

UFree - intra-urethral mechanical catheter (BioDesign) (Hadasit)

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Need:

Over 85% of spinal cord injury (SCI) patients suffer from urinary incontinence due to nervous system damage. This inability to empty the bladder leads to urinary tract infection (UTI) and other complications. 1/3 of SCI patients are hospitalized annually due to the resulting complications. The gold standard of care is using clean intermittent catheterization (CIC), a self-insertion of a plastic tube that needs to be done 3-5 times a day. This inconvenience leads to very low compliance, which in turn causes urinary overflow and high rate of complications. Patients that are not able to use CIC are treated by a Foley catheter, an indwelling catheter that stays in place for a month, with an external part that leads to frequent infections. Other invasive solutions exist, such as artificial urinary sphincter (AUS) implanted surgically. The unmet need is controlling urinary voiding by a simple to use, comfortable and clean solution.

Innovation:

Our solution is an endo-urethral catheter with no external parts that could lead to infection. The indwelling catheter allows the patient to urinate by gently pressing his penis, using a simple mechanical valve located inside the urethra. The device is inserted and extracted in a noninvasive way, similar the procedure os using a standard catheter, and would be done by a non trained individual at the home setting.

Indication / Application:

Rehabilitation / Urology

Competitive advantages:

- Ease of use - 1 catheter replaces 120 CIC per month
- Safety - internal device lowers infection risk
- Cost effectiveness - insertion by non trained individuals
- Patient enhancement - mimicking natural urination

Development stage:

Concept stage

This project is part of our BioDesign program.

Learn more about the program: <http://www.biodesignisrael.com/>

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