

# PROSTATE PHANTOM S-MM-2.3-WITH CATHETER

*Most Accurate Prostate Phantom & Surrounding Tissues Mimicking Device for Ultrasound, MRI, CT modalities*



Yezitronix' Model S-MM-2.3-with-Catheter Ultrasound Prostate Phantom is a multiple usage phantom developed for simulation and training.

Its ingenious and versatile design makes the S-MM-2.3-with-Catheter model a useful tool for simulation and training of catheter prostate medical procedures.

The prostate phantom construct mimics the exact 3D shape and size of:

- 40cc Prostate
- Urethra
- Seminal vesicle
- Ejaculatory duct
- Rectal wall
- Partial bladder
- Fat muscle tissues
- Perineal Tissue
- Numerous lesions located inside the prostate.

All organs & tissues are correctly adjusted to mimic exact ultrasound echogenicity seen by surgeon during OR procedures.



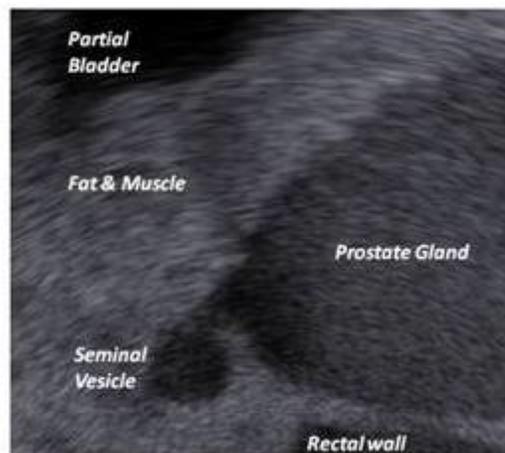
**Prostate gland with visible lesion (pink) with real a catheter tube replacing the urethra**



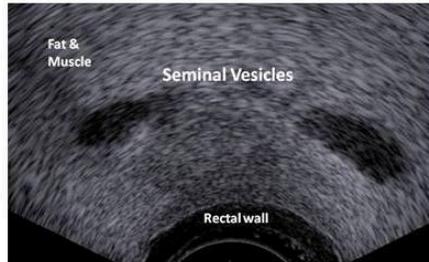
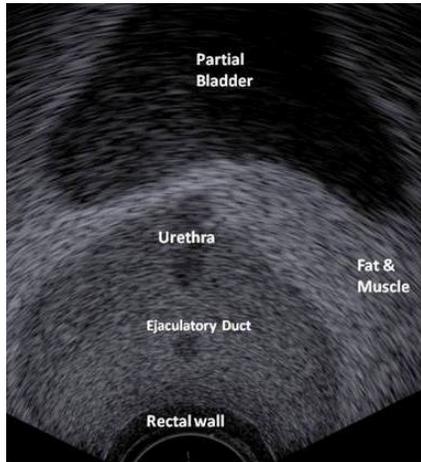
**The Catheter Tubing coming out of the removable front window through a matching hole**



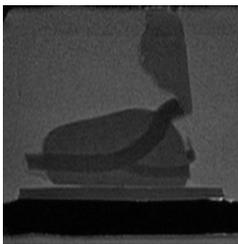
**Catheter French Size: 18Fr.**



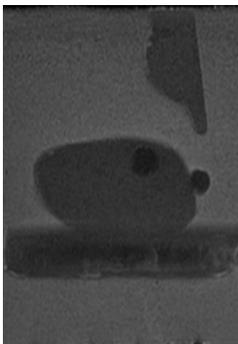
**Ultrasound sagittal view of the prostate phantom**



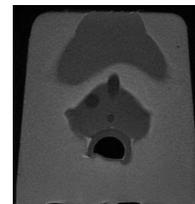
Ultrasound images of the prostate phantom



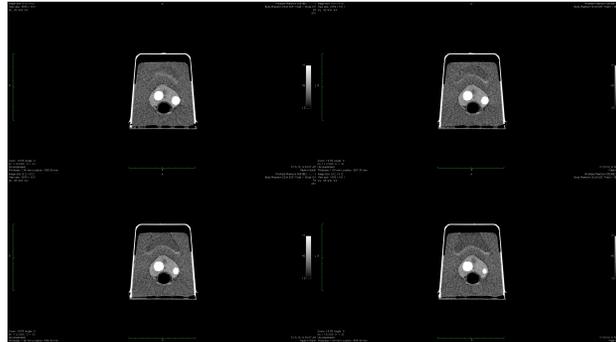
Sagittal MRI view of the Prostate Phantom



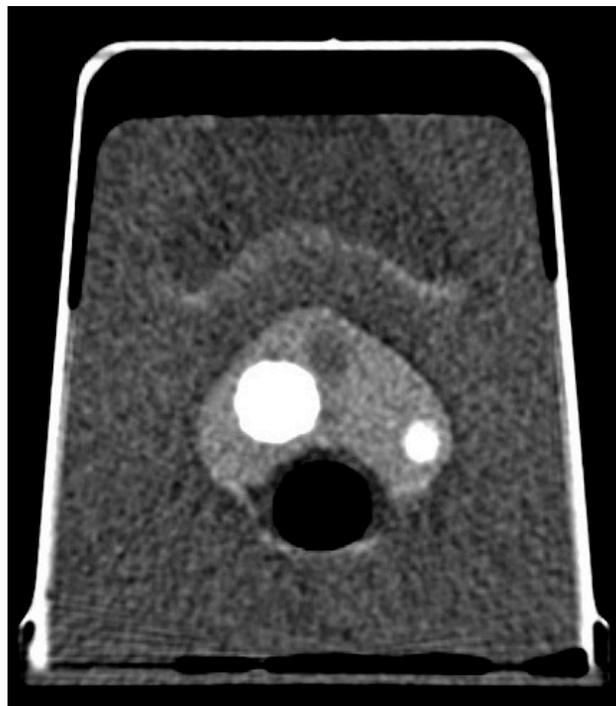
Sagittal MRI view of the Prostate Phantom



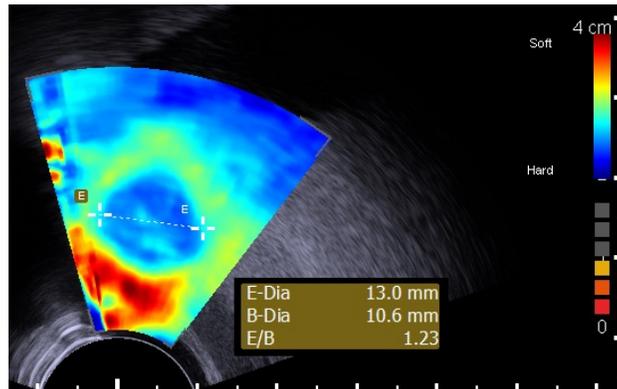
Prostate Phantom MRI Transverse



**Prostate Phantom CT Transverse Scans**

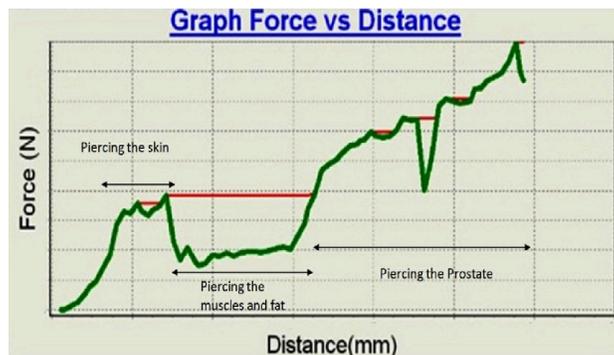


**Enlarged Prostate Phantom CT**

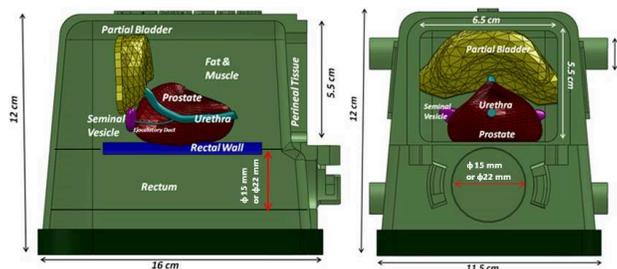


### Prostate Phantom Elastography

All phantom tissues' mechanical properties are approximated to human tissues. All prostate phantom layers mimic the tissue behaviour (dynamics) when pierced. When for example a needle is piercing the Multi-Layer Prostate Phantom construct, it will generate a "Haptic Feedback (tactile)" to the user, simulating the real human tissue during biopsy procedures.



Real time graph (Prostate phantom device test bed) - of force as function of needle depth penetration.



Internal tissues setup of the Brachytherapy prostate phantom. Diameter of 15 mm or 22 mm according to client demand.



**Specifications :**

Multi-layer material : each tissue or organ is independent and has its own characteristics defined by a real 3D shape, echogenicity level and mechanical properties.

Multiple usage of the same packaged phantom over an extended period of time.

**Enclosure :**

16(L) x 11.5(W) x 12(H), Material . PVC, PC and metal latches. Front upper window 6.5(W) x 5.5 (H), Probe input diameter . 3.5 (all units in cm)

**Perineal Tissue :**

65(W) x 55 (H) x 3mm thick, approximate mechanical response of human tissue

**Fat & Muscles :**

Approximate mechanical response of human tissue

**Urethra :**

6mm diameter and 61mm(L)

**Ejaculatory duct :**

4mm diameter 28mm (L)

**Seminal vesicles :**

2 of 25(L)x6(W)x 4mm(Thick)

**Prostate gland :**

40cc, approximate mechanical response of human tissue.



**Rectal wall :**

81(L)x 75(W)x2.5(thick)mm, approximate mechanical response of human tissue.

**Partial bladder :**

13.4cc

**Lesions :**

4 Elliptic 0.3cc

**Template:**

13 columns and 11 rows.

ø: 2 mm

**Available Models :**

- Bi-plane (Side Fire) : S-BP-2.3
- End fire mode : S-EF-2.3
- Multi-modality mode (Ultrasound, CT, MRI) : S-MM-2.3
- Without lesions : S-WL-2.3
- Coloured components (Bladder, Urethra, Seminal Vesicles, Ejaculatory Duct) for Biopsy training : S-CC-2.3
- With hollow Urethra for catheter insertion : S-HU-2.3
- Custom design according to customer specifications : S-CD-2.3

Technology developed with the collaboration of the scientists from NRCC-National Research Council of Canada and surgeons at the department of urology at the London Health Sciences Centre in Ontario, Canada.  
**Patent Pending.**

All components are based on Yezitronix' new unique MajesticMix material.  
Speed of propagation ~1540m/s

