How To and How Not To Submit your Biopsy Specimens

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**Help Us Help You**

**Please provide anatomical site, lesion description, signalment, and pertinent clinical information on the submission form**

- Certain lesions occur more commonly in different species and certain breeds.
- Anatomical location of a lesion, as well as clinical appearance and progression, may also be critical information to allow your pathologist to provide you with the best possible diagnosis and/or differentials.
If you have a specific question, are concerned about a possible disease process, or have a list of differentials you’d like to rule out, please indicate such.

Again, please make every effort to provide this necessary information in the designated areas on the CSU-VDL biopsy submission form. It will help us help you help your patients.
Please provide requested patient information, including signalment & pertinent clinical history on the CSU-VDL submission form.

Anatomical location and a thorough description of the submitted specimen should also be included.
Routine tissue fixation = 1:10 tissue to neutral buffered formalin

For appropriate fixation, 0.5 – 1.0 cm tissue thickness is recommended

Bread loafing (incomplete parallel cuts at a minimum of 2cm apart) can be performed on large specimens (be sure to avoid complete transection or too many cuts which can both result in loss of tissue orientation!)
Incomplete parallel cuts at a minimum of 2cm apart (bread loafing) can be utilized to assist with appropriate tissue fixation for large specimens. Be sure to avoid complete transection or too many cuts which can both result in loss of tissue orientation!
Tissue Fixation

- Specimens can be held to fix (at least 24 hours) at your clinic prior to sending to the lab to avoid shipping large volumes of formalin which can be expensive and increase the risk of leaking.

Large samples can be held and fixed at your clinic prior to submitting to the lab to help avoid shipping large volumes of formalin which may be costly and hazardous.
This is an example of an ~20cm diameter mass lesion which was fixed at the clinic and subsequently sent to the lab in a plastic, labeled, zip lock bag devoid of any formalin. (bar = ~2.5 cm)
Packaging

Formalin filled jars containing specimens should be placed in a plastic bag, box, or other container with absorbent material to absorb any leakage.
Paperwork should be placed in a separate plastic bag to avoid contact with formalin if leaking does occur. Such contact can result in altered and illegible paperwork.
Your fresh sample size should never be larger than the most narrow portion of the jar in which you are submitting it (arrows). If it is, this will require cutting plastic jars or breaking glass jars (undesirable) in order to retrieve the tissue which may ultimately become altered in the process.

While *fresh* tissue is malleable and can be manipulated to fit into a container, upon fixation the tissue becomes “fixed” (rigid) and may be irretrievable from the same container without cutting into or breaking the container.
Submitting Multiple Sites

The optimal method by which to submit multiple lesions from a single animal is to submit each specimen individually in its own respective and appropriately labeled jar. This should be reflected on the submitted paperwork.
If multiple specimens are submitted in a single container (which is less ideal) there needs to be some method of tissue identification (i.e. suture) to denote specimens relative to their respective anatomical sites.
Endoscopic Biopsies

Do not submit endoscopic biopsies wrapped in gauze sponges. Specimens may become lost or may be crushed during the attempted retrieval process. It is better to submit the specimen free floating in the jar than with gauze or any other material.
Endoscopic Biopsies

Do not place endoscopic biopsies on fragments of cardboard. Specimens will either float off or, if adhered, tissue will slough off during retrieval and/or may be associated with cardboard fibers.
The optimal method by which to submit an endoscopic biopsy is to place it in a screen cassette after which the cassette should be placed in an appropriately labeled formalin filled jar. If individual cassettes are labeled properly (sharpie or no. 2 pencil), multiple cassettes can be placed in one jar.
Denoting Margins

Surgical Ink

1. Ink the area of interest
2. Be sure to ink prior to bread loafing (if needed)
3. Allow ink to begin drying before placing the specimen in formalin

Inked biopsy specimen to denote the surgical margin
Denoting Margins

Tagging

1. Used to indicate margins or for orientation
2. Use variable numbers and/or colors of suture
3. Provide a clear description on the submission form denoting what the sutures indicate (i.e. one suture = cranial margin)

Tagged biopsy specimen to denote margins

- single suture = lateral margins
- two sutures = caudal margin
Tumor Bed Samples

1. Submission of samples from the *post-surgical* bed

2. Any tumor / neoplastic cells in these specimens is evidence of remaining microscopic disease

3. Similar to “submitting multiple sites” clearly label and submit each region individually
Things to Avoid

Please help keep our technicians’ fingers safe and **DO NOT** submit specimens with needles for any reason!
Things to Avoid

Please do no staple, suture, or pin tissue to cardboard. It can damage tissue and prevent appropriate margin assessment.
Other Things to Know

It is important for you to realize that after all is said and done the pathologist typically evaluates 1 to 4, 5um thick sections from the entire specimen which is submitted.

Images depicting a mass from which a section is taken, embedded in parrafin, and subsequently sectioned to a thickness of 5um for microscopic evaluation.
Other Things to Know

Our staff and pathologists are here to assist you

Our Staff is here working hard for you!

Lee Debuse: Histology Technician
Contacting Us

If you have any questions about how to best submit your sample or have questions regarding any other issues, please contact the lab at (970)-297-1281.

Additional information on the CSU-VDL can be found on the web at www.dlab.colostate.edu

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