

**Title of Abstract:** Endoscopic Transforaminal Lumbar Microdecompressive Disc Surgery with GPS for Morbid Obese Patient

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**Introduction:** Morbid obesity is characterized by an individual weighing more than 100 pounds over his or her ideal body weight, or having a body mass index (BMI) of 40 or higher. The morbidly obese patient poses many unusual surgical/anatomical challenges during endoscopic laser minimally invasive spine surgery (MISS), and has a greater incidence of spinal surgical complications, up to 36% in spinal surgery, including problems with wound healing, pneumonia, deep vein thrombosis and need for further surgery. Other adverse outcomes and co-morbidities can include diabetes, kidney failure, hypertension, heart disease, liver disease, and nerve compressions. Newly developed GPS (grid positional systems) was designed to simplify and facilitate the endoscopic MISS.

**Methods:** 156 morbidly obese surgical patients with 254 symptomatic herniated lumbar discs underwent endoscopic MISS. Average age of 42 (with intracable single and multiple lumbar herniated discs). They were safely treated with outpatient endoscopic laser MISS, guided and facilitate by application and utilization of newly developed GPS. Various endoscopic assisted mini spinal instruments are utilized to perform transforaminal endoscopic lumbar microdiscectomy and foraminoplasty for treatment of spinal stenosis. Holmium YAG laser is applied for laser thermodiskoplasty.

**Results:** Overall result 90% patients with good to excellent results. Fair results 6.4% patients, (with single level problem. Average follow-up, is 46 months. For single level, average satisfaction score is 93%.

**Conclusion:** Endoscopic laser MISS, performed with GPS guidance, for microdecompressive lumbar discectomy and stenosis decompression in the morbidly obese surgical patient, is an effective, safe, less traumatic and easier spinal surgery. It avoids the more dangerous alternative of more traumatic open spinal procedures performed with general anesthesia. It reduces risk and complication, and leads to an excellent surgical result, faster recovery and significant economic savings.

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