

## MRI-Based Automated Measurement to Evaluate Pelvic Organ Prolapse

**R**esearchers at the University of South Florida have developed an improved imaging-based method to evaluate and diagnose female pelvic organ prolapse.

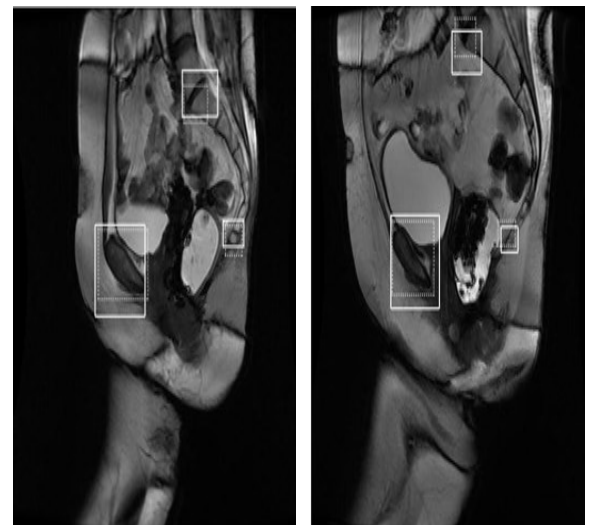
Pelvic organ prolapse (POP) is a major health problem affecting up to 30-50% of women. It can cause significantly bothersome symptoms, such as vaginal bulge, bowel and bladder incontinence or incomplete emptying, and sexual dysfunction. The Pelvic Organ Prolapse Quantification (POP-Q) system is the gold standard for manually assessing POP; however, the method is limited and quite often results in an inaccurate diagnosis. Magnetic resonance imaging (MRI) is becoming a useful tool for assessing POP, but the MRI process is time consuming and the analysis relies on subjective reader interpretation. What is needed is a standardized system for MRI that can automatically provide the measurements necessary to diagnose POP.

USF inventors have developed a novel system for the automated measurement and analysis of MRI images of the pelvic region. The new approach evaluates MRI images and presents clinical information related to the diagnosis of POP. The system can automatically identify important reference points in the pelvic region faster, more accurately, and with greater consistency compared with manual identification by experts. The system also provides a prediction model that is capable of telling the difference between patients with and without POP. This image analysis tool can be applied to the automated detection of features in MRI images for the diagnosis of POP as well as other diseases and internal damage where current clinical examination is inadequate.

### ADVANTAGES:

- Automatically provides measurements of pelvic region from MRI images
- More accurate than manual diagnosis
- Capable of differentiating between patients with & without POP

*Improved Imaging Based Diagnostic Tool for POP and Other Internal Damage*



*Detection Accuracy: Solid Lines are Areas Detected by Presented Method, Dashed Lines are True Reference Areas*

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