



# Portable Urine Flow Rate Detector (20140342, Dr. Sean Elliott)

Technology No. 20140342

## Design for Portable Uroflowmetry Device

Uroflowmetry is no longer limited to only the hospitals and urology clinics that have the technology: a new design of a uroflowmetry device can accurately measure urine flow rate practically anywhere. Uroflowmetry is a critical component in diagnosing male bladder outlet obstructions such as benign prostatic hyperplasia (BPH) and urethral stricture disease (USD). While the procedure is relatively quick – only requiring the time for a patient to urinate into a device – scheduling appointments and traveling to the hospital or clinic can be very time-consuming for patients. Since most of the specialists in the country who surgically treat USD are located only in large urban centers, patients may need to travel significant distances – even just to be diagnosed. This new device solves that problem by allowing patients to do the test at home.

## Uroflow Device Design Measures Acoustics

The unique design uses acoustic information and software algorithms to determine urine flow rate, and allows the device to be easily set up on any toilet. The device design first makes an auditory recording of urine striking the water and then analyzes the recording using a proprietary software program. The software translates the data into a meaningful report, which it then transmits to the appropriate healthcare provider. This easy-to-use, portable technology has demonstrated 99% accuracy when compared to current uroflowmetry devices.

### **BENEFITS AND FEATURES OF DESIGN FOR PORTABLE URINE FLOW RATE DETECTOR:**

- Design allows uroflowmetry device to be used anywhere, not just hospitals or urology clinics
- Testing shows 99% accuracy as compared to current devices
- Allows patients to be analyzed from home, saving patients significant travel time and expense
- Device measures urine flow rate by analyzing acoustics
- Results are transmitted directly to the healthcare provider

**Phase of Development** – Prototype - Licensee will receive rights to practice the intellectual property (patent application) for the purposes of developing and manufacturing a commercial product.

### **Researchers**

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<https://license.umn.edu/product/portable-urine-flow-rate-detector>