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The expectation is that IACUC Guidelines will be followed as best practice. They allow the Animal Care & Use Program to attain acceptable performance outcomes to meet the intent of the regulations. As such, any planned variation from the guidelines requires prior IACUC approval and must be based on a scientific rationale.

Isoflurane, a halogenated anesthetic gas, is commonly used to anesthetize research animals, including ferrets. Please refer to the IACUC Guidelines on the Use of Isoflurane for safety and best practices information.

NOTE: These guidelines are for brief use of inhalant anesthetics to induce a light plane of anesthesia when performing non-painful procedures such as blood collection, injections, and nasal washes. Deeper anesthesia for longer, and/or painful procedures requires additional steps, such as fasting, and should be planned in consultation with the University Research Animal Resources (URAR) veterinarians. These guidelines also apply to healthy, adult ferrets. Special considerations apply for unhealthy and/or young and geriatric ferrets. Please contact the URAR veterinarians with questions, concerns, or for consultation.

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All individuals involved with performing inhalant anesthesia with ferrets are required to review this document, participate in a training session with the University Research Animal Resources veterinary staff or designated trainer, and demonstrate proficiency prior to performing inhalant anesthesia of ferrets. Training and proficiency determination will be documented.

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The number of animals that may be safely anesthetized and monitored to full recovery at one time will be dependent on the number of individuals available to assist and their training and proficiency. For less experienced individuals, anesthetizing animals one at a time is typically safer than anesthetizing two ferrets simultaneously, as full attention can be paid to a single animal. Well-experienced research personnel have found that ferrets are calmer, experience a smoother induction, and derive thermal support from each when anesthetized in pairs in the induction chamber. When anesthetizing any number of ferrets for study purposes, the guidelines below must be adhered to in order to ensure an adequate level of anesthesia and animal safety. All steps below must be completed each time an animal undergoes anesthesia.

1. Leak-check the anesthetic circuit using oxygen (not isoflurane) to ensure it is functioning properly and anesthetic gas i

2. Ensure adequate amounts of oxygen and isoflurane are available in the tank and vaporizer, respectively.
3. Weigh passive charcoal waste anesthetic gas (WAG) scavenging canisters, if used, to ensure they are adequate for use. If more than 50 or 100 grams over baseline weight (depending on product – see label for guidance), discard and replace with new canister before anesthesia.
4. Place the ferret(s) into an anesthetic induction chamber(s) as described in introductory paragraph above. If simultaneously anesthetizing two animals, at least one well-experienced individual be present.
5. Turn oxygen on (1 L/min if a setting is available) and isoflurane to 5%. Note: This may induce excitement and struggling as the inhalant anesthetic accumulates in the chamber.
- 6.

Other parameters that may be monitored include:

- x Capillary refill time
- x Mucous membrane color
- x Anesthetic depth: toe pinch (i.e., withdrawal re