

The 2011 Diagnostic Pathology Course

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Practical Surgical Neuropathology for the General Surgical Pathologist

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First Things First: The Critical Importance of the Pre-Operative Magnetic Resonance Imaging (MRI) Studies to the Surgical Pathologist

MRI Features. Knowledge of the patient's MRI results can be of critical help to the surgical pathologist. You don't have to be a radiologist to read the MRI report or even to look at the scans yourself.

Information Gained From Quick Review of MRI Scan or Report

Number of Lesions

Anatomic Location of the Lesion(s)

Lesion / Brain Interface (Circumscribed vs. Diffuse)

Presence or Absence of Contrast Enhancement

Pattern of Contrast Enhancement if Present

Intraoperative Frozen Section Consultation

Preparation for intraoperative consultation (IOC) ideally begins well before the page to frozen section arrives with a brief review of the patient's clinical history, the type of surgical procedure that is being performed (e.g., stereotactic biopsy, open resection, etc.), and the critical question: "what is the essential information that the surgeon needs to learn from the pathologist in order to complete the surgical procedure in an appropriate fashion."

Pre-Frozen Section Preparation List

- **AGE** of the patient
- **ANATOMIC LOCATION** of the lesion
- **IMAGING CHARACTERISTICS** of the lesion
- **PAST MEDICAL and SURGICAL HISTORY** of the patient
- **TYPE and DURATION** of presenting signs & symptoms
- **TYPE of SURGICAL PROCEDURE** that is being performed
- **WHAT WILL THE SURGEON NEED TO KNOW?**

Practical Approach to Intraoperative Consultation (IOC)

Intra-IOC Principles: Summary

Cytology and Architecture are Complementary – USE BOTH!

Don't freeze all of the tissue if possible

Plan for tomorrow!

Plan for tomorrow. There are two priorities that must be addressed at the time of intraoperative consultation: 1) to give the surgeon the necessary information that they need to complete the operation, and 2) to ensure insofar as possible that the final diagnosis will be as accurate as possible. The latter is largely dependent on having adequate representative material to assess morphologic features and any needed ancillary studies (immunostains, organism stains, special stains, FISH, flow cytometry, molecular testing, etc.). This may pose a challenge in some situations and there are steps that the surgical pathologist can take to help ensure a satisfactory result. As an example, some biopsy specimens are quite small (e.g., endoscopic biopsy, stereotactic biopsy, open biopsy of spinal cord). There are a number of things the pathologist can do to ensure adequate material for workup, including preparing unstained touch preparations, cutting additional unstained slides from the frozen section block before removing it from the cryostat, and ordering additional unstained paraffin sections be cut at the same time as the initial screening H&E to avoid refacing a block with very scant tissue. The most common issues of this nature encountered at frozen section are discussed below.

Common Intra-IOC Problematic Issues

The specimen is non-representative

The specimen is small

The specimen is *very* small

The specimen is extensively cauterized

The specimen is necrotic

The specimen is bony

7 Common CNS Surgical Pathology Challenges

Reactive Gliosis vs Glioma

Diffuse Glioma Classification and Grading

Recurrent Glioblastoma vs Radiation Necrosis

Non-Representative Biopsy

Necrotic Malignant Brain Tumor

Demyelinating Pseudotumor vs Diffuse Glioma

Rare Tumors That Are Easy To Diagnose

Questions, Comments, Correspondence :

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