



SYSTEM AND METHOD FOR URODYNAMIC ANALYSIS USING ULTRASOUND DATA

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The Invention

UW-Madison researchers are developing an ultrasound based method to provide urodynamic data in an accessible and less invasive way. The technology entails acquiring a pre-void (full bladder volume) using 3D ultrasound followed by a dynamic acquisition (cine) during voiding on a sagittal plane that encompasses the bladder, bladder neck and proximal urethra. Finally, a post void (empty) bladder volume is acquired. Using semiautomatic segmentation tools, the volumes are quantified and virtual models are generated. Similarly, the dynamic (cine) sagittal images are segmented to determine the deformation pattern of the bladder during voiding. Using an analogous algorithm, a volume interpolation between pre and post void volumes is performed using the deformation profile obtained from the dynamic sagittal images as a constraint. Resolved bladder volumes are then analyzed using our custom made computational fluid dynamics algorithm to derive flow rates and pressures which then allow as to calculate indices of contractility (BCI) and bladder obstruction (BOOI).

Additional Information

For More Information About the Inventors

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Tech Fields

- [Medical Imaging : Ultrasound](#)

For current licensing status, please contact Jeanine Burmania at jeanine@warf.org or 608-960-9846