

Pediatric Pathology Grossing Guidelines

PEDIATRIC LIVER TUMORS

For intraoperative handling and submission of tissue for ancillary studies, please review the general pediatric pathology guidelines, and discuss the case with the Hepatopathology attending or Dr. Goldstein before proceeding.

UCLA is a participating member of the Children's Oncology Group (COG) and a tissue bank for pediatric neoplasms maintained at the COG Biopathology Center (BPC) at Nationwide Children's Hospital/Ohio State University. Many pediatric oncology patients will be randomized into therapeutic protocols. Since the protocols and trial studies often change, better to check if any special things need to be done BEFORE proceeding with dissection and fixation.

All COG treatment protocols require central pathology review, and in some cases, an expedited rapid review is necessary to determine the correct initial treatment regimen for the child. Therefore, for all children registered on protocol, a complete duplicate set of sequential slides from each block should be ordered at the time of initial histologic processing.

For all pediatric tumors for which there is sufficient material available, after satisfying protocol requirements and our needs (including our TPCL), additional frozen tissue can be submitted to the BPC. TPCL personnel will be available during regular work hours to assist with the procurement of tissue for COG protocols and tissue banking

Chromosomal Analysis

It is advisable to save the tissue for chromosomal and/or molecular analysis of the following neoplastic disorders:

1. Wilms tumor
2. Neuroblastoma
3. Rhabdomyosarcoma (especially alveolar subtype)
4. Ewing's sarcoma/PNET/Desmoplastic small round cell tumor
5. Burkitt and other non-Hodgkin lymphomas
6. Acute leukemia and granulocytic sarcoma
7. Germ cell tumors
8. Malignant brain tumors
9. Synovial sarcoma
10. Any rare, unusual or undiagnosed pediatric tumor

If chromosome analysis is needed on any pediatric tumor, obtain **RPMI medium** from tubes provided by the Flow Cytometry Laboratory in the Surgical Pathology refrigerator.

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Alternatively, the Cytogenetics Laboratory can provide RPMI media. You may call the Cytogenetics Lab at x41287 and they will provide you with the RPMI media. This lab is open Monday through Friday.

Specific Specimen Processing

Please refer to the Liver Pathology Grossing Guidelines for sample dictation and general instructions. College of American Pathologists' pediatric tumor synoptic reports should be used, and the full CAP protocols may be reviewed for additional information.

An alternative sample dictation is below (kindly provided by Dr. Florette K, Gray Hazard, Lucille Packard Children's Hospital, Stanford University School of Medicine.) "Pilot" sections of tumors obtained prior to fixation may be submitted for next day preview and preliminary diagnosis. Block maps on photographs are encouraged for large and complex specimens, and for resections following neoadjuvant chemotherapy.

Sample Gross Template:

Received [fresh/in formalin] labeled with the patient's name, medical record number and designated "[#]" is a [***]g, ***x***x*** cm [irregular/round/oval] liver [explant/ segmental resection]. The capsule is [intact/disrupted] and [does/does not] show a focus of possible rupture. The gallbladder is [present/not present] [and measures ***x***x***cm.] [If present: It is opened to reveal [insert color], [thick/watery] bile and a [smooth/rough] mucosal surface.]

The external surface of the liver is [insert color] and [smooth/nodular]. [If segmental resection: The resection margin is inked [insert color].] The capsule is inked [insert color] [and the focus of possible rupture is inked [insert color].] The liver is bisected from superior to inferior (coronal plane) through the hepatic vein to reveal [homogeneous/heterogeneous], [insert color], [firm, soft] tumoral tissue. The liver is then serially sectioned showing [#] tumor nodules. The tumor measures [***] x [***] x [***] cm. [If more than one nodule, measure each nodule.] Foci of hemorrhage and necrosis [are/are not] present. [If present, describe location: distributed throughout, along the periphery]. The hepatic vein [is/is not] involved by tumor. Tumor [directly abuts/is present # cm from] the inked resection margin. The uninvolved liver parenchyma is [insert color] and is [unremarkable/diffusely nodular]. Photograph the cut surface.]

Representative portions of fresh tissue are frozen at -80C for possible future ancillary studies and portions are submitted in RPMI for cytogenetic analysis. Pilot sections of fresh tumor are submitted in cassettes A1 and A2. Following fixation, representative sections are submitted as described below. [# /No] candidate hilar lymph nodes are identified. [Photograph any unusual features.]

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Representative sections are taken and submitted:

- A1- Tumor (pilot section)
- A2 Gallbladder (if attached)
- A3 Tumor to resection margin (if segmental resection)
- A4 Tumor

Liver

