**Purpose**

The testis can be removed for torsion/infarction, infection, therapeutic castration for prostate cancer, failure to descend and tumor.  Germ cell tumors are the most common tumors of the testis and are readily controlled locally but often metastasize.

**Procedure**

1. Weigh the entire specimen and give three dimensions of the testis and epididymis and the length and diameter of the spermatic cord.
2. The proximal resection margin of the spermatic cord is removed and placed en face in cassette.  Make several cross sections of the spermatic cord at several levels examining for tumor or any abnormalities. Take the sections of the spermatic cord prior to sectioning the testis, because this will avoid accidental carryover of tumor by the cutting knife. The tunica vaginalis is a closed peritoneal sac that surrounds the front and both sides of the testis and extends upward over the spermatic cord.  The epididymis cups the testis posteriorly and is in continuity with the spermatic cord.  The sac is opened along the anterior border to reveal the thick white tunica albuginea surrounding the testis.
3. The testicular hilum is the site in which the rete testis exits the testis posteriorly and contains the blood vessels in their passage to and from the substance of the gland.  Extension of tumors into the hilar soft tissues is associated with a more aggressive clinical outcome.   Although it is not included in current staging systems, it is important to document any involvement.
4. The testis is bisected parallel to and through the epididymis.
5. Photograph any gross abnormalities.
6. Fix the opened testis in formalin. Testis with germ cell tumors should be fixed in formalin for at least 6 hours prior to further cutting, as tumors are very friable and cutting prior to fixation can lead to artifact tumor spread from knife carryover.
7. Cut serial slices, about 3 mm thick, of each testicular half perpendicular to the original section, stopping just at the level of the tunica albuginea (to keep them together). Wash knife blade briefly in water between each section to reduce knife carryover.  Describe (color, consistency, hemorrhage, necrosis, friability, infiltration of adjacent structures) and measure any lesions (tumor, cyst, fibrosis, hemorrhage).  It must be determined whether tumor extends through the tunica albuginea, rete testis, into the hilar soft tissues, or into the epididymis.
8. Describe the remainder of testicular parenchyma, including color and consistency (stringy).  The normal seminiferous tubules can be demonstrated grossly by gently teasing them out with forceps.

**Sections for Histology:**

**Sections for Neoplastic Orchiectomies:**

1. Spermatic cord margin en face.
2. Tumor (at least four sections, or one section for each centimeter of tumor, whichever is greater).  At least one of the sections should include some uninvolved testicle; always submit sections from hemorrhagic or necrotic areas of tumor, as well as from solid or fleshy areas.  Include a section through the rete.
3. One section of uninvolved testicle.
4. One section of epididymis.
5. Cross section of spermatic cord and surrounding soft tissue at a point approximately 1 cm from the testicle

**Sections for Benign Orchiectomies (to include gender dysphoria resections):**

1. Spermatic cord margin en face.
2. Rete teste to include testicle.
3. Epididymis to include testicle.
4. Add two additional blocks of testicle for torsion.

**Gross Description**

“Left testicle”, Received in formalin in a medium container is a 30g orchiectomy specimen that includes testis (4.5 x 4 x 3.5cm), epididymis (1 x 1 x 0.5cm) and spermatic cord (8cm in length x 1.5 cm in diameter).  There is a 2.5 x 2 x 2cm tan-white, firm and circumscribed mass with focal areas of hemorrhage, possible necrosis and small (0.2) cystic spaces within the testis.  The tumor does not grossly extend into the tunica albuginea or into the epididymis.  The remainder of the parenchyma is tan-brown, and grossly normal tubules are present.  The spermatic cord along with the vas deferens, arteries and veins are grossly unremarkable.

Cassette summary:

A1. Spermatic cord margin en face (1ns).
A2-A3. Mass (1ss each).
A4. Mass and epididymis (1ss).
A5-A6. Uninvolved parenchyma including rete (1ss each).
A7. Spermatic cord cross section 1 cm from testicle (1ss).