

Innovation and Commercialization

UNIVERSITY OF TEXAS  ARLINGTON

Intelligent Finger System for In-Vivo Biomechanical Testing and Assessment of Human Vaginal Wall

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TECHNOLOGY NEED

Pelvic Organ Prolapse (POP) is relatively a common condition affecting middle-aged and older woman where the muscles and tissues supporting the pelvic organs become weak. Many treatments are available for it. Yet, only few efforts have been made to detect the condition of the vaginal wall in early stages of prolapse. So, there is a need for a reliable and quantifiable detection of the problem and a way to measure changes in vaginal wall over time to pre-empt full POP development.

INVENTION DESCRIPTION/SOLUTION

In this invention we have developed an intelligent finger system which can test everyone in the same way quickly and without pain. The system consists of a mechanical finger and software associated with it for motion control, data acquisition and analysis. The device after positioned correctly by the physician, will engage the vaginal wall and obtain data to analyze it in real time or at a later point of time to provide curves for measurement on elasticity of tissue along with the viscoelasticity (exhibiting both elastic and viscous behavior). Ease of use in positioning the system allows multiple measurements in different areas on vaginal wall but preferably one area to get more accurate values. The device can also operate with a condom catheter (like a flexible tube inserted through a narrow opening) covering at least the part of the device in contact with the patient to prevent the risk of transmitting viral diseases.

APPLICATIONS

- Pregnant Women
- Women undergone C Section for delivering a child
- Women undergone procedure to remove uterus
- Physicians or Gynecologists

KEY BENEFITS

- Simple to use, mimicking a human finger
- Can test everyone in the same way without causing pain
- Easy to change the positions and getting different measurements
- Computer Controlled under physician making it accurate
- It is sterilized to prevent the risk of transmitting virus or bacteria

STAGE OF DEVELOPMENT

Prototype

INTELLECTUAL PROPERTY STATUS

Patent Pending



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