

Kidney (Adult), Radical Nephrectomy for Tumor

Created October 21st, 2019 by Craig Zuppan, MD; Last updated August 6, 2025 by Jeremy Deisch, MD

SAMPLE DICTATION

(Labeled: ____, ____, ____) Received [fresh and subsequently transferred to formalin /in formalin] is a ____ gram, ____ x ____ x ____ cm radical nephrectomy specimen, that includes a ____ x ____ x ____ cm kidney and a ____ cm length of attached ureter. The kidney is surrounded by adipose tissue and Gerota's fascia ranging from ____ cm to ____ cm thick. In the (upper pole/lower pole/mid-kidney) is a ____ x ____ x ____ cm tumor with a [mottled yellow to tan and hemorrhagic] cut surface. The tumor [extends through the renal capsule into the surrounding adipose tissue but is contained by Gerota's fascia / penetrates Gerota's fascia / is contained by the renal capsule]. There [are/are not] satellite tumor nodules in the kidney (describe if present). The tumor [does/does not] invade the renal pelvis or calyces. The renal vein lumen [shows thrombus/is free of tumor] (if tumor in renal vein, indicate whether it involves the margin). The mucosal lining of the renal pelvis and ureters [shows papillary or granular tumors / is smooth and shows no evidence of tumor]. The fat of the renal sinus appears grossly [involved/uninvolved] by tumor. The cortex is ____ cm thick, with [sharp/indistinct] corticomedullary demarcation. The [renal pelvis/calyces/ureter] [are/are not] dilated. Lymph nodes at the renal hilum are [normal/involved by tumor/not identified]. The adrenal gland [is/is not] included (size, location, invasion if present). (RS, ____ caps); Block key

SUGGESTED SAMPLING

- 1-3: Tumor with overlying renal capsule (inked)
- 4: Tumor in relation to renal sinus fat
- 5: Interface of tumor with kidney
- 6,7: Additional sections of tumor to document variable appearances
- 8,9: Tumor relationship to Gerota's fascia (true surgical margin)
- 10: Tumor to renal pelvis
- 11: Renal vein (+/- tumor)
- 12: Renal artery and ureter margins (shave)
- 13: Uninvolved kidney (cortex and medulla, remote from tumor)

STAGING CRITERIA (AJCC 8TH EDITION)

For renal cell carcinoma:

- Principal pT staging criteria for renal cell carcinoma are based on the tumor size, and whether the tumor invades perirenal fat, renal sinus fat, or the renal vein
- Additional staging criteria include whether the tumor invades Gerota's fascia, the inferior vena cava (wall or tumor thrombus), or the adrenal gland

For Urothelial/Transitional cell carcinoma:

- The primary staging criteria for urothelial carcinoma are the depth of invasion into the wall of the ureter and or renal pelvis, and whether any adjacent structures are invaded.

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ADDITIONAL CONSIDERATIONS

- Tumor capsule sections, to evaluate for invasion are best taken from a) where the interface of tumor with the fat appears irregular or suspicious, and b) where the tumor bulge meets up with the normal kidney, to determine whether the capsule is lifted versus invaded.
- Renal sinus fat or renal sinus small blood vessels are often invaded before capsule invasion can be proven.
- Ink the capsule, but do so carefully, so that the ink does not get where it doesn't belong.
- This outline primarily describes the approach for conventional renal cell carcinoma.
- ***For transitional cell carcinoma***, instead of focusing on the renal capsule and Gerota's fascia, the sectioning and documentation will focus more on the extent of the tumor in the pelvicalyceal system, tumor size, multicentricity, and whether tumor invades the wall of the ureter, the renal pelvis or into the underlying kidney or surrounding fat.