ANNUAL ANIMAL NUMBERS REPORT

In a few weeks all researchers using animals in research, testing, or teaching will receive an email requesting they report the numbers of animals used this past year. This is a TIME SENSITIVE report to the federal regulators; it is critical that Duke respond by the federal deadline, which requires monthly reporting from each of our researchers who use animals. The ‘report by’ date will be November 9th.

The reporting period is from October 1, 2009 thru September 30, 2010. The report includes all animals purchased, bred, or used for all manners of research, testing, or teaching. The categories for reporting numbers are:

**Category B:** The number of animals being bred, conditioned, or held for use (not yet used); but not reported in Category C, D, or E. (Include all breeding or conditioned animals that were alive on September 30, 2009)

**Category C:** The number of animals used in procedures causing NO PAIN or NO DISTRESS and not requiring the use of pain relieving drugs (Examples: AVMA approved methods of euthanasia, non-surgical procedures requiring brief restraint, behavioral observations, and field observations).

**Category D:** The number of animals used in procedures which COULD BE PAINFUL / DISTRESSFUL, but appropriate anesthetic, analgesic, or tranquilizing drugs were used (Examples: Any use of anesthesia or analgesia such as surgery, pain management, anxiety management).

**Category E:** The number of animals used in PROCEDURES WHICH COULD PRODUCE PAIN / DISTRESS and for which the use of an anesthetic, analgesic or tranquilizing drug would adversely affect the interpretation of data or interfere with the scientific purpose of the experiment (Example: using analgesia while studying a potentially new analgesic would interfere with interpretation of results)

Please begin considering what data you will need to draw together to make the necessary reporting deadline! Best wishes for a productive research week,

PROPER DISPOSITION OF ANIMALS YOU DON’T NEED...

When researchers have excess or unneeded animals which don’t require euthanasia and are assigned to a specific protocol, there are specific procedures required to transfer or re-use the left-over animals. Re-Use or Re-Assignment (RURA) of unneeded animals is a valuable and important welfare consideration. RURA is consistent with the ‘4 R’s’ of Research: Reduction, Refinement, Replacement, and Responsibility. RURA is ethical, and cost effective, and also conserves animal life!

Option 1: DLAR maintains both ‘HOLDING’ and ‘TRAINING’ protocols, which may be used to transfer animals from researcher protocols when animals are no longer needed on the experimental protocol. Animals transferred to the HOLDING protocol may be offered to other researchers using the same stock/strain; and will therefore reduce the total numbers of animal used by Duke, reduce the cost of research for the researcher, and is a positive ethical position so no new animals are produced for research. Animals transferred to the training protocol may be used by others for the purpose of developing improved skills with animal handling or use. Re-assigning animal sin this way prevents unnecessary animal use on the experimental protocol because people will have better skills for working witht animals. To learn more about these options please contact DLAR at 684.2797 or go to http://labanimal.duke.edu for additional information.

Option 2: You may also request to transfer your extra or unneeded animals to another researcher’s protocol by submitting the appropriate amendment forms to the IACUC office.

Please remember that in most cases, once animals have been taken out of a vivaria, they cannot be returned. Should you have animals that you are not going to use, that do not need to be euthanatized, and cannot be returned to the vivaria, please contact DLAR to receive guidance on disposition options. Never leave animals unattended in the lab or at a DLAR facility.
Effective Monitoring and Recovery of the Anesthetized Rodent

Anesthesia is the act of rendering the patient senseless to pain or discomfort. Anesthesia is used for surgical procedures as well as non-surgical procedures. Assuring a safe and effective level of anesthesia is necessary for quality research and humane use of animals. Assuring a safe and effective level of anesthesia requires monitoring.

According to Duke animal program policy, ALL anesthetized animals must be observed and monitored to assess adequate level of anesthesia, and assure the animal is anesthetized. Failure to monitor properly, especially if the animal experiences adverse outcomes from anesthesia, could be a non-compliance reportable to the federal regulatory agencies (the NIH, the USDA, and AAALAC).

There are as many acceptable methods to monitor anesthesia as there are species of animals, but select monitoring processes are fairly common between species. These include:

- **Toe pinch:** Effective if the animal has a toe large enough to pinch. A gentle pinch at or near the nail bed, a pinch which does not break the skin or cause any deep tissue damage, is sufficient to show if the animal has inadequate anesthesia. Any observed movement (e.g. withdrawing the paw) indicates that the animal is not sufficiently anesthetized to perform a painful activity (e.g. surgery).

- **Skin pinch:** Similar to the toe pinch but using any skin on the body. More sensitive areas of skin work best. A gentle pinch of a small fold of skin, which does not break the skin or cause any deep tissue damage, is sufficient to show if the animal is too light. Any observed movement (twitching of the skin) indicates that the animal is not sufficiently anesthetized to do surgery.

- **Jaw "tone":** Generally this can be a good indicator of muscle relaxation. The lower jaw is gently opened to its maximum extent. Any observed resistance to opening, or closing of the mouth, is an indicator that the animal is too light to do a painful procedure.

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- **Respiratory rate:** This can be used as a good indicator of the depth (or level) of anesthesia. Rapid, shallow respirations usually indicate the animal is too "light," not sufficiently anesthetized to perform painful procedures. A very slow relaxed respiration may be an indication the animal is very ‘deep,’ even approaching euthanasia. Animals in deep anesthesia often take a very long time to recover, and will require additional supportive care during recovery. The best respiratory rate is one that is just barely below normal. Since normal respiration rate varies among animals, it is always important to observe your patient for a few minutes while they are resting to determine their normal respiration rate. Veterinary textbooks can provide a range of normal respirations, but even these vary from one animal to another. If obtaining a heart rate is difficult, then remember this: A dead animal does not breath,’ which is a simplistic way to say that if the animal is breathing then most assuredly the heart is beating.

- **Heart rate:** An increase in heart rate and/or blood pressure usually indicates a decrease in anesthetic depth. Normal heart rates vary greatly among species, consult veterinary text for normal values, or Email our clinical veterinarian.

- **Palpebral:** The blink reflex is quite variable, depending on the anesthetic agent used, and difficult to assess in small animals (i.e. mice and rats). DO NOT USE THIS REFLEX FOR RODENT ANESTHESIA MONITORING! It is highly UN-reliable!

- **Corneal:** The cornea can be damaged, if not protected, but when used carefully, it is a good reflex. Touch the edge of the cornea with a gauge sponge or cotton q-tip. Movement of the eyelids is an indication that the depth of anesthesia is not sufficient to do surgery.

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**Body Temp:** Most anesthetic agents depress body temperature to a significant degree. Therefore, it is important that anesthetized animals be maintained on some type of material which shields them from contact with cold surfaces and reduces heat loss. The use of a supplemental heat source is a good idea, but must be used with caution, since burns can occur from electric blankets or water bottles that are too hot.

**Anesthesia Recovery:** All animals recovering from anesthesia must be constantly attended until they have recovered their swallowing reflexes. As a general statement, animals must be observed and the observation must be recorded at least every 15 minutes. Observing recovering animals less frequently than every 15 minutes requires IACUC approval. Observations (and recording of the observations) must continue until the animal regains motor control. In the case of most animals, this is usually indicated by the animal starting to move around the cage and being able to stand and walk without falling. Observations may be recorded in a research notebook or a medical record notebook, but should be available for IACUC review.

**Support of the Recovering Patient:** Rodent post-procedural support, and the duration of recovery, will be shortened by keeping the animal warm. A heat lamp, Snuggle Safe or a heating pad may be used, but the animal should not be close to the heat lamp (they will get skin damage from being to close) nor should they be in direct contact with the heating pad (the heating wire will also burn the animal). Usually, the best approach is placing the animal's cage half on and half off a heating pad, or wrapping the animal in a small towel placed in the bottom of the cage. Care must be taken to avoid overheating when a heating lamp or heating pad is used. Whenever a heat source is used, a thermometer should be placed at the animal's level to monitor actual heat.

Animals which have had any significant blood/fluid loss during surgery should be provided with fluid or blood replacement. In small rodents, this is best accomplished via the intraperitoneal or subcutaneous route and as described in the protocol.

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**INDUSTRY NEWS**

**National Primate Liberation Week:**

The Ohio based group Stop Animal Experimentation Now (SAEN) has designated October 16 through 24 as “National Primate Liberation Week.” Since 2003 SAEN has scheduled a week in October during which animal rights activists around the country are encouraged to plan campaigns and events aimed at “exposing the truth to wipe out animal experimentation.” For additional information go to SAEN’s website or contact NABR at info@NABT.org.

**Animal Rights Legal News:**

Interested in learning more about animal law? Animal law is a quickly growing area of legal expertise. NABR’s animal law website—http://www.NABRanimallaw.org—is a comprehensive resource for all animal law related issues that provides up to date information on recent developments in animal law as it relates to research.

**ABA Journal Feature article on Animal Law:**

The September 2010 issue of the American Bar Association Journal features an article addressing efforts by animal rights attorneys to use legislation to change the law as it relates to animals. The article notes that “some animal protection activists are pushing for laws that would extend animal rights and protections to animals that have been, up to now, reserved for humans.” The article concludes by addressing “creative arguments” used against researchers, including attempts to prosecute researchers using state animal cruelty laws. Specifically mentioned is a recent case in Wisconsin where PETA took legal action after four sheep died from the bends during experiments financed by the U.S. Navy at the University Of Wisconsin-Madison. In June, Dane County Circuit Court Judge Amy Smith ruled that a special prosecutor should be appointed to determine whether the university researchers violated any laws in conducting the experiments.