

## **URODYNAMIC EVALUATION OF SACRAL NERVE STIMULATION TREATMENT FOR PATIENTS WITH URGE INCONTINENCE**

### **Aims of Study**

Sacral Nerve Stimulation (SNS) is a relative new treatment modality for voiding dysfunctions, including chronic refractory urge incontinence. The urodynamic effects of this treatment are not well known and published data are rather controversial. We evaluated the urodynamic effects six months post implant and studied on correlations between the urodynamic results and clinical efficacy in Urge Incontinence (UI) patients.

### **Methods**

The urodynamic evaluation was performed in the randomized multi-center trial (MDT-103) population as a secondary study outcome, at baseline and six months post implant. 111 Patients with more than 50 % improvement on urge incontinence behaviour during a Percutaneous Nerve Evaluation qualified for surgical implant. Pending on the presence of bladder instability at baseline, subgroups were made of patients presenting with motor and sensory UI respectively. Six months post implant, urodynamic investigation was done with the neurostimulator on and patients were asked to fill out voiding diaries.

### **Results**

44 Patients had stable bladder behaviour at baseline and 67 showed bladder instability. 6 Patients out of each group exited the study prior to the six months follow up and some patients had missing data. Complete data were available for 26 sensory UI patients and 39 patients with motor UI. Review of the cystometry variables showed statistically improvement in bladder volumes at first sensation of fullness and at maximum fill prior to void for both sensory and motor UI patients as compared to baseline. 50 % Of the motor UI patients achieved stable bladder behaviour at follow up but were not clinically more successful than those who kept bladder instability ( $p=0.73$ ). 55 Out of 84 implanted patients (with the available data) showed clinical benefit, with at least 50 % improvement in primary voiding diary parameters. Sensory UI patients (22/30) had a higher rate of clinical success than motor UI patients (33/54) but the difference was not statistically significant.

### **Conclusions**

These urodynamic results shows significant improvement in patients with UI, both with and without bladder instability (= sensory urge) after SNS therapy. Although urodynamic and clinical improvement was observed in both groups, sensory UI patients seem to have additional benefit over motor UI patients. Therefore in patients with UI, bladder instability should not be a prerequisite for SNS therapy.