

STANDARD OPERATING PROCEDURES
DIVISION OF COMPARATIVE MEDICINE
UNIVERSITY OF SOUTH FLORIDA

SOP#: 250.2

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TITLE:	Ferret Husbandry
SCOPE:	Research and Animal Care Personnel
RESPONSIBILITY:	Facility Manager, Technical Staff, Veterinary Staff
PURPOSE:	To Outline the Proper Procedures for Receiving, Physical Examination, Evaluating Health Status, Handling, Care and Husbandry Practices Related to Ferrets

I. PURPOSE

1. To ensure the highest quality of animal health and preclude the development of spontaneous diseases or disorders, which could compromise the integrity of studies and interpretation of results.
2. To ensure personnel handling ferrets perform their duties in a manner that complies with all current governing laws, regulations and guidelines.

II. RESPONSIBILITY

1. The Veterinarians oversee all aspects of animal health, and are assisted by all program staff.
2. Facility Managers ensure implementation of all procedures.

III. PROCEDURES

1. Receipt

- a. Individual cage cards are prepared for each animal and include the following information:
 1. Investigator
 2. IACUC #
 3. Species
 4. Sex
 5. DOB (or age on arrival if unavailable)
 6. Body Weight
 7. Arrival Date
 8. Source
 9. Animal Number
- b. Individual Animal Medical Records are prepared for each animal and include: (see SOP #012 entitled, Animal Medical Records)
 1. **Arrival Status Sheet**
 2. **Progress Notes Form**

- c. Shipping crates are inspected for signs of damage and shipment accuracy.
- d. Technician will notify the Facility Manager regarding any damage to crate or contents.
- e. Facility Manager will notify the Program Assistant of damaged or rejected shipments, or orders improperly filled (i.e., weight, age, number requested).
- f. Clinical Veterinarian will be immediately notified of health concerns or deaths occurring in transit.
- g. New animals are recorded on the **Per Diem Sheet** located in the **Room Log Book**.

2. Physical Examination

- a. A physical examination (PE)/ general health evaluation is performed by the veterinary staff, or animal care staff, within 24 hours of arrival.
- b. Ferret is removed from home cage and examined. Observations are recorded on the **Arrival Status Sheet**. The following parameters will be observed and recorded:
 1. ID number (if any) and/or description
 2. Weight
 3. Body Temperature
 4. Heart or Pulse Rate
 5. Respiration Rate
 6. Capillary Refill Time
 7. Nails (trim if necessary)
 8. Teeth
 9. Ears
 10. Eyes
 11. Skin/Coat Condition
 12. Any Impression of General Attitude and Condition
 13. Any Treatments Implemented
- c. A notation of PE having been performed is placed on the **Progress Notes** for each animal.

3. Handling and Restraint

- a. Handling
 1. The adult ferret is best held by grasping it just behind the front extremities with one hand and holding the hind legs with the other hand.
 2. An alternative method is to place one hand across the animal's shoulders, the thumb and forefinger around the neck, and the other fingers around the chest behind the forelimb
- b. Ferrets can be held by the loose skin in back of the neck. Held in this manner the animals will relax and simple procedures such as nail trimming can be performed.
- c. Do not restrain ferrets by stretching the rear legs (as is done in cats). When their rear legs are stretched by pulling on the feet, they tend to struggle more.

4. Environmental Enrichment and Social Housing

- a. Appropriate social interactions among members of the same species and enrichment of the animal's environment are essential to normal development and well-being.
- b. **All ferrets receive environmental enrichment**, unless an exemption has been approved in writing by the IACUC.
- c. Any environmental changes made must be communicated to and approved by the researcher prior to implementation.
- d. **Single housing of ferrets should be the exception** and must be justified based on experimental requirements or veterinary-related concerns about animal well-being.

5. Feeding and Watering

- a. Refer to SOP # 022 entitled, **Feed and Bedding** for specific diets. **NOTE: procedures below are not for animals on special diets or water.** Special diets must be described in an approved IACUC protocol (e.g., type, amount, and form).
- b. Feeding
 1. All ferrets are fed *ad libitum*.
 2. Feed bowls are dumped and refilled each morning.
 3. Laxatone or other hairball medication may be offered weekly or more often as needed as a hairball preventative.
 4. Commercial fish flavored cat treats may be offered occasionally as enrichment.
 5. Feed bowls are sent to cagewash for weekly sanitation.
- c. Watering
 1. Water is provided *ad libitum* by way of water bottles or lixits since ferrets tend to play in water dishes.
 2. Water bottles are dumped, refilled each morning, returned to same cage and checked for adequate supply each afternoon.
 3. Lixits, if used, are checked each morning and afternoon for patency.
 4. Water bottles are sent to cagewash weekly for sanitation.

6. Health Surveillance

- a. Each housing room is assigned to an Animal Care Technician. Daily observations of the Animal Care Technician are recorded on the **Room Status Sheet** within the **Room Log Book**.
- b. Surveillance frequency:
 1. On weekdays health surveillance will occur twice per day, prior to 9:30 AM and again about mid afternoon.
 2. On weekends and holidays the initial health surveillance should take place upon arrival of the Animal Care Technician, and again just prior to completing their assigned shift.
- c. Observations and communications must be noted on the **Room Status Sheet** and the Facility Manager's **Animal Health and Environmental Concern Form**.
- d. Performance of Daily Observations and general health surveillance
 1. Each animal/cage is observed to evaluate:
 - a. Food and water intake
 - b. Urine and Fecal output
 - c. Assurance of water supply and patency
 - d. General appearance (presence of lesions/injuries, coat condition, disposition)

NOTE: If at any time there is a medical emergency, the Clinical Veterinarian is to be notified immediately.

- e. Weekly notation is made in the **Progress Notes** regarding animal's overall status/condition. (Note: BAR= bright, alert, responsive is an acceptable entry).
 - f. Health evaluations are performed monthly by either Veterinary or Animal Care Staff and the results recorded on a **Monthly Health Evaluation** label (see 2.a. above for parameters) and placed in the **Progress Notes** form in the animal's medical record.
 - g. Physical examinations are performed by Veterinary Care Staff as needed, and at least every six months and the results are recorded on a **Physical Examination** label and placed in the **Progress Notes** form in the Animal's medical record.
 - h. Refer to **SOP # 006** entitled, **Animal Health and Environmental Surveillance** for specific procedures of reporting and recording health concerns.
7. **Cage Changing** – Ferrets are generally housed as a colony and animals are group housed within the primary enclosure or allowed to move freely about the housing room provided it is secure. Ferrets have a tendency to escape certain enclosures so if allowed to move about freely, the room

needs to be escape-proof. Male ferrets should be housed individually after 12 weeks of age. Individual caging may be required for procedural or clinical reasons, or when specifically requested by the PI.

- a. Cage pans are cleaned daily.
- b. Litter pans are replaced daily.
- c. Racks, cages, and cage pans are changed every 2 weeks. Rack, cages, and cage pan changes will be noted on the **Room Status Sheet**. Animal will maintain its relative position on the new rack.

8. Room Duties

- a. Upon completion of cage changing, feed and watering, and daily health surveillance, the following tasks are to be performed. Room duties described below are minimal requirements, additional duties and frequencies are at the Facility Manager's discretion:
 1. Complete **Room Status Sheet** by recording:
 - a. Minimum and maximum room temperature and humidity (measurements out of the acceptable range are described under the **Health and Environmental Concern** column of the **Room Status Sheet** and reported to the Facility Manager via the **Health and Environmental Concern Form**).
 - b. Feed and Water are available
 - c. Caging and equipment changes are performed.
 - d. Housekeeping duties performed
 - e. Significant health or environmental concerns.
 - f. Time of observation and initials of technician.
 2. Assure no investigator's supplies or trash is left in room.
 3. Check and replenish supplies (e.g. soap, paper towels) as needed.
 4. Wipe down counter/sink areas with Sporicidin.
 5. Assure any new arrivals are recorded on **Per Diem Sheet**.
- b. Floors are to be swept and mopped Monday, Wednesday, Friday or when excessively soiled.
- c. **Weekly** room duties include:
 1. Flush automatic watering zones, by opening the flush valve outlet below each drinking valve (e.g., lixit) and at the end of a zone (if applicable) and allow the waterline to flush at maximum flow for approximately 5 minutes.
 2. Sanitize lixits with Clidox-S and thoroughly rinse/flush after the appropriate contact time.
 3. Sanitize mop head
 4. Sanitize enrichment items
 5. Wipe down door and doorframe with Sporicidin
 6. Physically count animals within the room
- d. **Semi-monthly** room duties include:
 1. Check/clean HVAC vents and replace air filters as needed.
 2. Sanitize all room cleaning equipment (e.g. mop, mop bucket, broom, dust pan, feed pan, etc)
- e. **Monthly** room duties include:
 1. Confirm diurnal light timers are accurately controlling animal room lights (HOB0) and record.
 2. Wash walls with Sporicidin as needed.
- f. **Quarterly**
 1. Sanitize water recoil hoses

Approved:

Date: