18. CARE AND MANAGEMENT OF ANIMALS CONTAINING RAM

18.1 RADIOACTIVE MATERIALS

Many research projects include the administration of radioactive materials to animals. If the radioactive animals are not returned to an animal facility, e.g., a facility of the Division of Comparative Medicine (DCM), the care and management of the radioactive animals are the responsibility of the research group. However, there are additional precautions required of the research group when radioactive animals are returned to an animal facility.

18.2 ANIMAL QUESTIONNAIRE

A completed "Animal Questionnaire" must be included as supplementary information with applications submitted to the Radiation Safety Committee (RSC) if the proposed work includes the administration of radioactive materials to animals. A different questionnaire is required for each animal species and for each project or protocol. If the application is approved by the RSC, a copy of each animal questionnaire is forwarded to the Animal Studies Committee (ASC) and to the operations manager of the appropriate animal facility. In addition, Radiation Safety Staff review the proposed use of radioactive materials and send a completed copy of the "Radiation Safety Guidance for Animal Facility Personnel" form to the appropriate operation manager if the radioactive animals are returned to an animal facility after the research use.

The Animal Studies Committee and the Radiation Safety Committee work together to insure that protocols submitted to the ASC that involve the use of radioactive materials have had the radioactive research component approved by the RSC.

18.3 RESEARCH GROUP RESPONSIBILITY

When radioactive animals are returned to an animal facility, the research group is responsible for:

- posting the room where the animals are housed,
- providing information about the administered materials,
- performing the required periodic radiation surveys
- properly handing and disposing of radioactive material waste, e.g., contaminated bedding
- providing husbandry for the animal(s) until the exposure rate is less than 1 mrem/hr at 1 foot from the cage(s).

The required information about the administered radioactive materials is accomplished by completing a label, affixing it to an orange cage tag, and attaching the tag to the cage of the
returned animal(s). The red label, which can be obtained from either the animal facility operations manager or from Radiation Safety, is intended to provide the following information.

- animal name
- radionuclide
- half-life
- injection Date

- The exposure rate (mrem/hr) at 1 foot to be measured and recorded on the date of the transfer of husbandry responsibilities to DCM. This figure should not exceed 1 mrem/hour.

- Date anticipated for routine care by DCM
- Date anticipated to be not radioactive if applicable
- Research contact person and telephone number
- DCM contact person and telephone number

A sample copy of the label is shown at the end of this section.

If the measured exposure rate at a one foot distance from the animal cage is greater than 1 mrem/hr as determined with a survey instrument in current calibration (equivalently, the survey instrument will indicate more than 1 mR/hr), the research group must provide the animal husbandry until the exposure rate is less than the 1.0 mR/hr level. In addition, the room housing the animal(s) must be posted with a sign (similar to the one shown at the end of this section) in order to alert animal facility personnel of the elevated exposure level. Management of bagged waste, e.g., contaminated bedding, is the responsibility of the research group. The waste must be transferred to Radiation safety for disposal along with a completed waste transfer form (refer to section 14 of this manual).

In the case of very short-lived radionuclides (half-life less than 13 hours), some of the animal facilities provide a designated holding area for the bagged waste provided it is labeled with the information shown.

It is the responsibility of the research group to monitor the very short-lived waste after a holding period of ten half-lives or more. If the waste is at background level, a "Cold" label (also, a sample copy shown at the end of this section) is used to cover the previous radioactive label and the bagged waste is then transferred by research personnel to the non-radioactive biological or carcass waste stream, as appropriate. Records of the waste survey must be maintained by the research group.
18.4 RADIATION SAFETY OFFICE INSPECTIONS

Radiation Safety personnel conduct quarterly inspections of animal facility areas where radioactive animals are maintained to verify that the various safety requirements are being fulfilled. A copy of the results of each inspection is forwarded to the responsible authorized user (or designate) as well as to the operations manager of the animal facility. You can call Radiation Safety at 314–362–3476 for guidance about the requirements and recommended practices involving radioactive animals.