

The ACC Connection

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WELCOME to the 18th edition of the **ACC Connection**, a bi-monthly newsletter designed to help researchers with questions regarding animal research at the University of Connecticut Health Center. Our 18th issue is going to discuss a variety of animal related concerns.

Recordkeeping Requirements

The *Animal Welfare Act*, *Animal Welfare Regulations*, *Health Research Extension Act of 1985*, US Food and Drug Administration, and *PHS Policy on Humane Care and Use of Laboratory Animals* all have requirements for animal-related records. It is imperative that researchers and administrative staff know what the requirements are.

Animal Protocols / Changes to Protocols / Notifications of approval by the IACUC

Federal regulations require that the information is kept for 3 years from the date of completion of the work performed. For example, protocol 2009-922 approved on January 5, 2009 would be valid until October 31, 2011. The approved protocol application form, any modifications approved on this protocol, all approval letters, and all other relevant documents would need to be kept until October 31, 2014.

ACC meeting minutes, deliberations, semi-annual review reports, other ACC reports

Federal regulations require that the documents are kept for 3 years from the date generated. For example, meeting minutes from a January 28, 2009 ACC meeting would have to be kept until January 27, 2012.

Animal Records

Federal regulations require that institutions will keep records which fully and correctly disclose information on live animals acquired for 3 years from date of acquisition.

Controlled Drugs

Federal regulations require that records of dispensation of controlled substances be kept for 3 years from date of dispensing.

Accrediting / Regulation Agency Reports

Federal regulations require that all reports generated to or by accrediting or regulation agencies (e.g., OLAW, USDA, AAALAC, etc.) be kept for 3 years from date of issue.

Cage Identification

It is ACC policy (can be viewed on the web at <http://clacc.uhc.edu/ACC/Policies/CageID.htm>) to have the following information on cage cards: PI name, Active protocol number, Species, Strain/stock/genetic designation, Sex, and Date of birth or arrival date. All cages housing animals exposed to, or presenting a hazard, must also be labeled with the hazard protocol identification number, the type of hazard associated with the cage (e.g., biohazard symbol or carcinogen/chemical hazard symbol or sticker), the specific hazard involved, and (if appropriate) the clearance date.

Drugs and Medical Materials Used in Laboratory Animals

Expired Medical Materials

The use of expired medical materials such as drugs, fluids, or sutures on animals is not considered to be acceptable veterinary practice and does not constitute adequate veterinary medical care as required by the regulations promulgated

under the Animal Welfare Act and PHS Policy. All expired medical materials found in a licensed or registered facility are to be brought to the attention of the responsible official. The facility must either dispose of all such materials or segregate them in an appropriately labeled, physically separate location from non-expired medical materials.

For acute terminal procedures, USDA-APHIS does not oppose the use of expired medical materials if their use does not adversely affect the animal's well-being or compromise the validity of the scientific study. Proper anesthesia, analgesia, and euthanasia are required for all such procedures and drugs used for these activities **cannot be expired**. Drugs administered to relieve pain or distress and emergency drugs **must not be used beyond their expiration date**. Facilities allowing the use of expired medical materials in acute terminal procedures should have a policy covering the use of such materials and/or require investigators to describe in their animal activity proposals the intended use of expired materials. The attending veterinarian and the Institutional Animal Care and Use Committee are responsible for ensuring that proposed animal activities avoid or minimize discomfort, distress, and pain to the animal. These responsibilities cannot be met unless the veterinarian and the IACUC maintain control over the use of expired medical materials.

Pharmaceutical-Grade Compounds in Research

Investigators are expected to use pharmaceutical-grade medications whenever they are available, even in acute procedures. Non-pharmaceutical-grade chemical compounds should only be used in regulated animals after specific review and approval by the IACUC for reasons such as scientific necessity or non-availability of an acceptable veterinary or human pharmaceutical-grade product. Cost savings alone is not an adequate justification for using non-pharmaceutical-grade compounds in regulated animals.

Animal Identification Methods

Though not all of the identification methods presented can be used for all species of animals, this list will provide you with common animal identification methods.

Temporary Identification Methods

Felt Tip Markings- marks can be made, typically on rodent tails, with a felt tip pen. This type of identification can only be expected to last for 1-2 days.

Food coloring- can be used to dye a patch of fur. This type of marking can last for 1-2 weeks and is easy to perform; however, it can only be used on albino or light colored animals.

Shaving- a patch of fur on the back or side of the animal may be shaved. This type of identification can be expected to last for 1-4 weeks (depending on the stage of the hair cycle).

Permanent Identification Methods

Ear punching- this type of identification method is commonly used in rodents. A special punch is used to either produce a small notch near the edge of the ear or a whole in the middle of the ear. The holes and notches are placed according to a pre-determined code. There are occasions when animals may rip the holes and confusion on identification can result.

Ear tagging- involves using a special applicator to place a metal tag (an "earring") which contains a unique identification number in the pinna of the ear. Ear tags may be troublesome, as they can fall out (which frequently happens in rodents).

Tattooing- tattoos may be used on many species of animals. Researchers must take care to use a pigment approved by the United States Food and Drug Administration.

Microchips- the subcutaneous implantation of numerically coded microchips is another method of permanent identification. The chips are relatively large and may not be appropriate for weanling mice; however, they work well in most species. One recent study suggested that only 2.8% of chips fail.

Preventing Harmful Exposure to Anesthetic Gases

Often, research involves animal surgeries. Surgical anesthesia may be carried out in everything from the open bench top to operating rooms. Anesthetic gases can pose a potential exposure concern. The National Institute for Occupational Safety and Health (NIOSH) recommends exposure limit of 2ppm and is based upon studies where halogenated anesthetic agents have been linked to reproductive effects in women and neurological effects in exposed workers. Importantly, chronic low-level exposures can be associated with a decrease in cognitive and motor skills as well as a decrease in the

ability to perform complex tasks. Acute exposures can produce depression of the central nervous system functions, respiratory and cardiovascular systems, and seizure.

The first line of defense against exposure to anesthetic gasses is proper ventilation. Areas used for anesthesia should have separate ventilation systems with no circulation with a recommended 6 to 10 room air changes per hour. The second line of defense is to set up and maintain anesthetic equipment properly. Delivery systems should have a way to scavenge waste anesthetic gases which is usually done with either a vacuum or exhaust system or a chemical absorption filter canister. The final line of defense is to use common sense and keep up with improvement and equipment design. Ensure that your anesthesia machine is calibrated yearly.

The use of anesthetic gases is serious business and following a few basic rules will allow you to work safely with them. Make sure everyone is adequately trained, including recognizing the signs and symptoms of acute and chronic exposure. Have a monitoring strategy in place to make sure everything runs smoothly.

Bereavement and the Loss of Laboratory Animals

Every species of laboratory animal has also been known to be used as a pet. Research workers, especially the technicians and handlers who take care of the laboratory animals on a daily basis, often have strong responses to them and become emotionally involved with them. As a result of this bond between animals and people, there are some research programs that offer their research animals for adoption after the study is over- primarily with cats and dogs. Although euthanasia of any animal causes stress, the bereavement experienced by those individuals who have become attached to the animal needs special recognition.

Euthanasia of laboratory animals can be stressful for the personnel performing the procedure. The degree of distress experienced by people observing or performing euthanasia depends on their backgrounds, personal philosophies, and ethical views on the use of animals in research. People often transfer to the death of animals their unpleasant reactions to human deaths and their responses to euthanasia can be magnified when strong bonds exist between them and the animals being killed. The stress experienced can be manifested as absenteeism, belligerence, careless and callous handling of animals, and high turnover rate. To be responsive to those concerns, institutional officials and supervisors should be aware of and sensitive to the issues and should provide opportunities for individual and group discussion and support and for educational programs that furnish factual information about euthanasia and teach stress-management and coping skills.

Disaster Planning

Unfortunately, it is not difficult nowadays to imagine various emergencies you may have to face ranging from natural disasters like hurricanes to unnatural disasters such as bombs and vandalism. The best that can be done is to use past experience to help anticipate and plan for responses to such events. Having a plan in place will make recovery speedier and less stressful for everyone. Here are some tips to help researchers think about emergency planning.

Find your department's disaster plan or any other emergency plan. Don't reinvent the wheel if you don't have to. If your department doesn't have one, suggest that one be developed. Have a written procedure for what you may already do. Many researchers take steps to ensure their research is protected during events such as power outages which may be applicable, or be modified, to disaster needs. Back up your research on a regular basis and keep those backups somewhere other than your office. Communicate with your laboratory personnel- provide them with training on your emergency plan so that they know what to do. If your research involves animals, make sure they are incorporated into your emergency plan.

Frequently Asked Questions

Who is authorized to calibrate anesthesia equipment (vaporizer)?

PIs who require anesthesia equipment to be calibrated should contact the Center for Laboratory Animal Care. They will make arrangements, in coordination with the PI, to get the instrumentation calibrated.

Where can I get help for one of my technicians who has taken the loss of an animal rather hard?

If an individual appears to be taking the loss of animal exceptionally hard, the PI should refer the individual to the Employee Assistance Program through the Occupational and Environmental Health Center.

Upcoming Training, January 2009 – February 2009

New Animal Users Initial Basic Core Training

Monday, January 12

9:00 am – 12:00 pm

Building 20 conference room

Monday, February 9

9:00 am – 12:00 pm

Building 20 conference room

New Institutional, State, or Federal Regulations

Institutional

None

State

None

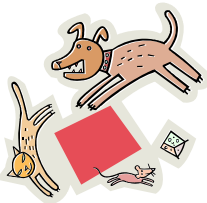
Federal

None

Important Reminders to Principal Investigators

⦿ When an individual leaves your laboratory, and is no longer an active animal user, you **must** contact the Animal Care Committee Office (ooacc@uchc.edu) with this information.

⦿ When filling out animal care and use protocol applications or modifications, please do not use acronyms unless they are defined.



Next Issue: Ethics of Animal Use

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