Guidelines for NIH Rodent Transportation

Overview: Transportation of laboratory animals is necessary for research and must conform to high standards to ensure animal health and welfare during transit[1, 2]. This guideline applies to rodents within an NIH Institute/Center (IC) program. For other species, see the ARAC Guideline for NIH Non-Rodent Transportation.

General:

1. The IC Veterinarian or IC Animal Transportation Coordinator is responsible for the oversight of rodent transportation within their program and ensures that all transportation is handled in accordance with all applicable laws, policies, and guidelines. This includes obtaining transportation approval before animals are moved and requesting confirmation of their arrival. The IC Animal Program Director (APD) or their designee serves as the primary source of information relating to the approval of transport enclosures, means of transport, and receipt and shipment of animals within their IC. The APD or designee can grant exceptions to these guidelines when it is considered in the best interest of the animal(s). The IC Animal Care and Use Committee (ACUC), with the Office of Animal Care and Use (OACU), will resolve conflicts regarding animal transportation.
2. Transportation of animals shall be done in a direct and timely manner, avoiding public areas and areas primarily used by NIH employees and patients.
3. All methods of transporting NIH animals must provide for the health and welfare of the animals.
4. Rodents shall not be transported with any other animal, substance and/or device that may be expected to be injurious to their health or welfare.
5. Care shall be exercised in handling enclosures (i.e., approved transport boxes, containers, cages, etc.) used to transport rodents. Enclosures shall not be tossed, dropped, or stacked in a manner that may reasonably be expected to result in their falling. During transport, containers or cages should not be transferred in any way that may cause physical trauma or stress to the animal(s) or limit adequate cage ventilation.
6. Approved rodent transport cages/boxes/containers must be used. These vary depending on the distance and/or purpose of the transportation. The enclosure must be adequately sized such that animals have enough space to express their natural postures and postural adjustments. The enclosure must be resistant to escape, provide adequate ventilation, and as needed, provide protection from the elements.
7. In the event of an escape, immediately contain the animal(s) and contact facility personnel responsible for oversight of the animal facility (e.g., animal facility supervisor/manager, facility veterinarian) for further guidance.
8. Minimum label requirements for all transport boxes/containers should include the words “Live Animals” and an arrow indicating the up position. Appropriate labeling for infectious substances, chemicals and/or radiation may also be required. An infectious substance is defined as a material known or reasonably expected to contain the pathogens (49 CFR 173.134).
9. Temperature extremes (less than 45°F or greater than 85°F) are to be avoided when transporting animals. If movement of animals is necessary, precautions [e.g., climate-controlled vehicle, extra insulation (cold weather), larger ventilated box with fewer animals (hot weather)] are required.
10. The Division of Veterinary Resources (DVR) Transportation Service is available for transporting animals between buildings on the NIH Bethesda campus, to other NIH locations [e.g., NIH Animal Center (NIHAC), NIDA (Baltimore), NIA (Baltimore)], local airports, and other areas within the greater Washington metropolitan area. Arrangements can be made for scheduling animal deliveries by contacting DVR Transportation at the above link. Requests for transportation should

be placed at least two working days in advance. Longer processing times may be required for special permit stipulations.

11. Personal vehicles (e.g., cars, bicycles, skateboards, etc.) are **NOT** to be used for animal transportation. Individual ICs may provide transport in climate-controlled vehicles owned by the IC.
12. Transportation of live animals containing or contaminated with an infectious substance on public roads, will require a Department of Transportation (DOT) special permit (49 CFR 173.22).

Movement of Animals Within an NIH Building:

1. Occupants of the building should be protected from allergens of animal origin, infectious substances, chemicals, radioactive materials, and escaped animals. Consult with the IC veterinarian/transportation coordinator and the Division of Safety (DS) for additional guidance.
2. For movement of animals within the Clinical Center (CC, Building 10) and the Clinical Research Center (CRC) see Research Animal Transport for the NIH Clinical Center. This policy addresses the correct method of movement within the CC to avoid/minimize CC patient exposure, including the use of the appropriate elevators.
3. Movement of animals inside the animal facility is usually within the animal's home cage. To guard against water bottles leaking, the water bottle should be removed or placed spout-up prior to transport. The appropriate conveyance should be verified with the Facility Manager or Facility Veterinarian.
4. Movement of animals from the animal facility to a laboratory within the same building may require the use of an approved container other than the animal's home cage (e.g., filtered cardboard NIH animal transport box, vented cylindrical paperboard container, folded waxed paperboard container). The appropriate conveyance should be verified with the Facility Manager or Facility Veterinarian.

5. Transport boxes/cages/containers that are contaminated with biological, chemical or radiological hazards must be disposed of according to the NIH Waste Disposal Guide. Transport boxes/cages/containers that are not contaminated with infectious substances, chemical, or radiological hazards may be disposed of as general waste. Transport containers left in public areas for disposal should be placed in sealed, opaque trash bags for disposal.

Movement of Animals Between Building on the NIH Bethesda Campus (i.e., Internal Transfers):

1. Transport of rodents should protect building occupants from allergens of animal origin, infectious substances, chemicals, radioactive materials, and escaped animals.
2. A filtered, cardboard box should be used to transport animals between buildings (a vented cylindrical paperboard container is not acceptable). Bedding, a "no-spill" water source, and/or food may be required depending upon the animal's age, condition, and length of containment.
3. Transporting rodents by hand-carrying containers should be limited to travel in a direct and timely manner between buildings with the animals in escape-resistant enclosures. Rodents should be protected from temperature extremes.
4. For movement of animals to the CC and the CRC see the Research Animal Transport for the NIH Clinical Center.
5. For movement of animals to all other buildings, an IC Veterinarian or IC Animal Transport Coordinator should be contacted. Individual ICs may have their own internal notification policies to facilitate rodent transfers (e.g., from a holding facility to a laboratory in a different building) such that approval for specific transportation procedures is given as part of an ACUC-approved ASP. If rodents possess biological/chemical/radiation hazards, also consult the DS (additional detail, below).
6. Transport boxes/cages/containers that are contaminated with infectious substances, chemical or radiological hazards must be disposed of according to the NIH Waste Disposal Guide. Transport boxes/cages/containers that are not contaminated with infectious substances, chemical, or radiological hazards may be disposed of as general waste. Transport containers left in public areas for disposal should be placed in sealed, opaque trash bags for disposal.

Movement of Animals Between the NIH Bethesda Campus and Other NIH Locations (i.e., Internal Transfers to NIHAC, Poolesville, MD; NIDA/NIA, Baltimore, MD, etc.):

1. The DVR Transportation Service or other appropriate courier for live animals must be used for transporting animals between the NIH Bethesda campus and other NIH locations.
2. A filtered, cardboard NIH transport box should be used. Bedding, a "no-spill" water source, and/or food are required. The DOT requires animals containing or contaminated with an infectious substance to be transported under terms and conditions of a Special Permit. Additional housing and handling requirements will apply if transporting live animals containing or contaminated with an infectious substance. Consult with DS for further information.

Movement of Animals to Locations Outside the NIH (i.e., Exports):

1. The NIH Shipping Unit (301-496-5921) is available for commercial shipping arrangements.
2. The DOT requires animals containing or contaminated with an infectious substance to be transported under terms and conditions of a Special Permit.
3. Required Forms:
   a. NIH Request for Shipment (NIH 1884) – only required when the NIH is paying for the shipment.
   b. NIH Animal Health and Shipping Certificate (NIH-1192)
   c. Animal Transfer Agreement
   d. Materials Transfer Agreement for the Transfer of Organisms (MTA-TO) may be required. Contact your IC Technology Development Coordinator.
   e. NIH Commercial Invoice (NIH 1884-1) – *foreign shipments only.*
   f. NIH Declaration for Exportation of Biologic Materials (NIH 2388) - *foreign shipments only.*
   g. Some exports, particularly those to foreign countries, may require USDA forms and special requirements. For rodents that are classified as USDA covered species and being shipped from

Maryland to another state or country, a United States Department of Agriculture/Animal Plant Health Inspection Service Certificate of Veterinary Inspection is required. This form is required for shipment of laboratory mice and rats shipped to other countries. In some cases, other countries may require additional forms for shipment. The appropriate form (i.e., interstate vs. international, species appropriate), must be signed by a USDA accredited veterinarian within 30 days of shipment and accompany the animals. Contact the IC Shipping Coordinator for details. Visit the USDA APHIS site for additional information.

3. Required Transport Boxes:
   a. Continental United States
      - A filtered, cardboard NIH animal shipping container must be used. A filtered, cardboard NIH *animal shipping* container is different than a filtered, cardboard NIH *animal transport* box. Compared to the NIH animal transport box, the NIH animal shipping container is made of a thicker, more rigid cardboard with mesh wire reinforcement and a viewing window.
      - Rigid filtered animal shipping containers available from commercial vendors (e.g., Taconic Transit Cage, Jax Shipping Container, Charles River, Novopack Rodent Packaging, etc., and can be obtained through the DVR Transportation Service).
   b. Outside continental United States
      - Rigid filtered animal shipping containers with viewing window available from commercial vendors (e.g., Taconic Transit Cage and can be obtained through the DVR Transportation Service).
   c. A "no-spill" water source, food, and bedding are required.
   d. The International Air Transport Association (IATA) Live Animals Regulations serve as a worldwide standard for shipping animals, domestically or internationally. IATA copyrighted regulations are revised annually.

Movement of Live or Dead Animals Containing Radioactive Isotopes:

1. Animal studies involving radioactive materials or Ionizing Radiation Producing Equipment (IRPE) require an approved Animal Study Proposal (ASP) reviewed by an IC ACUC and the DS (301-496-5774). Contact a DS specialist for specific radiation safety guidance for animal transportation. Correct disposal of the transport box should also be confirmed with the Health Physicist.
2. Warning labels are required on enclosures used to transport live or dead animals that contain radioactive materials. Minimum label requirements include a "Caution – Radioactive Material" label and identification of the specific hazard.

Movement of Animals Treated with Infectious Substances:

1. NIH Policy Manual 3040-2 requires that IC ACUCs review ASPs, including work with biological or chemical hazards. The transportation of animals that are to be dosed at one location and moved to another needs to be evaluated to assure that proper containment is used to minimize occupational exposure to persons involved with the move, and to minimize environmental contamination. The Occupational Safety and Health Specialist (301-496-2346) shall be consulted for any question regarding proper transportation.
2. Rodents that have been exposed to human pathogens or toxic/carcinogenic substances and are actively shedding the hazardous material must be transported in closed systems (e.g., filtered, cardboard NIH animal transport box/container). Correct disposal of the transport box should be confirmed with the Occupational Safety and Health Specialist (301-496-2346).

3. Warning labels are required on enclosures used to transport live or dead rodents that have been exposed to chemical or biological hazards. Minimum label requirements include a "Biological Hazard" or "Chemical Hazard" label with the specific hazard identified.
4. The DOT requires animals containing or contaminated with an infectious substance to be transported under terms and conditions of a Special Permit. Additional housing and handling requirements will apply if transporting live animals containing or contaminated with an infectious substance. Consult with NIH Quarantine Permit Service Office (QPSO) for further information.
5. Carcasses of contaminated rodents must be handled according to the NIH Waste Disposal Guide. Contaminated animal carcasses that are being transported to DVR for pathological examination also need to be placed in double plastic bags (primary barrier) and then into a cardboard box (secondary barrier) and must be accompanied by the Diagnostic Submission Form with a detailed history of the type and amount of hazardous material.

References:

1. National Research Council (US) Committee on Guidelines for the Humane Transportation of Laboratory Animals. Guidelines for the Humane Transportation of Research Animals. Washington (DC): National Academies Press (US); 2006.
2. Swallow J, Anderson D, Buckwell AC, Harris T, Hawkins P, Kirkwood J, Lomas M, Meacham S, Peters A, Prescott M, Owen S, Quest R, Sutcliffe R, Thompson K; Transport Working Group, Laboratory Animal Science Association (LASA). Guidance on the transport of laboratory animals. Lab Anim. 2005 Jan;39(1):1-39.

Additional Resources:

1. NIH PM-3035 - Working Safely with Hazardous Biological Materials
2. NIH PM-1340-1 – Permits for Import of Export of Biological Materials
3. ARAC Guideline for Collaborative Animal Studies
4. ARAC Guideline for NIH Non-Rodent Transportation

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