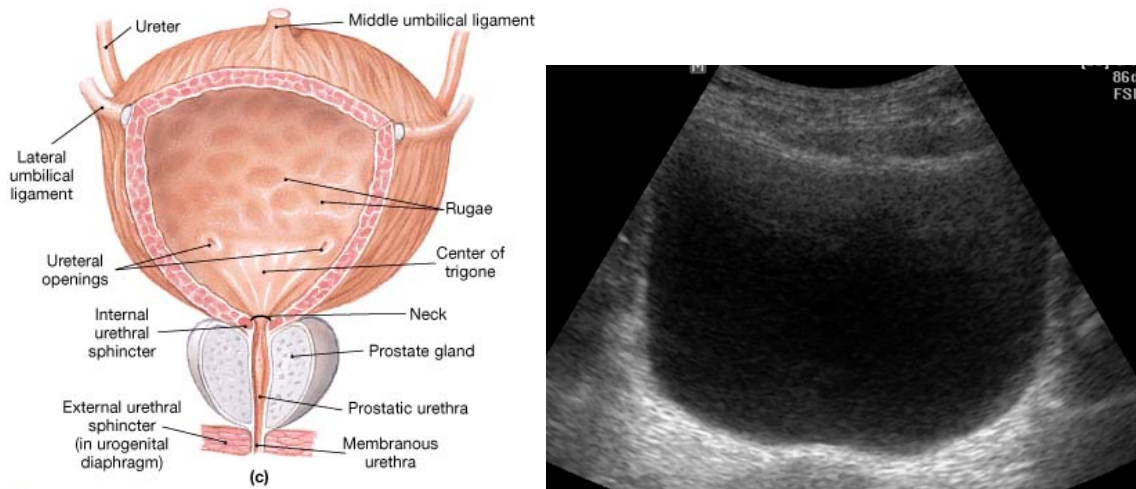


## UCSF ED Bladder Volume Protocol

**Indications:** 1) Concern for urinary retention, 2) Assessment of Foley catheter position and/or function.

### Urinary Bladder and Prostate Anatomy



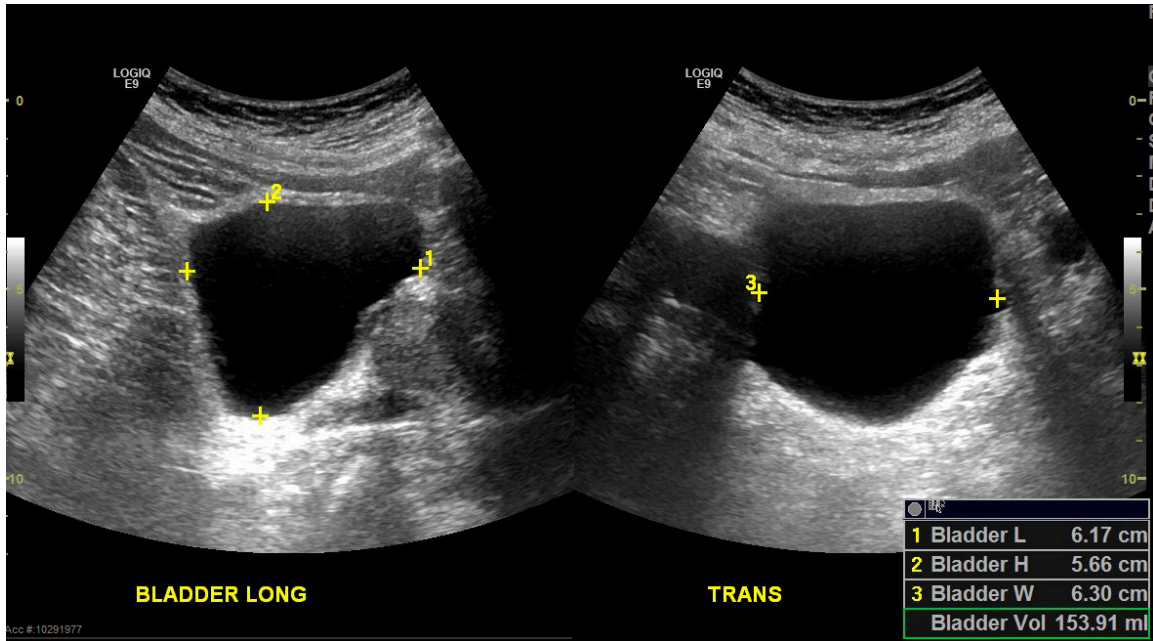
**Patient positioning:** Supine.

**Transducer:** 5-2 Mhz curvilinear transducer; this is preferred over phased array transducer. Mode should be set to "Abdomen."

### Scanning Protocol:

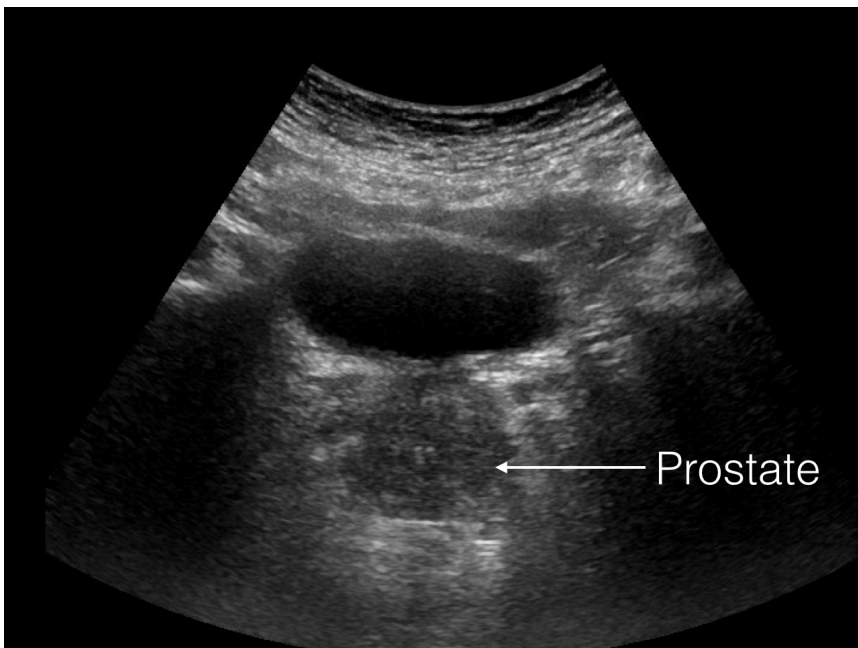
**Views #1-2:** With the transducer just cranial to the pubic symphysis, obtain 2 cine clips slowly sweeping through the bladder, one in a transverse orientation and one in a sagittal orientation.

**Views 3-4:** Obtain a still image of the bladder in a transverse orientation and measure the anterior-posterior and transverse (left-right) dimensions. Save the measurements using the machine's "bladder volume" mode. Then rotate the transducer 90deg so the probe marker is facing toward the head and obtain the cranial to caudal dimension. The machine will automatically calculate and display the volume. Make sure to save an image with this value displayed.

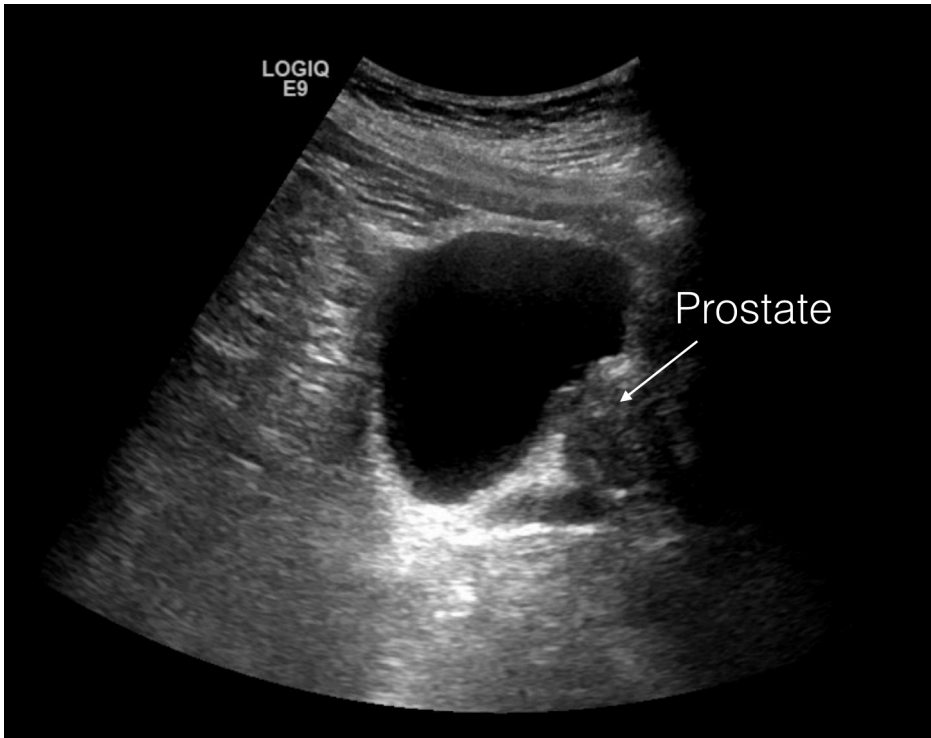


**Above: Become familiar with how to calculate bladder volume on both types of machines.**

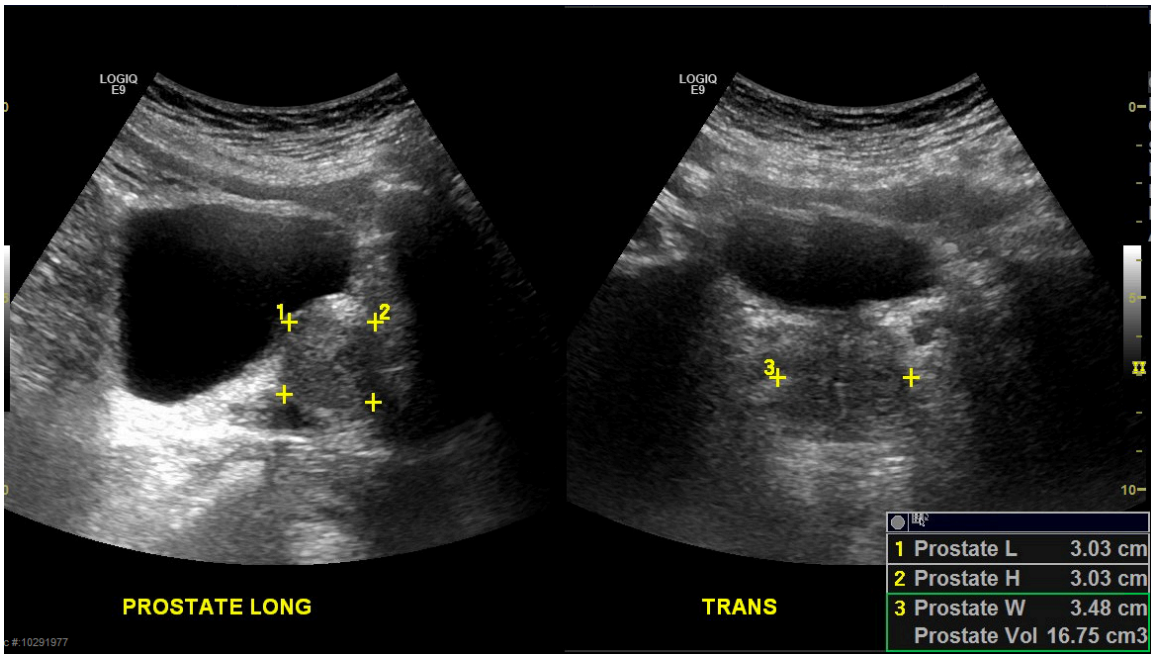
**Views 5-6:** If the patient is male and the prostate is visible, measure its volume using the same method, if indicated. Enlarged prostates are more conspicuous and more easily measured. Normal size is less than about 30g (1g = 1mL).



**Left: Bladder and Prostate in a transverse orientation.**



Left: Bladder and Prostate in a sagittal orientation.



Above: The process for measuring prostate volume/mass is identical to measuring bladder volume.