–5. A dualPortal® transforaminal lumbar interbody fusion (TLIF) with unilateral laminotomy for bilateral decompression, using Amplify Surgical's dualX® dual-expanding titanium cage, was performed with a left-sided approach.*

*Heo DH, Hong YH, Lee DC, et al. Technique of biportal endoscopic transforaminal lumbar interbody fusion. *Neurospine* 2020;17(Suppl 1):S129–37.



Comparing dualPortal® (biportal endoscopic) TLIF using an Enhanced Recovery After Surgery (ERAS) pathway to microscopic TLIF, researchers found that **dualPortal® TLIF with ERAS improved VAS back scores significantly more than microscopic TLIF, postoperatively.** "Biportal endoscopic TLIF with ERAS pathway may have good aspect to accelerate recovery after surgery. There was no inferiority of fusion rate of endoscopic TLIF comparing to microscopic TLIF. Biportal endoscopic TLIF using a large cage with ERAS pathway may be a good alternative treatment for lumbar degenerative disease."*

*Heo DH, Jang JW, Park CK. Enhanced recovery after surgery pathway with modified biportal endoscopic transforaminal lumbar interbody fusion using a large cage. Comparative study with minimally invasive microscopic transforaminal lumbar interbody fusion. *European Spine Journal* (2023).

European Spine Journal
https://doi.org/10.1007/s00586-023-07147

ORIGINAL ARTICLE

Enhanced recovery after surgery pathway with modified biportal endoscopic transforaminal lumbar interbody fusion using a large cage. Comparative study with minimally invasive microscopic transforaminal lumbar interbody fusion

Dong Hwa Heo¹ · Jae Won Jang² · Choon Keun Park²

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Abstract

Purpose Studies about the clinical efficacy of endoscopic lumbar interbody fusion using an enhanced recovery after surgery (ERAS) pathway are insufficient. Thus, the purpose of this study was to investigate clinical usefulness of biportal endoscopic transforaminal lumbar interbody fusion (TLIF) using an ERAS compared with microscopic TLIF.

Methods Prospectively collected data were retrospectively analyzed. Patients who received modified biportal endoscopic TLIF with ERAS were grouped into an endoscopic TLIF group. Those who received microscopic TLIF without ERAS were grouped into a microscopic TLIF group. Clinical and radiologic parameters were compared between two groups. Fusion rate was evaluated using sagittal reconstruction images of postoperative computed tomographic (CT) scans.

Results There were 32 patients in the endoscopic TLIF group with ERAS and 41 patients in the microscopic TLIF group without ERAS. Visual analog scale (VAS) scores for back pain preoperatively at day one and day two were significantly ($p < 0.05$) higher in the non-ERAS microscopic TLIF group than in the ERAS endoscopic TLIF group. Preoperative Oswestry Disability Index were significantly improved at the last follow-up in both groups. The fusion rate at postoperative one year was 87.5% in the endoscopic TLIF group and 85.4% in the microscopic TLIF group.

Conclusion Biportal endoscopic TLIF with ERAS pathway may have good aspect to accelerate recovery after surgery. There was no inferiority of fusion rate of endoscopic TLIF comparing to microscopic TLIF. Biportal endoscopic TLIF using a large cage with ERAS pathway may be a good alternative treatment for lumbar degenerative disease.

dualX® T/PLIF

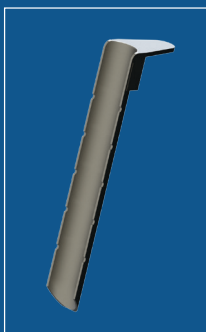
dualPortal ACCESS SYSTEM

Ideal for any surgical setting.

Complete set of **patented** access and decompression instruments, developed interdependently with the dualPortal® surgical technique by the leading physicians and researchers in South Korea.

Coupling proprietary instrumentation with the unique endoscopic approach, this groundbreaking system enables surgeons to perform reproducible, safe and powerful surgeries with great clinical outcomes.

Ideal for both inpatient and outpatient settings, the dualPortal® Access System leverages readily available equipment to address a wide variety of lumbar pathologies.



dualPortal CANNULA

- Manages irrigation fluid control.
- Critical for visualization.
- Facilitates easy access for working instruments.



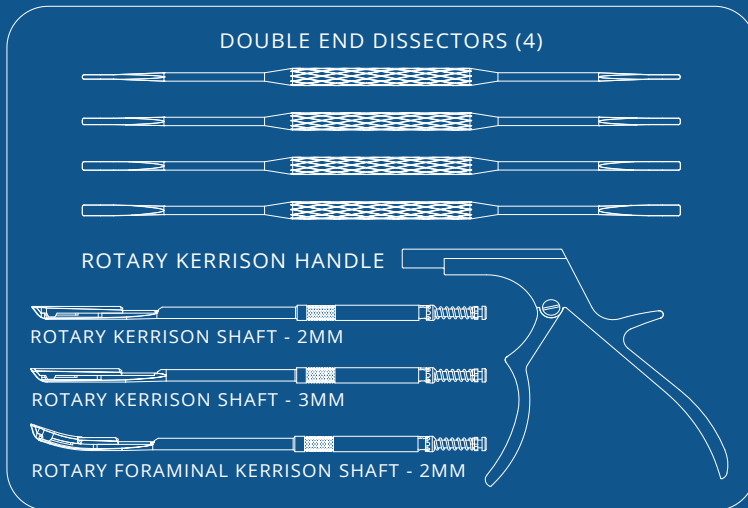
dualPortal HEMOSTATIC TUBE

Delivers hemostatic agent to targeted site.



dualPortal SCOPE RETRACTOR

Transforms the endoscope additionally into a retractor.

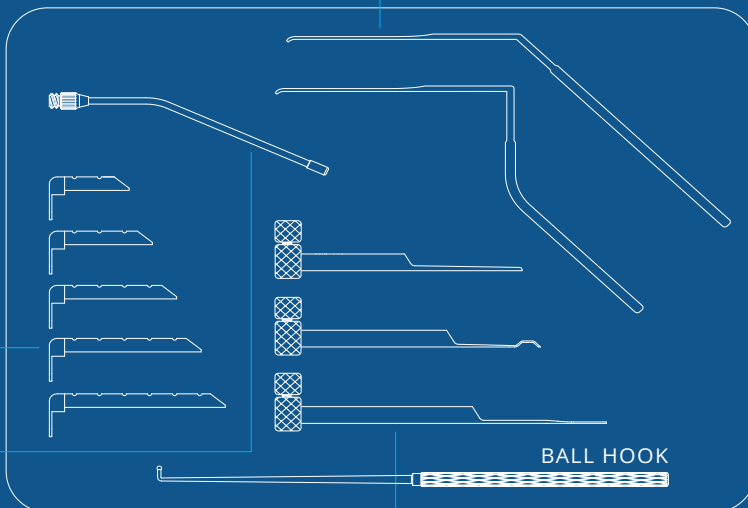


TRAY 1



dualPortal NERVE RETRACTORS

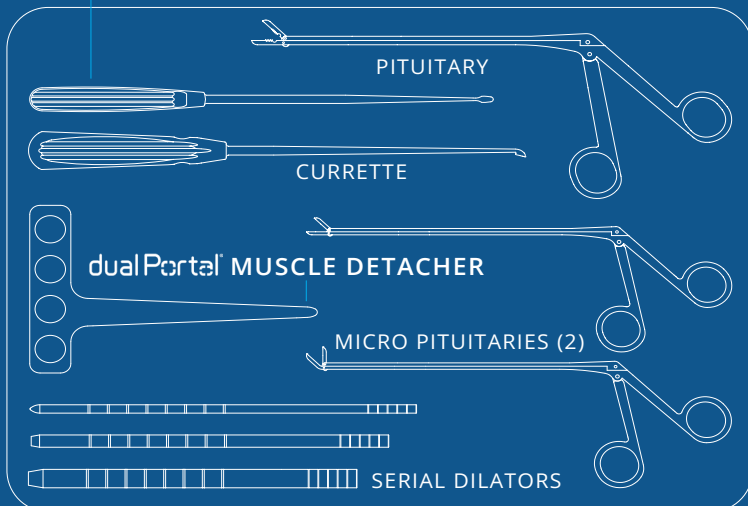
Designed to be used with the dualPortal® ANNULOTOMY KNIFE.



TRAY 2

dualPortal ANNULOTOMY KNIFE

Designed to be used with the dualPortal® NERVE RETRACTORS.



TRAY 3

CLINICAL PAPERS

Park DY, Heo DH. The use of dual direction expandable titanium cage with biportal endoscopic transforaminal lumbar interbody fusion: a technical consideration with preliminary results. *Neurospine*. 2023;20(1):110-118.

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Eum JH, Heo DH, Son SK, Park CK. Percutaneous biportal endoscopic decompression for lumbar spinal stenosis: a technical note and preliminary clinical results. *Journal of Neurosurgery Spine*. 2016;24(4):602-607.

PART NUMBER	DESCRIPTION
1253-5574-040	dualX dualPortal Disposable Kit 40mm (USA)
1253-5574-050	dualX dualPortal Disposable Ki 50mm (USA)
1253-5574-060	dualX dualPortal Disposable Kit 60mm (USA)
1253-5574-070	dualX dualPortal Disposable Kit 70mm (USA)
1253-5574-080	dualX dualPortal Disposable Kit 80mm (USA)
1253-5574-090	dualX dualPortal Disposable Kit 90mm (USA)
1253-5574-100	dualX dualPortal Disposable Kit 100mm (USA)
1253-5574-110	dualX dualPortal Disposable Kit 110mm (USA)
1253-5574-120	dualX dualPortal Disposable Kit 120mm (USA)

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