UTAH SLANTED ELECTRODE ARRAY PUDENDAL NERVE STIMULATOR
HARDWARE, CIRCUITS, & SENSORS

Device that treats bladder dysfunction by providing push-button control of urination, while minimizing health risks and maximizing patient quality of life.

TECHNOLOGY TYPE
Biotechnology
Biosensors

STAGE OF DEVELOPMENT
- Proof of concept demonstrated in feline model studies using a bench prototype.
- Additional studies on canine models still required.

IP PROTECTION
U.S. Utility Patent Issued
Systems and Methods for Treating Disorders by Selectively Activating and/or Blocking Muscles through Intrafascicular Stimulation of the Pudendal Nerve
US8630711B1

LEARN MORE
Reference Number: U-4528

Dean Gallagher
Technology Manager
dean.gallagher@tvc.utah.edu
801-585-0396

TECHNOLOGY SUMMARY
Bladder dysfunction affects 17 million Americans and is particularly common in patients with spinal cord injuries and multiple sclerosis. Current treatments, while effective, have major side effects including infection, urethral damage, and loss of peripheral sensation.

The pudendal nerve stimulator treats bladder dysfunction by enabling push-button urination control. The nerve stimulator consists of a Utah Slanted Electrode Array implanted into the pudendal nerve that selectively contracts and relaxes the two major muscle groups associated with urination. A remote device signals the array to contract the bladder muscle, while restricting the urethral sphincter to facilitate urination. The device can be inserted using minimally-invasive surgery and eliminates the need for catheterization and the major side effects associated with current bladder dysfunction treatments.

FEATURES AND BENEFITS
- Enables patient-controlled urination by bladder dysfunction patients.
- Reduces side effects by eliminating the need for catheterization and sensory nerve transection.
- Facilitates long-term treatment by providing continuous micturition.

RECENT PUBLICATIONS

INVENTOR PROFILE
Richard Normann, Ph.D., Emeritus Distinguished Professor - Bioengineering
Patrick Cartwright, M.D., Interim Chair & Professor - Surgery
Heather Wark, M.D., Ph.D., Resident - Psychiatry

DATE UPDATED: 9/18/2018