

Genitourinary Grossing Guidelines

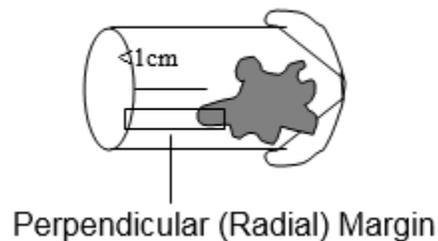
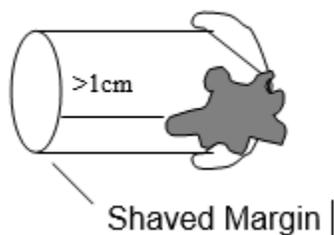
Specimen Type: PENECTOMY

Note: Although penectomy may be performed for conditions ranging from elective transsexual surgery to gangrene or cancer, most resections are performed for squamous cell carcinoma.

Important: These are uncommon specimens and should be photographed (outer surface as well as the cut surfaces of the specimen).

Procedure:

1. Identify the shaft, glans, and foreskin (if present). Identify dorsal and ventral surface (urethra is located at the ventral aspect). Measure dimensions of specimen (i.e., size of glans, length and thickness of foreskin, length and diameter/circumference of shaft).
2. Examine the surfaces of the penis for lesions or tumors.
 - a. Most squamous cell carcinomas arise from the mucosa of the glans, and from the undersurface of the foreskin (prepuce).
 - b. Retract the foreskin and examine the recesses of the coronal sulcus.
 - c. Describe any externally evident lesions/tumor including size, demarcation, color, growth pattern, consistency, contour, location, distance from the skin resection margin, and other characteristics such as pigmentation/ lack of pigmentation, ulceration, or necrosis.
 - d. Photograph the outer surface of the specimen.
3. After photographing the specimen, ink the skin margin and shaft margin (en face margin including urethra, periurethral tissue, and corpora cavernosa).
4. Take margins:
 - a. If the **tumor is > 1cm from the margin**, take a complete shaved section of the shaft margin, submitting it in more than one cassette if necessary.
 - b. If the **tumor is < 1cm from the margin**, submit a perpendicular (radial) including the tumor and the margin.



5. Place a probe in the urethra and bivalve the specimen longitudinally along the probe into left and right halves.
 - a. Urethra can be inked on the mucosal surface to guide sections.
6. Document the size (three dimensions) of the tumor and the structures involved by tumor, including involvement of the foreskin, frenulum, glans, meatus, corpora cavernosa, urethra, and corpus spongiosum. Record depth of invasion and the distance of invasive tumor to the amputation margin.
7. Fix the specimen overnight (optional).

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8. Additional cuts can be taken at parallel or perpendicular to the initial section plane to further evaluate the tumor.
9. Take pictures of the sectioned specimen.

Gross Template:

Labeled with the patient's name (***), medical record number (***), designated "****", and received [fresh/in formalin] is a [*partial/total*] penectomy measuring [***x***x*** cm] including the glans penis *** x *** x *** cm, shaft of penis *** x *** x *** cm and penile foreskin *** x *** x *** cm.

There is a *** x *** x *** cm lesion located on [*ventral/dorsal/lateral*] aspect of the glans penis/penile shaft/urethral meatus. The lesion is [*exophytic/papillary/verruroid/ulcerated*] and has a [*describe cut surface*]. The lesion involves the [*corpus spongiosum/corpora cavernosum/urethra/penile foreskin*]. The mass has a *** cm maximum depth of invasion and invades into the [*corpus spongiosum/corpora cavernosum/urethra*]. The invasive tumor is *** cm from the proximal shaft margin.

The remainder of the glans penis/skin of shaft penis/penile foreskin are [*unremarkable or describe additional pathology*]. The corpus spongiosum/corpora cavernosum/urethra are [*unremarkable or describe additional pathology*]. No additional lesions or masses are grossly identified. Gross photographs and taken. Representative sections are submitted.

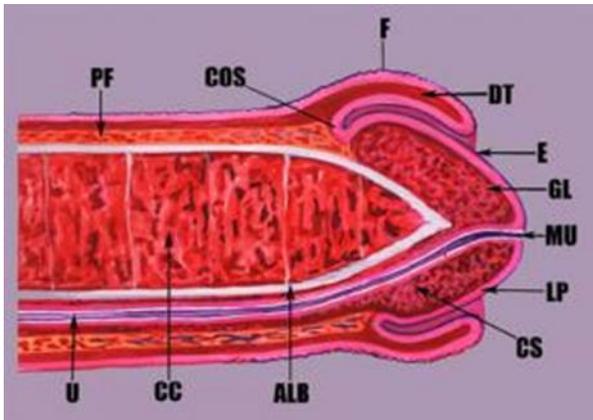
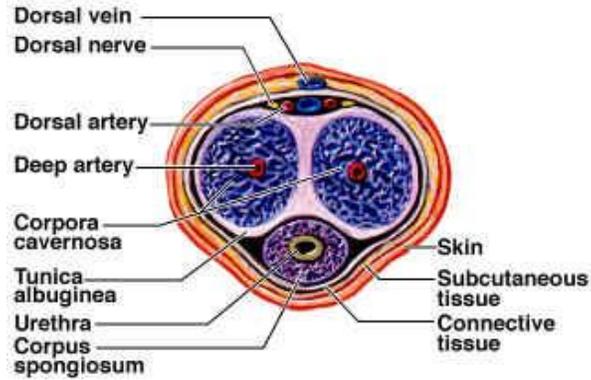
Cassette Submission: 15-20 cassettes

- Proximal resection margin (shave), up to 2 cassettes
 - o Submit shave for tumors >1cm from margin
 - o Submit perpendicular section for tumors <1cm from margin
 - o Include skin, corpora, and urethra
 - Skin and shaft margin can be submitted separately if needed
- Tumor
 - o 1 cassette per 1 cm of tumor size
 - o Demonstrate deepest extent of invasion
 - o Demonstrate relationship to adjacent structures (surface epithelium, corpus spongiosum, corpora cavernosa, foreskin, glans, meatus, and urethra, if you are able to do so)
- Any additional skin lesions
- Uninvolved mucosa and skin

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Penis — Cross Section



- PF = Buck's penile fascia
- COS = coronal sulcus
- F = foreskin
- DT = Dartos
- E = epithelium
- GL = glans
- MU = urethral meatus
- LP = lamina propria
- CS = coronal sulcus
- ALB = tunica albuginea
- CC = corpus cavernosum
- U = ventral urethra

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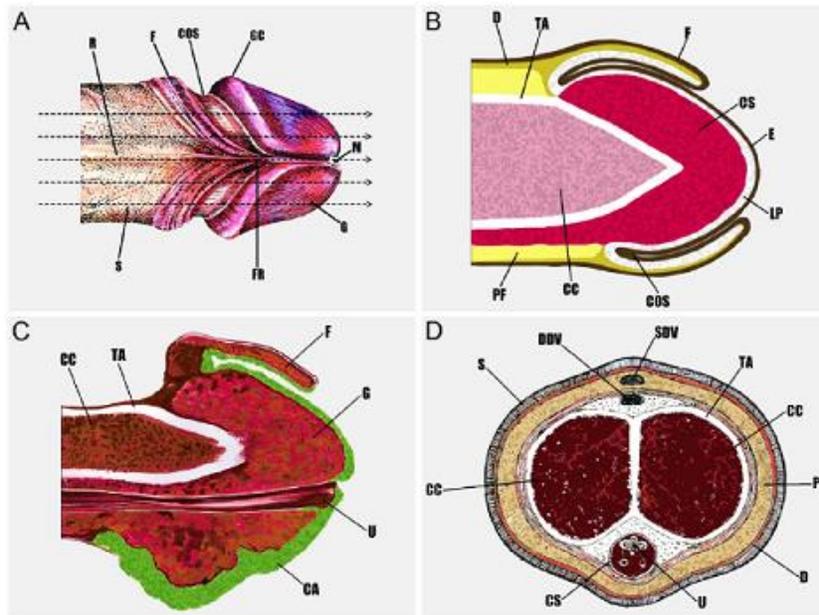


Figure 3. Penile landmarks and anatomic levels. **(A)** Distal penis encompassing glans (G), meatus urethralis (M), glans corona (GC), coronal sulcus (COS), and retracted foreskin (F). Frenulum (FR), median raphe (R), and distal penile shaft (S) also shown. Dashed arrowed lines represent parallel sections that should be taken for gross examination of penile carcinoma. **(B)** Parasagittal section of distal penis showing penile anatomic levels. E, squamous epithelium; LP, lamina propria; CS, corpus spongiosum; F, foreskin; COS, coronal sulcus; CC, corpus cavernosum; TA, tunica albuginea; D, dartos layers; PF penile fascia. **(C)** Sagittal section of distal penis showing superficial spreading carcinoma (CA, green) extending through glans (G), coronal sulcus and inner foreskin (F) and invading most distal portion of distal urethra (U). Tunica albuginea (TA) and corpus cavernosum (CC) not affected. **(D)** Transverse section through penile shaft showing 2 dorsally located corpora cavernosa (CC) and ventral corpus spongiosum (CS), with distal urethra (U) running across. Tunica albuginea (TA) surrounds these erectile tissues. Diagram also depicts skin of shaft (S), dartos layer (D), penile fascia (PF), and superficial (SDV) and deep (DDV) dorsal veins.