

Kidney (Pediatric), Radical Nephrectomy for Tumor

(5.4 Kidney_Radical_Tumor_Pediatric); Created October 22nd, 2019 by Craig Zuppan, MD

SAMPLE DICTATION

(Labeled: ____, ____; ____) Received ____ is a ____ gram, ____ x ____ x ____ cm radical nephrectomy specimen, that includes a ____ x ____ x ____ cm kidney with tumor, and a ____ cm length of attached ureter. The kidney is surrounded by adipose tissue and Gerota's fascia ranging from ____ cm to ____ cm thick.

Major pathologic finding(s):

The outer capsule is [intact/ruptured/focally invaded by tumor]. Sectioning shows a ____ x ____ x ____ cm tumor with a [soft fleshy / mottled / tan and hemorrhagic] cut surface, with small portions of residual kidney present at [give location]. The tumor appears to extend through the kidney capsule into the surrounding adipose tissue but appears contained by Gerota's fascia [or penetrates Gerota's fascia, or is contained by the renal capsule]. There [are/are not] satellite tumor nodules in the kidney (describe if present). Tumor [does/does not] invade the renal pelvis or calyces. The renal vein is identified, and it's lumen [shows thrombus / shows tumor / is free of tumor] (if tumor in renal vein, indicate whether it involves the vein margin). The mucosal lining of the renal pelvis and ureters [shows tumor invasion in ____ / is smooth and shows no evidence of tumor]. The fat of the renal sinus appears grossly [involved/uninvolved] by tumor.

Other findings:

The cortex is ____ cm thick, with [sharp/indistinct] corticomedullary demarcation.

Is there any evidence of nephrogenic rests in the cortex of the uninvolved kidney?

Renal pelvis/calyces/ureter dilated or not

Identify and count any 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).

Frozen samples of tumor and normal kidney, for potential protocol studies, [were/were not] obtained.

Specimen Handling: (RS, ____ caps); Block key

SUGGESTED SAMPLING

Note: Map all sections that include tumor

4-8: Tumor with overlying capsule (inked)--see notes on capsular sampling below

2: Tumor in relation to renal sinus fat

1-2: Interface of tumor with kidney

5-6: Additional sections of tumor to document variable appearances

0-3: If the above sections do not also assess Gerota's fascia margin for tumor involvement, take at least 3 additional sections to do so

0-2: Sections to document any invasion of the renal vein or renal pelvis

1: Normal kidney (to include any suspected nephrogenic rests, if suspected)

1: Margins of ureter, artery and vein

1: Renal pelvis closest to tumor, if not included above

1: Adrenal gland, if present

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STAGING CRITERIA (Children's Oncology Group)

- Principal staging criteria for **Wilms tumor (nephroblastoma)** are based on invasion or penetration of the renal capsule, invasion of the renal sinus soft tissue or vessels, and involvement of the renal vein, surgical margins or hilar lymph nodes.
- Tumor rupture is also an important staging criterion, with a distinction made between preoperative rupture and intraoperative rupture, where possible.
- If tumor is in the renal vein, whether the vein margin is involved or not determines the difference between stage 2 and stage 3. This is often a tricky determination--get experienced help in making this distinction.
- Occasionally, tumors other than Wilms tumors will be encountered in the pediatric kidney, but the approach and staging criteria will generally be the same

ADDITIONAL CONSIDERATIONS

- When received fresh, it is desirable to obtain samples of fresh tumor and fresh normal kidney to snap freeze (used for Children's Oncology Group protocol studies), after the capsule has been evaluated and inked. Indicate if they have been obtained in the gross description, just before the block key.
- Whenever possible, **involve a staff pediatric pathologist** in evaluation of the specimen for appropriate sections.
- 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 elsewhere. The renal sinus can be tricky to sample, but do your best, and get help if you are unsure about it.
- Ink the capsule, but do so carefully, so that the ink does not get where it doesn't belong
- One of the main purposes of the tumor section map is that if "anaplasia" is identified in Wilms tumor, it is currently important to specify if it is only in one general region of the tumor, or if it is multifocal in the tumor.