



ANIMAL TRACKS



A newsletter for the Duke research community

June 2007

<http://www.duhs.duke.edu>

Dear Colleagues:

The Duke Institutional Animal Care and Use Committee along with the Office of Animal Welfare Assurance and the Division of Laboratory Animal Resources (IACUC, OAWA, and DLAR, respectively) continue to be concerned about unintentional recovery of laboratory animals following CO2 asphyxiation. To date, we have addressed this concern by requiring the use of a secondary method to confirm death and by requiring all personnel listed on protocols that employ this method of euthanasia complete the CO2 training course. Despite these steps, the IACUC was recently informed of 3 separate incidents that in the absence of prompt intervention by unaffiliated research staff (i.e. individuals not associated with the protocols in question) could have resulted in revived animals.

Please be aware that any and all incidents of recovery from CO2 exposure must be reported to the Office of Laboratory Animal Welfare branch of the NIH. These reports must also include a description of the corrective actions taken to prevent reoccurrence. Since Duke has already implemented a training program the next level of correction **would range from limiting its application (e.g. CO2 conducted only by DLAR staff on a fee for service basis) to an outright campus-wide ban of this euthanasia technique.** The IACUC is well aware that a ban on CO2 euthanasia would have a material impact on many research programs (including those of a number of its members) but its options in terms of corrective actions are limited.

To prevent placing limits on CO2 euthanasia, I would urge each of you to re-iterate to your research staff the importance of following the instructions for conducting this procedure especially the need for utilizing a secondary mechanical method to ensure death. I would also ask that you encourage your staff to be vigilant around multi-user chambers for individuals not adhering to the requirements. If such a situation is observed, your staff should immediately alert the appropriate OAWA or DLAR personnel; such reports can be made anonymously (919-684-3535; http://vetmed.duhs.duke.edu/animal_welfare_hotline.htm). Depending upon the situation, collegial intervention and/or instruction may also be appropriate.

In addition to meeting with your staff, you may wish to consider how a ban on CO2 euthanasia would affect your research program as alternate euthanasia methods could significantly affect ex vivo activities of procured tissues as well as increase the effort expended upon rodent colony maintenance.

Yours,

James Reynolds, PhD
IACUC Chair

Ed note: This message was sent to all PIs in an email from Dr. Reynolds, but I felt including it in this newsletter would serve to get the message distributed to all animal users. —sd

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**American Association for Laboratory
Animal Science (AALAS)
National Meeting
Charlotte, NC
October 14-18, 2007**

The AALAS Program Committee and President Bruce Kennedy are excited to introduce the inclusion of a themed Oncology Forum at the 2007 National Meeting in Charlotte, NC. Those with backgrounds and expertise in research, clinical care, and husbandry of animal models of oncology have been encouraged to submit proposals for abstracts, roundtables, seminars, special topic lectures, and workshops for the 2007 National Meeting.

Forms for registration and housing are now available online at <http://nationalmeeting.aalas.org/>

Virtual Mouse Necropsy

Do you have a new addition to your research staff with little or no animal experience? If this person will be working with mice, try the virtual mouse necropsy located at <http://www.geocities.com/virtualbiology/>.

This site was designed to assist researchers in learning and practicing the correct methods of retrieving tissues and examining mouse anatomy. The virtual necropsy takes you from the first incision through the organ systems and also provides a link to a printable necropsy sheet which contains a check list, a blank area to draw pictures or diagrams, and another area to write your observations (<http://www.geocities.com/virtualbiology/sheet.html>).

Rodent Pathogen IACUC Subcommittee

Have rodent infections, quarantine or treatments for known infections affected your animal research? An IACUC subcommittee has been formed to investigate the impact of infections with rodent pathogens on research programs here at Duke.

If your research has been affected, please send the details via email to iacuc@duke.edu.

The IACUC Subcommittee appreciates your help.



The Cost of Caring Brochure

One of our animal care program personnel recommended the inclusion of this article on the human-animal bond in the research field. It is important to acknowledge that personnel involved with research animals experience grief and bereavement when faced with the death of these animals. This brochure, developed by the American Association for Laboratory Animal Science (AALAS), is designed to assist members of the research team in understanding the human-animal bond and provides suggestions and resources for managing human emotions in the care of laboratory animals.

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Upcoming Dates & Deadlines

June 7	Significant Change Meeting
June 11	New Protocol & SC Deadline
June 21	Significant Change Meeting
June 25	SC Deadline
June 28	IACUC meeting
July 5	Significant Change Meeting
July 9	New Protocol & SC deadline

Deadlines are 5 PM on the date listed! No exceptions!

COST OF CARING: RECOGNIZING HUMAN EMOTIONS IN THE CARE OF LABORATORY ANIMALS



The human-animal bond in the field of animal research exists in many forms. Kindness and concern for animals are desirable characteristics in animal care and research workers. Therefore, to find that workers experience grief or bereavement at the death of animals used for research or teaching is not surprising. Acknowledging that these feelings exist and providing support in the workplace are important. The bond between people and animals in the laboratory, if understood and used consistently, can minimize certain variables related to stress in the animals. If bereavement is addressed appropriately, individuals will feel validated, their coping mechanisms will be strengthened, and their ability to sustain or form new bonds will be reinforced. In the end, the research community can reap the benefits of these essential relationships. This brochure is designed to assist all members of the research team in understanding this common concern and provides suggestions and resources for managing human emotions in the care of laboratory animals.



Understanding the Emotional Experiences of Animal Research Personnel

Animal research has brought about a multitude of medical advancements for the good of humankind. In the process, animal health has benefited. The regulations for animal care and use do not just specify efficient care, but call for the "humane care of animals". Federal mandates require researchers to use procedures that avoid or minimize discomfort, distress, and pain. The research team must ensure that the animals live in conditions that provide for their health and well-being. NIH guidelines and federal regulations require enriching the environment of some species and planning protocols with attention to issues of pain and its relief. In addition to providing proper husbandry and management, the humane treatment of animals remains a primary goal in laboratory animal science. Kindness and concern for animals are desirable characteristics of anyone involved in animal research. Animals receiving care from individuals exhibiting compassion, patience, sensitivity, and kindness can thrive in the laboratory environment.

According to work done by sociologist Arnold Arluke, laboratory animal technicians in nine biomedical laboratories and animal facilities confirmed the existence of the human-animal bond. Based on extensive interviews, Arluke reported, "Every technician I interviewed for this study experienced some form of attachment to a laboratory animal at least once in his or her career". Close contact with animals affords personnel intense feelings of satisfaction in knowing they are not only providing essential needs such as food, water, and clean bedding, but also affection. In return, many animals develop trust and a sense of security, which further enables environmental adaptation and stress reduction. When properly understood and used, the bond between people and laboratory animals minimizes stress-related variables.

Mutual bonding may claim an emotional price. Some people may experience guilt, uneasiness, frustration, and other feelings during a study. Experiencing grief at the death of laboratory animals is not surprising. Euthanasia is a complex and highly emotional issue. Although animals are treated humanely, emotions may be triggered in individuals who are directly or indirectly involved. Similar to human loss, when dealing with the death of an animal,

feelings of grief and mourning may be evoked. Knowledge that these feelings exist and providing support in the workplace are important.

Expressions and Consequences of Grief

The stages of grief in people, as described by Elisabeth Kübler-Ross, a pioneer in the concept of

death and dying, include denial, anger, bargaining, depression, and acceptance. The occurrence and timing of these stages may vary. An individual in mourning may feel as if he/she is on an emotional roller coaster, riddled with extreme highs and lows. People may express a sense of having "no control" over events, leading to feelings of frustration and fear. Ideally, an individual in mourning will eventually come full circle in the grief process by placing his/her emotions in proper perspective.



A process known as "anticipatory grief" may affect members of the research team. Anticipatory grief is when an individual begins to subconsciously prepare for an imminent event such as the death of an animal. Personnel working in animal research may experience anticipatory grief, although it is rarely identified. The mourning experience is initiated early on and signals the individual to disengage from the animal for emotional protection later. Despite the mental preparation, the time of death may still be painful and difficult to accept. On initial contact with a laboratory animal, an individual may realize that at some future point the animal will be euthanized. At that moment he/she could decide not to bond with the animal in order to avoid experiencing grief at the animal's death. Walls that are built for emotional protection can eventually crumble, leaving one open and vulnerable. Contrary to the beliefs of some, lack of emotional expression does not necessarily provide a safeguard.

Hidden emotions may be revealed in the guise of other symptoms that may include:

- Expressions of psychosomatic illnesses, such as depression, lethargy, headaches, tightness in throat, and gastric disturbances
- Sleeplessness
- Poor appetite
- Impatience
- Inability to concentrate
- Severe mood swings
- Irritability
- Impaired personal and professional relationships

In addition and specific to the workplace, neglected feelings can lead to:

- High staff turnover
- Loss of work days
- Decreased morale and poor attitude
- Delivery of diminished services
- Uncaring or callous attitude toward animals



The following is a list of coping strategies found helpful for animal research personnel.

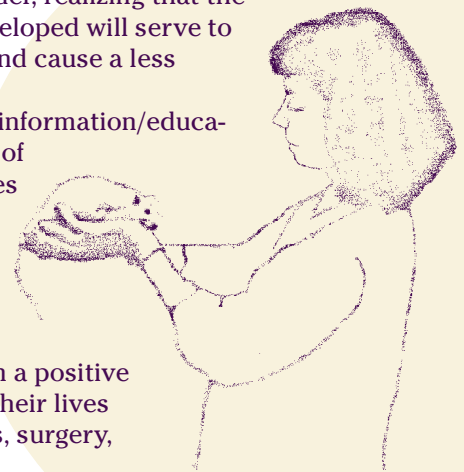
The management of the facility can:

- Learn to recognize stresses to personnel related to euthanasia.
- Institute an open door policy with supervisors/administrators.
- Provide a pleasant work environment.
- Supply a comfortable break area for resting and reflecting.
- Offer education relative to humane animal care and use and ethics.
- Recruit investigators to conduct informational seminars for the research team highlighting the various aspects of their particular study (especially desired benefits and outcomes).
- Request investigators to detail the significance of specific endpoints of the experimentation.
- Encourage group support meetings among laboratory personnel, enlist the aid of an outside professional to facilitate therapeutic sessions. By scheduling seminars and discussion sessions on this topic, some institutions have created an atmosphere that encourages employees to openly acknowledge their feelings on such issues and helps to establish an open environment.
- Rotate personnel to distribute job responsibilities and share difficult tasks.
- Insure that individuals are properly trained in the procedures of euthanasia. Individuals involved in euthanasia procedures must understand the mechanisms of action of each euthanasia agent or technique and how each contributes to ensuring a humane death.
- Initiate policies that do not require the technician caring for long-term animals to participate in the euthanasia of the animals. In some cases, however, the technician may feel a moral obligation to perform the euthanasia if there is an established relationship of trust.
- Honor the request of an individual to be excused from euthanizing an animal to which he/she is particularly attached.
- Allow homes to be found for research animals suitable for adoption (after soliciting institutional and IACUC approval). Consider designating technicians to serve as primary contacts.

In addition, an individual can:

- Learn about and perform competent, caring euthanasia for animals. Strive to improve euthanasia procedures to ensure a humane death for all laboratory creatures. This requires knowledge of the behavior patterns and methods for minimizing distress for each species. The person handling an animal just before or during euthanasia may wish to concentrate on soothing, calm images, thus communicating a gentle, peaceful attitude through body language.
- Determine the factors that influenced his/her decision to work in animal research.

- Recognize the benefits to the animals that a truly caring worker can provide.
- Directly see the benefits of his/her hard work (for example, visit burn centers, pediatric units, veterinary practices).
- Establish support systems such as talking with family, colleagues, supervisors, or outside consultants.
- Understand the "grieving process" and complications related to repeated loss.
- Know it is acceptable to express feelings and to not be ashamed or embarrassed by emotional reactions.
- Form attachments with animals but keep perspective. Personnel can indeed be caring and sensitive while maintaining the integrity of research; one can demonstrate caring behaviors and still carry out necessary duties.
- Care for a pet at home. The presence of a pet lowers human stress levels.
- Speak to a supervisor about receiving help if a particularly strong bond has been forged with an animal, such that the relationship inhibits the performance of necessary tasks. Personnel must remember that if they cannot perform an assigned task, someone else will be required to do so. Understanding this, individuals may decide to reconsider, realizing that the trust that has developed will serve to calm the animal and cause a less stressful reaction.
- Actively seek out information/education on the needs of the various species with which he/she interacts.
- Concentrate on the benefits of research and how it has impacted, in a positive way, someone in their lives (through vaccines, surgery, etc).
- Take pride in whatever skills he/she possesses that accentuate humane behavior.
- Be aware of other employment options existing in the field. If the experience becomes too overwhelming, he/she can remain involved in some other aspect of laboratory animal medicine. An individual can still play a vital role without directly working with the animals.



Members of the research team are all key players in the pursuit of research progress. In addition to knowledge and skills, primary attributes of laboratory animal workers include feelings of compassion and sensitivity toward animals. Empathetic and caring personnel see that animals are treated humanely and with respect. Individuals who demonstrate caring behaviors while being allowed appropriate outlets for expression of emotions will remarkably enrich the overall research experience of humans and animals alike.

A research team member may work through his/her

own grief as well as the grief of co-workers. Support is essential for the sake of the research team, the animals, and maintaining the dignity of animal research and teaching. By learning more about the grief process and by considering how we can console others, we can find ways to improve our support system in the laboratory animal workplace. Such support is important for any person who has experienced a major loss, whether of a family member, an animal, a relationship, personal health, or a job. Additionally, such support will help to maintain a healthy and productive climate in the animal research environment for both humans and animals.

AALAS would like to acknowledge the following contributions to the text of this brochure:

Halpern-Lewis, J. 1996. Understanding the emotional experiences of animal research personnel. *Contemp. Top. Lab. Anim. Sci.* **35(6)**:58-60.

Walshaw, S. O. 1994. Animal death and human emotion in the laboratory. *Lab Anim.* **23(6)**:24-29.

These two articles should be consulted for specific references.

Additional Resources

2000 Report of the AVMA Panel on Euthanasia. 2001. *J Am Vet Med Assoc.* **218(5)**:669-696.

Arluke, A. 1994. The Ethical Socialization of Animal Researchers. *Lab Anim.* **23(6)**:30-35.

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Wolfe, T. 1985. Laboratory Animal Technicians: Their Role in Stress Reduction and Human-Companion Animal Bonding. *In The Veterinary Clinics of North America: The Human-Companion Animal Bond*, J. Quackenbush and V. L. Voith, eds. W. B. Saunders Company, 449-454.

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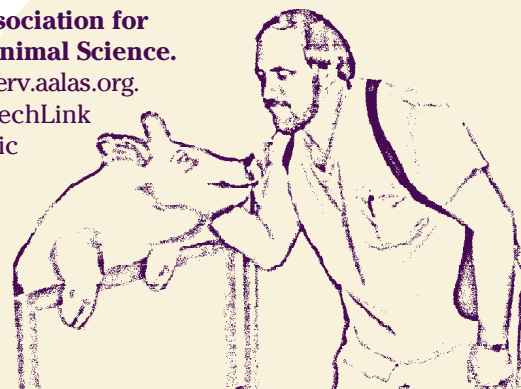
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American Veterinary Medical Association. 1999. Pet Loss. [Online] Available at www.avma.org/care4pets/avmaloss.htm (Accessed July 9, 2001).

– This web site includes links to grief counseling hotlines as well as other links covering euthanasia concerns.

Michigan State University College of Veterinary Medicine. 2000. Pet Loss Support Programs. [Online] Available at www.cvm.msu.edu/petloss/index.htm (Accessed July 9, 2001).

– This web site includes various links to sites covering euthanasia concerns (hotlines, support groups, inspirational poems and letters).

Cornell University. 1998. Cornell University Pet Loss Support Hotline. [Online] Available at www.vet.cornell.edu/public/petloss (Accessed July 9, 2001).

– This web site details facts on euthanasia, stages of grieving, and support hotlines and provides additional related links.

Veterinary Learning Systems. VetLearn.com. [Online] Available at www.vetlearn.com (Accessed July 9, 2001).

– This site includes a veterinary technician discussion board — a cyberspace location that serves as a forum for veterinary technicians to ask questions, seek advice, and reassure each other on a variety of topics including euthanasia.

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