PATHOLOGY SERVICE FOR UK RESEARCH ANIMALS

Necropsy

All UK personnel who work with animals as either research or care staff have the ability to submit cases to the VDL as part of providing adequate veterinary care to UK’s research animals. While individuals should work closely with the clinical veterinarians and outside private practices contracted to provide veterinary care, it is not necessary to have a veterinarian’s permission to submit case material for research animals. There is no charge to the PI for diagnostic pathology services.

Personnel in the Division of Laboratory Animal Resources (DLAR) are responsible for handling the transport of biological samples to the VDL for those animals which are not College of Agriculture animals. Farm, herd and flock managers on UK agricultural farms are responsible for transporting their cases to the VDL. As there is no euthanasia capability at the VDL, veterinary care staff at DLAR and on the farms must euthanize any live animals before submission.

Submission forms for most species are available on the DLAR web site which can be accessed by UK personnel. You may also obtain forms by requesting them from DLAR veterinary personnel. As complete a history as possible should accompany all samples. For research animal cases, experimental manipulations, background strain (this is NOT the same as particular genetic mutations) of animal and genetic mutations are singularly helpful.

Biopsy material, cytology slides

Biopsy/cytology submission forms are available on the DLAR web site and from DLAR veterinary personnel.

Biopsy specimens should be submitted in 10% neutral buffered formalin with a minimum amount of formalin that is 10 times the volume of the tissue to be fixed. Large tissue masses should not be placed whole into large tubs as only the outer approximate five mm (1/4 inch) will fix. Once the outer rim is fixed, formalin does not continue to penetrate and the center does not fix. Such large tissue masses should be cut into smaller representative pieces for adequate fixation and the original mass should be fully described on the submission form. Formalin should be changed out so that it is clear before submission. Cloudy formalin has greatly reduced to absent fixation capabilities due to the amount of biological material (pus, blood, feces, gut content, etc.) which is already tying up the formalin, thus making it unavailable to fix the tissue. Always use wide mouth containers as tissue often becomes impossible to remove from narrow mouth containers after proper fixation renders it non-pliable.

Cytology preparations should utilize slides with one frosted end for proper identification. While you may put some ID on the frosted end, most of this space should be left for VDL identification. A simple numbering system works best (1, 2, 3, etc) with each numbered slide fully described (location taken from, nature of aspirate, etc.) on the submission form. Slides should be air dried and then either dipped in 95% ethanol (EtOH) or sprayed with a spray fixative. Slides prepared in this manner should then be
submitted unstained to the VDL in appropriate slide containers which will protect them during transport.

**Frequently Asked Questions**

- **Can I do my own necropsy and submit sampled tissues only? Can I open my own animals to sample tissues or retrieve experimental implants before I submit a case for necropsy?**

  Because of the existence of a specialized pathology service at the UKVDL specifically devoted to research animals, field necropsies or “necropsy-in-a-jar” are generally not permitted for UK owned research animals on approved protocols. Neither is opening of carcasses by researchers; all carcasses for necropsy are to be submitted intact. Pathology personnel will work closely with PIs to retrieve tissues/hardware as needed for individual projects. PIs are encouraged to contact either the pathologist or the pathology veterinary technician with particular requests and every effort will be made to assist with requests. In some instances and after discussion with the pathologist, the PI may take tissue samples or retrieve hardware before submission. We can collect and return particular tissues for PIs on request as long as such tissues are not needed for pathology assessment. For highly specialized tissue harvesting (e.g., nerve roots, spinal cords, individual vessels), either the remaining carcass will be returned to the PI or arrangements can be made for the pathologist to observe while the PI opens the carcass and retrieves the tissue.

- **Who gets the pathology reports?**

  A preliminary report with the gross findings is generated and sent via email to the PI, the attending veterinarian and the clinical veterinarian assigned to the colony. In the case of agricultural animals, the farm/herd/flock manager will also receive reports. When there are any relevant histological findings, the same individuals will also receive that report.

- **My lab manager handles most of my paperwork and I would like all reports directed to him/her so I don’t have to deal with them.**

  The PI is responsible for knowing all aspects of the care and health of his/her animals as a condition of having an approved animal use protocol. Part of the pathologist’s responsibility is to keep the PI directly informed of any findings concerning his/her animals. This responsibility cannot be delegated away and so the PI is the individual who must get the reports. The PI is free to distribute pathology reports to whomever s/he decides should have them, but any such distribution is up to the PI and cannot be delegated to the pathology staff.
I don’t understand what is going on with my animals and how this will affect my research. Can I talk to the pathologist?

We encourage PIs to work closely with the clinical veterinarian assigned to the care of their particular colony. If a PI does not know who this individual is, we can identify that person for you. You may also contact DLAR to find out who is your clinical veterinarian. In the case of agricultural animals, the herd or flock manager can tell you which veterinary clinician is responsible for animal health. Clinical veterinarians should be able to explain any pathology findings as well as provide suitable guidance on any health issues which can or might affect your research. Both the pathologist and the pathology veterinary technician are also available to assist with any questions you may have. Contact information is on the web site.

I need pathology assistance as part of my proposed research project. Do you provide that service?

We are happy to discuss individual research project pathology needs with PIs. This is typically done during the grant proposal writing process as there is a charge for this service and the PI will need to include our services in the grant budget. Please contact us far enough ahead of your grant due date to allow for discussion of your particular needs as well for us to develop a cost estimate for the budget.