

The “Ten Commandments” of Grossing

(0.3 Ten Commandments); Updated August 11th, 2019 by Jeremy Deisch, MD

These “general principles” can help to guide you when approaching nearly any specimen type... Consider these the “ten commandments” of the gross room...

1. **Always check specimen identity:** Ensure that the name, MRN, and specimen designations on the requisition and container match for all specimen containers. As part of this process, look at each cap and ensure that the accession number and block number are correct. Block printing errors can occur with both hand-written and printed caps.
2. **Avoid cross contamination:** Take steps to ensure that tissue from one case does not get transferred to subsequent cases. Use clean instruments, do not reuse cotton swabs or pipettes, and wipe down the cutting board between cases
3. **Always maintain specimen orientation:** For any specimen that is “oriented” with sutures, clips, etc, ink the specimen, section, and dictate a descriptive cap key to ensure that each histologic slide can be localized in relationship to specimen orientation. If sutures are provided but no orientation is given, one option is to arbitrarily designate a gross orientation (i.e. long suture is arbitrarily designated 12:00). The alternative is to call the clinician and have them clarify orientation. Consult with supervising pathology staff.
4. **For any case with a tumor, give the following characteristics:**
 - a. Size (generally in three dimensions, unless multiple)
 - b. Border (circumscribed, ill-defined)
 - c. Location (structures involved by tumor)
 - d. Distance to relevant margins
5. **Always sample relevant margins** before significant disruption to specimen integrity and specimen orientation. Cut specimen so that you can see the size and extent of tumor while maintaining integrity. Sample all appropriate margins before extensive sectioning, as it is often hard to go back and find them later.
6. **When sampling a tumor, focus primarily on the tumor/normal tissue interface.** In addition, areas of the tumor with a different gross appearance should be sampled. For example, in a renal mass, one would sample “tumor to normal renal parenchyma”, “tumor to closest perirenal margin”, “tumor to renal sinus”, “tumor with yellow area”, “tumor with tan area”, and “tumor with hemorrhage”.
7. **Always double-check small diagnostic biopsy specimens to ensure safe processing.** Small biopsies such as CT-guided needle core biopsies, GI biopsies, and GYN curettings are prone to loss due to small size of tissue fragments. With these specimens, take extra care to ensure that all sponges are placed (above and below tissue), tissue is dyed to aid in embedding, and lens paper is wrapped well. Close lids tightly. These are “precious specimens”, and patient care suffers greatly when one of these are lost.
8. **Always section tissue adequately before finishing a case.** Occasionally, a large tumor with only 2-3 very thick cuts are found when “re-grossing” specimens. You can’t adequately describe a process if you haven’t seen it, and other small lesions will be easily missed. In general, cut specimens in ~ 5 mm thick slices to increase the sensitivity of the gross examination. Try to do this without completely “butchering the specimen” if possible.
9. **Do not “stuff” caps.** Stuffed caps (those that are too thick or too large) do not fix well, with the wider pieces covering the holes in the cap and preventing flow of processing reagents. Stuffed caps make for terrible histology, and often the blocks will have to be melted down and reprocessed.
10. **Clean up after yourself.** Despite the term “gross room”, please try to keep the room as clean as possible. This helps to reduce the risk of biologic exposure, specimen contamination, and makes the room generally more pleasant to work in. Don’t assume someone will come in after you and clean up your mess!