

## Introduction of Unilateral Biportal Endoscopic (UBE) Spine Surgery in Nepal.

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Conventional open spinal surgery utilizes long midline or paramedian incisions and needs subperiosteal paraspinal muscle dissection leading to devascularization. This leads to chronic pain postoperatively. These procedures are fraught for their potential complications like surgical site infections, postoperative pain and neurological deficits. Minimally invasive techniques utilizing tubular retractors lead to the target area by utilizing serial dilators which dilates the access route rather than subperiosteal dissection. Microscope and special light source are used for magnification and optimal visualization. However, there is limited freedom of movement of instruments and need special bayoneted instruments.

Endoscopic technique utilizes endoscope as the source of lighting and magnification and takes these to near the target area. Endoscopic spine surgery is not a single technique but a platform that optimizes the visualization and access to the spine while mitigating damage to the surrounding tissue. Endoscopic spine surgery can be full endoscopic decompression or endoscopy assisted surgery.<sup>1</sup> Endoscopic techniques have equivalent patient reported outcomes when comparing with standard minimally invasive or open techniques. However, patients in the endoscopic group had less operative time, lower need for pain medication and earlier return to work.<sup>2</sup>

Unilateral biportal spine endoscopic surgery is an endoscope assisted surgical technique. It utilizes the usual instruments used in open spinal surgery. So initial investment is low. It also has wider indications compared to uniportal endoscopic technique. It is an arthroscopic technique and needs to create a space for the flow of saline to help the endoscopic view. This technique can be used for discectomy, foraminal decompression, facet cyst excision and central canal decompression. Lumbar interbody fusion can also be done using this technique.

This technique utilizes two working channels, one for the endoscope and the other for the working instruments. There is no muscular damage to the paraspinal muscles especially the multifidi muscles which are important in

lumbar spine stability. The main advantage is the independence of scope and instrument control as well as greater freedom for instruments. It uses aqueous environment to create potential space at the surgical site. To introduce this technique to Nepal, cadaver workshop was carried out in Kathmandu Medical College and two live cases were done in Manipal Teaching Hospital Pokhara during the 2nd International conference of Spine Chapter Nepalese Society of Neurosurgeons (NESON) on 7-8 April 2022. We hope that a wider section of the spine surgeons in Nepal adopts this technique for their patients with different spinal problems.

### References:

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