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## Abstract Reproduction Form B-1

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Title (type in CAPITAL LETTERS)	THE TAILORED LAMINECTOMY – A NEW TECHNIQUE FOR NEUROMODULATOR IMPLANTATION

**AIMS OF STUDY:** Neuromodulation of sacral roots is an alternative mode of therapy for patients with urge incontinence or detrusor hypocontractility. We investigated the effects of sacral (S3) nerve stimulation in patients in a new surgical approach for sacral neuromodulator implantation. The modified implantation method with sacral laminectomy and bilateral electrode placement led to distinct improvement of stimulation, positioning and dislocation (1,2) The implantable neuromodulation system as described by Tanagho and Schmidt enables unilateral sacral nerve stimulation (5,6). The electrode is inserted unilaterally into the sacral canal via the sacral foramen (S3) without exposing this latter. Reports have been made on sacral neuromodulation failures of up to 50% in patients undergoing this procedure (3,4,7)

Hohenfellner et al. described a complete 2-level laminectomy for neuromodulator implantation (1). Although more effective, this procedure still remains very invasive and can cause extensive surgical trauma. We developed the tailored laminectomy for bilateral neuromodulator electrode implantation to minimize surgical trauma.

**METHODS:** Seven Patients with urge incontinence and three patients with a hypocontractile detrusor were treated in the following technique: After a 10 cm longitudinal skin incision, we exposed the spinous processes of S2 and S3. Instead of a complete 2-level laminectomy, only two oval laminectomy holes were made with a high-speed ball drill (Rosen burr drill). An electrode fixation hole was drilled at the edge of the laminectomy window and the wire was fixed with non-absorbable suture material.

RESULTS: In patients with idiopathic urge incontinence (followup 12.5 months, range 7 to 18), the number of leakings decreased from 7.2/day to 0/day and functional bladder capacity increased from 298 ml to 352 ml. In patients with a hypocontractile detrusor (followup 10.5 months; range 6 to 20), detrusor pressure increased during micturition from 12 cm H<sub>2</sub>O to 34 cmH<sub>2</sub>O. The postvoiding residual decreased from 350 ml to 58 ml. Average surgery time was 2 hours 15 minutes. Complications: One serom near the impulse generator.

CONCLUSION: Sacral tailored laminectomy is a fast, minimally invasive and reliable technique for neuromodulator implantation.

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