

Abstract

- Title:** **Mechanical Spinal Discectomy and Laser Thermodiskoplasty – 1000 Cases**
- Introduction:** Open spinal discectomy is associated with significant morbidity, long-term convalescence, prolonged general anesthesia and wide dissection of tissues that can cause bleeding, scarring and eventual destabilization of spinal segments. The less traumatic minimally invasive spinal surgery (MISS) is free from these potential complications. It has evolved to the point that it is the procedure of choice for uncomplicated herniated discs. An experience of 1000 cases of MISS discectomy with laser thermodiskoplasty is presented.
- Materials and Methods:** 1000 consecutive patients who had not responded to usual conservative treatments with cervical, thoracic and lumbar discs operated on by a percutaneous endoscopic technique since 1995 when the laser was included in the operation are described. Cannulae of various diameters with dilators, trephines, forceps and discetomes of appropriate sizes to be inserted through them are used to remove disc tissue, followed by Ho:YAG (Trimedyne) laser application to vaporize tissue and at lower power to reshape the disc by shrinking and hardening the disc.
- Procedure:** A brief description of our approach to cervical, thoracic and lumbar MISS is included.
- Results:** 92.5% of patients have had good or excellent results. Patients return to usual activities in a few days to a few weeks post operatively. The average time to return to work is ten days in non-worker's compensation patients.
- Discussion:** This MISS technique has demonstrated its safety and effectiveness in surgical treatment of herniated discs of the entire spine. It is now the treatment of choice in such patients even with some segmental instability. A triad of goals furthers optimal results: decrease intradiscal pressure, debulk the disc and use laser thermodiskoplasty to shrink the protruding material and toughen the remaining disk against recurrences. Sinovertebral denervation by laser further relieves discogenic pain.
- Conclusion:** Endoscopic MISS with thermodiskoplasty is safe and effective method for treating disc disease of the cervical, thoracic and lumbar spine. The numerous advantages of this approach compared to open disc surgery should be available to all

patients with disc disease.

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