

Stress Urinary Incontinence (SUI) Surgical Probe Measurement System

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Technology description

Background

Annually, surgeons perform over 150,000 surgeries to treat Stress urinary incontinence (SUI) in women. Over 12 billion dollar each year is spent on treating urinary incontinence. While there are several surgical treatment options available, mid-urethral slings are most commonly used to treat SUI. Post-surgical complications have a huge impact on the quality of life of the patient; some of the complications include: inability to urinate and sudden urge to urinate. One source of post-surgical complications is believed to be in the variance in sling tension. If placed too tight, it can block the bladder outlet or if placed too loosely, it will not treat SUI. Despite recent advancements in sling technology, tension adjustment during sling placement remains an non-standardized variable that is subject to surgeon' s personal judgment.

Technology Description

Surgeons and biomedical engineers at University Hospitals and Case Western Reserve University have developed a hand-held pressure probe system that surgeons can use intraoperatively to objectively measure the pressure applied by mid-urethral slings on the urethra. The system includes: data-acquisition and analysis system on-board to alert the surgeon if the pressure is above a certain limit; disposable probe devices that can be used to detect a change in pressure on the sling over time. An early version of this device is currently under clinical trials where data from over 30 patients has been collected and analyzed to create a benchmark for pressure vs outcomes studies.

Institution

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