TRANSGLUTEAL PLACEMENT OF A PUDENDAL NERVE STIMULATOR FOR THE TREATMENT OF REFRACORY URGE URINARY INCONTINENCE: DESCRIPTION AND TECHNIQUE.

Hypothesis / aims of study
To describe the technique of the transgluteal placement of a pudendal nerve stimulator in 5 patients with idiopathic refractory urge urinary incontinence (UUI).

Study design, materials and methods
A Cyberonics® (Houston, Texas) 102R Pulse Generator with HMRI (Huntington Medical Research Institutes, Pasadena, CA) Bipolar Electrode array currently marketed for the treatment of refractory epilepsy has been modified and successfully surgically implanted in 5 patients with idiopathic refractory UUI.

Results
All patients underwent successful surgical placement of a Cyberonics VNS (vagal nerve stimulator) model 102R pulse generator with HMRI bipolar electrode array. Preoperative work-up included history and physical examination, urodynamics of the bladder and sphincter, I-PSS and collection of voiding diaries. For device implantation patients were placed under general anesthesia in the prone position and after identification of the surgical landmarks (greater trochanter, ischial tuberosity, sacrotuberous and sacrospinous ligaments, sacrum, and coccyx) a 6 centimeter incision was made above the gluteal muscle. Dissection was carried down along the medical border of the ischial tuberosity to the ischial fossa at the level of the ischial spine where the pudendal nerve was encountered and electrode placed encircling the nerve (Figure 1). The pulse generator was then placed in a superficial fat pocket through a separate incision with the leads tunneled and connected.

Interpretation of results
Through a posterior gluteal approach, a bipolar electrode can safely and accurately be applied to the pudendal nerve to give chronic pulsatile stimulation for the treatment of refractory urgency incontinence.

Concluding message
A currently marketed VNS system can be successfully modified and implanted through a transgluteal incision to directly stimulate the pudendal nerve in patients with idiopathic refractory UUI. Additional studies are ongoing to evaluate the efficacy and safety of pudendal nerve stimulation in terms of symptom improvement.

Figure 1: Application of electrode to the pudendal nerve