**Purpose**

Cyclostomes are resected as surgical treatment of neoplastic lesions.  Taking sections of the tumor and surrounding tissues helps to determine the extent of direct invasion and if other structures are involved. It is also resected to show success of treatment strategies and to replace it with a prosthetic.  The bladder has different orientation for male vs. female, and sometimes male or female reproductive organs or bordering tissues are also submitted.

**Procedure**

* The bladder is like a flattened balloon.  Palpate the pericystic fat and outer surface of the bladder for firm areas.

**Male Bladder with Prostate**

* If no palpable areas, then ink the pericystic fat black, the right prostate green and the left prostate blue.  Measure the overall specimen then measure the prostate and the bladder separately. Dictate all of the measurements, where appropriate, when describing the components of the specimen.
* Cut the prostate open on the anterior surface. Look for the ureters low and lateral on a male bladder.  Be careful not to mistake the vas deferens or seminal vesicles for a ureter.  Their lumens are either too big or too small.
* Make a Y-incision into the bladder (the flap should include some of the anterior wall).
* Describe the size and cut surfaces of the prostate.
* Describe the appearance of the urethral mucosa.
* Amputate the apex of the prostate and submit radial sections of all quadrants, similar to when grossing a prostatectomy specimen.

**Female Bladder with or without uterus and/or vaginal wall**

* Ink the pericystic fat black.
* Locate the right and left ureters in the lateral pericystic fat.  They should be tagged by surgery or clamped.  They are mainly high on the lateral walls, because they have to clear the adnexa of the uterus.
* If there is a uterus, carefully check to see if there is invasion into the uterine or paracervical walls.  If there is, sections must include the transition of bladder to uterine tissue.
* If no obvious invasion and the specimens show no attachment because of adhesed tumor or fibrous tissue, process the uterus like a separate specimen.

 **All bladder specimens:**

* Insert a probe into each ureter and follow the lumen into the bladder (you will need two probes). The place where the probes come into the bladder are the ureteral orifices.  It is near impossible to locate the ureteral orifices from within the bladder, so do not try to find them.
* The normal mucosa is pink-tan or gray and smooth.  Look for a granular area or a raised tumor.  If the patient has had courses of treatment, there may not be any tumor only an ulcerated or granular area.
* Describe any nodules or ulcerated areas in the bladder mucosa.  The measurements of the mucosal areas must include their surface measurements (length and width), the distance to the closest ureteral orifice and also to the urethral resection margin.
* The cut surface measurement is the thickness of the tumor/ulcerated area and it is the gross measurement for the maximum depth of invasion.  If it looks like the neoplasm or ulcer pierces or perforates the muscular wall you must state that and the distance to the inked pericystic fat margin, if close.  Tumor surrounding or penetration of the tumor into the ureteral orifice should also be stated.
* Palpate the pericystic fat for lymph nodes.  They are sometimes large enough to retrieve and submit, but it is hard to find them.

 **Sections for Histology**

* Prostatic urethra shaved and submitted en face.
* 2-4 cassettes from each side of the prostate (submitting entire slices, similiar to the procedure in grossing prostatectomy specimens) stating approximately the location (i.e. right, left, mid).
* Remaining of the prostatic urethral mucosa (small u-shaped sections of mucosa and surrounding prostate parenchyma)
* 3-4 cassettes of the tumor or ulcer with surrounding mucosa.  If possible, tumor/ulcer to the closest ureteral orifice, deepest invasion and closest anatomical site.
* If there is direct invasion or adherence of another structure, sections showing this should also be done.
* One cassette of the remaining walls away from the tumor (anterior, bladder dome, trigone, right and left walls, etc.)
* If you do not have any visible tumor or ulcer, sample 0.5cm strips of each wall at least four times, along with sections of the ureteral orifices, dome and trigone.

 **Sample Dictation**

Female

4. "Bladder" Received in an extra-large container of formalin is a 9.6 x 10.8
x 5.2 cm bladder with attached pericystic adipose tissue. The bladder is 6.2
cm from superior to inferior, 5.5 cm from lateral to medial and 4.2 cm in
anterior posterior dimensions. The adventitia is unremarkable, and the gray-tan to brown edematous mucosa has a large 3.7 x 3.2 cm ulcerated lesion. This yellow-brown, finely granular ulceration covers the right lateral wall,
left lateral wall, posterior wall from the trigone to the dome. No evidence of involvement is readily seen on the anterior wall, yet it has a 0.6 x 0.6 x 0.5 cm papillary nodule. The ulcerated tissue of the posterior wall comes to within 0.7 cm of the right ureteral orifice and 0.5 cm of the left ureteral orifice. The cut surface shows the maximum thickness of the ulcerated areas to be 0.4 cm. There is no penetration through the muscular wall into the adventitia or surrounding ericystic adipose tissue. The cut surface of the papillary lesion is tan-brown and friable.

4A. Shave of the urethral margin. (ns)
4B-F. Tumor with right lateral, left lateral, trigone, posterior and dome.
(ss)
4G. Right ureteral orifice. (ss)
4H. Left ureteral orifice. (ss)
4I. Anterior nodule.

Male

"Prostate/bladder". Received in formalin in a large container is a cystectomy (6.8 x 6.5 x 5.5 cm) with prostatectomy (3.5 x 5.2 x 4.3 cm).
Specimen with bilateral, intact vas deferens and seminal vesicles. A segment  of right ureter is identified, 2.5 x 0.2 cm. No left ureter can be identified.  Inked as follows: Bladder - black, prostate right - green and prostate left - blue. The urethral margin has been previously shaved and submitted for frozen section. The prostate is serially sectioned from apex to base to reveal pink-tan, diffusely nodular parenchyma. The prostatic urethra is lined by brown-tan diffusely hemorrhagic and slightly granular urothelium. The bladder
is opened to reveal a brown-tan, papillary, friable mass (2.1 x 1.0 cm), located on the left lateral wall and extends slightly to the anterior aspect approaching the bladder neck. The mass grossly extends into the muscularis propria. The mucosa is also remarkable for a dark brown, flatted, ill-defined nodule (1.5 x 1.5 cm), located predominantly on the right lateral space and extends to both the right lateral and posterior walls. The nodule is located 0.6 cm from the right ureter orifice. A depth of invasion of the nodule cannot
be determined. Neither the right ureter orifice or right ureter can be probe patent. The remaining, uninvolved mucosa is dark brown, focally ragged and congested in appearance. The mucosa surrounding the bladder base is covered by a brown-yellow, friable exudate. Located in the perivesicular adipose tissue is a yellow-tan firmly adhered nodule of fat necrosis, 4.5 x 2.0 x 1.8 cm located adjacent to the dome. No lymph nodes are identified.
3A-D. Distal prostate. (ss)
3E-H. Mid prostate. (ss)
3I-L. Proximal prostate. (ss)
3M-N. Remaining prostatic urethra. (ns)
3O. Right and left vas deferens and seminal vesicles. (ss)
3P-S. Papillary tumor on left anterior wall. (ss)
3T-V. Ill defined nodule on right posterior/lateral bladder base. (ss)
3W. Trigone. (ss)
3X. Left lateral wall. (ss)
3Y. Posterior wall. (ss)
3Z. Right lateral wall. (ss)
3AA. Anterior wall. (ss)
3BB. Dome with attached perivesicular nodule/possible fat necrosis. (ss)