

CENTRAL MICHIGAN UNIVERSITY'S
INSTITUTIONAL ANIMAL CARE
AND USE COMMITTEE'S
POLICIES AND PROCEDURES



CENTRAL MICHIGAN UNIVERSITY'S
STANDARD OPERATING
PROCEDURES MANUAL

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DISCLAIMER

This document was created through information from the Animal Welfare Act, Federal Register, the U.S. Department of Health and Human Services, the "Guide for the Care and Use of Laboratory Animals," USDA "Institutional Administrator's Manual for Laboratory Animal Care and Use" and from animal care and use programs at similar universities in Michigan.

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Institutional Animal Care and Use Committee (IACUC)

The Institutional Animal Care and Use Committee (IACUC) is responsible for oversight and evaluation of the institution's animal program, procedures, and facilities to ensure that they are consistent with the recommendations in the Guide for the Care and Use of Laboratory Animals, the Animal Welfare regulations, and the Public Health Service policy. Its functions include inspection of facilities; evaluation of programs and animal-activity areas; submission of reports to responsible institutional officials; review of proposed uses of animals in research, testing, or education; and establishment of a mechanism for receipt and concerns involving the care and use of animals at the institution.

I. Appointment of IACUC

- A. The Institutional Animal Care and Use Committee is appointed by the President of the University based on recommendations through the Office of Research.
- B. The terms of the IACUC Committee is two years.
- C. The IACUC shall consist of not less than five voting members, including at least:
 1. A Chairperson;
 2. A Doctor of Veterinary Medicine, with training or experience in laboratory animal science and medicine, who has direct or delegated program authority and responsibility for activities involving animals at the institution;
 3. A practicing scientist experienced in research involving animals;
 4. A member whose primary concerns are in a nonscientific area; and
 5. An individual who is not affiliated with the institution in any way other than as a member of the IACUC, and is not a member of the immediate family of a person who is affiliated with the institution.
- D. An IACUC member who meets the requirements of more than one of the categories detailed in I.C. above may fulfill more than one requirement.
- E. No more than three IACUC members can be from the same administrative unit (e.g., an academic department).
- F. Alternative non-voting members may include alternative animal facility directors, CMU safety committee members, and faculty or staff with concerns.

II. Operating Procedures and Functions of IACUC

- A. The IACUC was established to assess the institutions animal programs, inspect facilities, and adopt standard operating procedures for faculty, staff and students.
- B. Review every six months the institutions program for animal care and use and determine its accord with the Animal Welfare Act.

A written report of this review is submitted to the Chief Research Officer and maintained in the Office of Research.

- C. Inspect the animal care and use facilities every six months to assure accordance with the Animal Welfare Act. Inspection should be performed with at least two voting members of the IACUC present. Any deficiencies should be noted on the report, the facilities violations reported to the director, and a specific amount of time (1 day, 2 weeks, etc), designated in which the deficiency should be remedied. A signed written report of these facilities will be made by the chairperson of the IACUC and forwarded to the Office of Research. A copy of this report will be maintained by each animal care and use facility.
- D. Review and investigate reasonable concerns and complaints regarding the care and use of animals.
- E. Make recommendations to the Office of Research regarding facilities, procedures, protocols, personnel and training pertaining to the care and use of animals in accordance with the Animal Welfare Act.
- F. Review research, teaching and external proposals to funding agencies for proper protocols and scientific merit only as it relates to the humane and safe treatment of animals.
- G. Standard operating procedures for care and use of animals will be discussed and approved by the IACUC that will be utilized by the institutions facilities.
- H. Protocols will be reviewed in accordance with previously approved formats by the IACUC for review of research, education and teaching, which will include:
 - 1. Review of the IACUC of proposed new protocols.
 - 2. Each protocol will be reviewed by the applicable chair.
 - 3. New protocols are sent to the IACUC members for review and comment and must be approved or provide alternative within 60 days.
 - 4. Protocols will be reviewed by the IACUC annually.

STANDARD OPERATING PROCEDURE: Animal Care and Use Complaints

- I. The IACUC will be the committee that provides access to information and a channel through which complaints may be directed, anonymously if so desired and without fear of reprisal, regarding the care and use of animals.
- II. Procedures
 - A. All complaints should be directed to the chairperson of the IACUC.
 - B. The chairperson of the IACUC will review the complaint and if necessary begin an inquiry of the situation.
 1. Call a meeting of the IACUC to discuss the complaint and if necessary inspect the applicable animal care facility or instructional laboratory.
 2. Notify the chief research office of the complaint.
 3. Inform the accused faculty or staff of the complaint.
 4. Take appropriate action and suspend animal use if deemed necessary by the IACUC and recommended to appropriate university officials.
 - C. If a violation of the university procedures are determined to be valid then the IACUC will:
 1. Contact the accused party of the violation and recommend appropriate steps for compliance within a specified time period.
 2. Monitor animal care and use by the accused party to ensure compliance with the university procedures.
 3. Notify chief research officer of the violation, and the appropriate chairperson and dean.
 - D. If a violation is not corrected within the specified time or the problem is too severe for immediate remedy as determined by a majority of the IACUC then the committee will:
 1. Immediately suspend animal care and use by the accused.
 2. Notify the chief research officer, the chairperson, and dean of the suspension.
 3. Notify OLAW.

STANDARD OPERATING PROCEDURES: Training of Animal Care and Use Personnel

I. Principle

To provide adequate training for all personnel involved in the care of animals and ensure humane treatment of animals in experimentation, research and teaching at the university.

II. Practice

- A. Animal caretakers will be made aware of the Animal Welfare Act and the PHS policies on the humane care and use of animals in research. This involves an appropriate understanding of the federal regulations and university policies and procedures on animal care and use by faculty and staff.
- B. Training will consist of review and study of animal care and use in the facility, including literature, training aids, and video presentations as it relates to the facility directors and consulting veterinarian.
- C. Training will include day to day care and use of the animals in the facility. This includes training on feeding, watering, handling, anesthesia, aseptic surgical techniques, euthanasia and the disposal of the animals.
- D. The Office of Research and Sponsored Programs will maintain an up-to-date resource reference for animal care and use including electronic data bases, library resources, IACUC procedures and protocols and other pertinent periodicals involving research and teaching.
- E. Evaluation of training will be accomplished by the Office of Research and Sponsored Programs and the IACUC chairperson.
- F. Records of attendance for training will be maintained by the IACUC chairperson.

STANDARD OPERATING PROCEDURE: Procurement of Research Animals

I. Principle

The use of animals in research requires healthy animals with known backgrounds.

II. Procedure

- A. Research animals will be purchased only from licensed, reputable animal dealers. Most frequently used vendors are: Harlan-Sprague-Dawley (HSD) (for rats, mice and gerbils), Town Line Poultry Farm (for chickens) and Coldwell's Rabbitry
- B. Before arrival, all investigators will contact the appropriate animal facility director with the number and species of animals to be purchased and the projected date of arrival of the animals. This will allow the animal facility to provide the appropriate housing and facilitates record keeping.
- C. Upon receiving the animals, the facility director or animal caretaker will notify the investigator of receipt of the animals and their condition. Any abnormal animal behavior or condition will be immediately reported to the investigator and the facility director.

STANDARD OPERATING PROCEDURE: Animal Health Check

I. Principle

All laboratory animals shall be observed daily for clinical signs of illness, injury or abnormal behavior by a person trained to recognize such signs. Weekend and holiday animal observations are provided by a rotating schedule of the animal facility director and the animal caretaker.

II. Procedure

- A. Observe all animals in each cage for mortality, signs of illness, injury or abnormal behavior.
- B. If an animal is found dead it should be placed in a plastic bag and labeled with the study number or animal number. The investigator should be notified immediately. If the animal is not on study, place animal in plastic bag and notify facility director who will decide if animal should be saved for necropsy or placed in freezer for disposal.
- C. If an animal is sick, injured or exhibits abnormal behavior, notify the investigator and the facility director. They will make the determination on the status of the animal, including if the consulting veterinarian should be called.

STANDARD OPERATING PROCEDURE: Animal Feeding

I. Principle

Animals receiving test materials in their diet, requiring food consumption measurement and/or receiving special diets are fed by authorized technicians. All other animals are fed on an ad lib basis by animal care personnel.

II. Equipment

The food storage container and the food scoop should be sanitized on a monthly basis. The date of sanitization should be noted on a visible spot on the food storage container. All food should be used before placing new food in the storage container to prevent any food from becoming stale.

III. Procedure

- A. All cages should be checked on a daily basis for the presence of food, the amount of food present and if the feeder is properly positioned on cage.
- B. All animals should be checked to ensure they are eating.
 - 1. If animal(s) appear to not be eating check:
 - a. That animal has access to water.
 - b. That animal is not maloccluded.
 - 2. If unable to remedy or ascertain problem, notify investigator or facility director.
- C. All food should be checked for moisture or contaminants. If moisture or contaminants are present, discard food, replace feeder if necessary, and replenish with fresh food. If the animal(s) is on study and receiving a special diet or a measured amount of food and the food becomes wet/contaminated, notify the investigator, one of his/her technicians or the facility director for instructions.
- D. Gauge amount of food dispensed by the number of animals present in cage. Feed no more than animal(s) can consume within 48 hours.
- E. If a supplemental diet (i.e., lettuce, carrots, seeds, etc.) is indicated, place proper amount in a site where animal has ready access to item(s).

STANDARD OPERATING PROCEDURE: Bottle Watering of Animals

I. Principle

Watering via water bottle is used for many species of small animals. Water bottles are filled with clean water and fitted with rubber stoppers and sipper tubes or one piece stainless steel sipper tops. Water bottles are checked daily to ensure that the animals have access to fresh, potable and uncontaminated water. Animals are regularly given fresh water 3 times per week. Water bottles and stoppers are washed once per week.

II. Procedure

- A. On days that all animals are to be watered all bottles are removed from cages and taken to the sink located in that room. Empty contents of bottle and refill with fresh water. Never "top off" a bottle. Replace all water bottles on cages.
- B. On the remaining days, all bottles should be checked for:
 1. Level of water in bottle:
 - a. If bottle is still full - check for blockage in sipper tube, an air lock or whether animal(s) are able to reach sipper tube
 - b. If bottle is empty - check for leak in bottle, stopper not put on properly, sipper tube too close to bedding or animal playing with sipper tube
 - c. General rule: If bottle is $\frac{1}{2}$ or less full empty bottle and replace with fresh water
 2. Debris in bottle (i.e., bedding, feces) - If present empty contents of bottle and replace with fresh water.

STANDARD OPERATING PROCEDURE: Washing Water Bottles

I. Principle

The washing of water bottles, stoppers and sipper tubes on a weekly basis is one way of ensuring that all animals receive fresh, potable and uncontaminated drinking water.

II. Procedure

- A. Remove all bottles to be washed from cages and transport to sink.
- B. Remove stoppers and place in a container containing a 1:128 solution of chlorine bleach. Allow to soak for a minimum of 5 minutes. After soaking stoppers, rinse in clear running water for a minimum of 5 minutes.
- C. Bottles are washed with a bottle brush and a 2:128 solution of Manu-Klenz detergent and warm water. Bottles should be scrubbed inside and out and then rinsed thoroughly to ensure that all soap residue is removed.
- D. When all bottles are washed determine the number of bottles needed. Fill those bottles with fresh water and place stopper firmly in neck of bottle. Place filled bottles on cages ensuring that each cage has a bottle. Any clean bottles and stoppers not needed at that time should be stored in the appropriate cabinet in the storage area.

STANDARD OPERATING PROCEDURE: Animal Waste Disposal

I. Principle

Animal waste is separated into three basic categories: 1) "waste" (feces, bedding, papers); 2) "dead animals" (tissues and carcasses); and 3) "solid waste" (glass, needles, scalpels). All animal waste will be collected, removed and disposed of in a safe and sanitary manner.

II. Procedure

- A. "Waste" is collected and placed in plastic garbage bags located in the animal care facility and transported daily to the closest dumpster.
- B. "Dead animals" (including tissues) are placed in a plastic bag and stored in the chest freezer designated for that purpose in the animal facility. Pick up of carcasses and tissues is done on a quarterly basis by BFI, Inc.
- C. "Solid waste" is collected and placed in proper containers labeled "Biohazard". Full containers are collected, boxed and picked up at the same time and by the same company as the animal carcasses and tissues.

STANDARD OPERATING PROCEDURE: First-Aid and Treatment of Animal Inflicted Bites/Scratches and Mechanical Wounds

I. Principle

Prompt treatment of any bite, scratch, cut, laceration or scrape.

II. Procedure

- A. For minor bites, scratches, cuts, lacerations or scrapes, wash affected area with anti-bacterial soap and water or Betadine and water. Place thin layer of anti-septic ointment over area and cover with a band-aid. Wear latex gloves while working to lower risk of infection until wound is healed. Notify supervisor of injury.
- B. For critical injuries, notify supervisor immediately and report to CMU Health Services. If unable to report to CMU Health Services on own or situation is life-threatening, call DPS or 911.

STANDARD OPERATING PROCEDURES: Sanitizing Animal Rooms

I. Principle

Keeping animal rooms as sanitary as possible lowers the risk of illness to both the animals and personnel.

II. Equipment

- A. Hose
- B. Vesta Foamer (filled with undiluted disinfectant only)
- C. Wet/Dry Vacuum
- D. Squeegee
- E. Mop and Bucket (filled with 1:128 dilution of bleach and water)

III. Procedure

- A. Service room as indicated on SOP for that day.
- B. Remove animals and all extraneous items from room.
- C. Sweep and remove all debris from floor.
- D. Spray walls, floor, door (inside and out), sink, ventilation grate (in ceiling) and any items unable to be removed from the room with the Vesta Foamer and let stand 10 minutes.
- E. When 10 minutes elapses, remove Vesta Foamer from hose nozzle and using only clear water rinse walls, sink, door, ventilation grate and floor and miscellaneous articles.
- F. Use squeegee to remove water from any high, flat surfaces e.g. sink, tables. Plug in vacuum and vacuum up all water.
- G. Following vacuuming of water, mop entire floor with bleach solution and let dry.
- H. Return animals and all extraneous items to proper place in room.
- I. Mark door to room and clipboard in room with date of sanitization.

STANDARD OPERATING PROCEDURE: Suspended Cage Rack Preparation (Indirect Bedding) For Newly Arriving Rodents

I. Principle

Animal cage racks are prepared just prior to arrival of new animals (not more than 24 to 48 hours prior).

II. Equipment

- A. Cage rack
- B. Food hoppers
- C. Pan liner(s) - blue pan liners
- D. Clean water bottles and stoppers
- E. Food barrel and food scoop
- F. Cage cards

III. Procedure

- A. Label cage cards with animals identification i.e. vendor name, date of arrival, date of birth, strain, investigator name, number of animals per cage, breeding animals, etc.
- B. Place cage rack in appropriate room, place liner(s) under appropriate number of cages, and secure food hoppers to cage.
- C. Place food in hoppers, filled water bottles and cage I.D. cards on cages only after animals have arrived in facility.

STANDARD OPERATING PROCEDURE: Transferring Animals to Clean Suspended Caging

I. Principle

Animals are transferred to clean suspended caging every two weeks.

II. Procedure

- A. Place clean rack in appropriate room.
- B. Place pan liner(s) under appropriate number of cages and secure food hoppers to cages.
- C. Place clean rack at a reasonable distance from soiled rack to easily and safely facilitate transferring animals.
- D. Starting with "first" cage, remove animal(s) from soiled cage and place in corresponding cage on clean rack. Transfer food and cage card from soiled to clean cage.
- E. Continue transferring animals , in order, until all animals are housed on clean rack and no animals remain on soiled rack.
- F. Place water bottles on cages and ensure that all animals have sufficient food.
- G. Indicate in visible site on rack the date that rack was switched and the date that rack will be due to be switched again (2 weeks).
- H. Remove pan liner(s) from soiled rack and transfer soiled rack to cage washing area.
- I. Sweep up all debris on floor and mop floor.
- J. Mark room chart with all activities performed, the temperature and humidity.

STANDARD OPERATING PROCEDURES: Cleaning Soiled Suspended Cage Racks

I. Principle

To ensure that suspended caging is properly and entirely sanitized before next use.

II. Equipment

- A. Cage wash room
- B. Hose
- C. Vesta Foamer filled with disinfecting agent ONLY
- D. Bunny tail or other scrubbing implement

III. Procedure

- A. Ensure all animals, cage cards, etc. are removed from the soiled rack.
- B. Remove soiled pan liners.
- C. Place soiled rack in cagewash area.
- D. Remove food hoppers from outside of cage and place inside of cage with opening facing front.
- E. Hose off entire rack with clear water to remove as much gross debris as possible.
- F. Attach Vesta Foamer to hose nozzle and spray entire rack and let stand minimum of 10 minutes.
- G. After 10 minutes, rinse entire rack with clear water.
- H. Check entire rack, including inside of all cages, to ensure that all soil has been removed. If any debris remains, utilize bunny tail or other scrubbing and detergent to remove soil.
- I. Rinse entire rack with clear water and allow to air dry.
- J. Place clean, dry cage in storage area.

STANDARD OPERATING PROCEDURES: Transferring Animals to Clean Caging with
Direct Bedding

I. Principle

Animals housed in polycarbonate caging with stainless steel wire tops are maintained on direct bedding i.e. pine shavings (1-inch depth). The number of times that they are to be transferred to clean quarters depends on the species housed therein and the number of that species housed therein. The entire caging system i.e., polycarbonate cage, stainless steel wire top and the bedding should be switched minimally once per week.

II. Procedure

- A. Determine number of clean cages and lids needed and place on cart.
- B. Fill clean cages with approximately 1-inch of bedding (pine shavings).
- C. Proceed to room where animals to be switched are housed.
- D. Place first cage to be switched on cart.
- E. Remove and set aside water bottle.
- F. Place clean lid on clean cage and empty food from soiled cage lid to clean cage lid.
- G. Transfer animal from soiled cage to clean cage by grasping animal by base of tail. Count and note number of animals per cage while transferring. Check sex of each animal as it is transferred to determine that all cages contain same sex animals unless cage is denoted as breeders.
- H. Transfer any and all information from soiled cage to clean cage, making any changes needed (e.g. number of animals present in cage).
- I. Place lid securely on cage, replace water bottle and replace cage on rack.
- J. Proceed in same fashion until all cages have been switched.
- K. Remove soiled cages from room to remove soiled bedding to trash then place soiled cages in cagewash area to be sanitized.

STANDARD OPERATING PROCEDURE: Changing Indirect Bedding (Pan Liners)

I. Principle

Animals housed in suspended stainless steel caging are maintained on indirect bedding. DACB (deotized animal cage board) is utilized.

II. Practice

A. Obtain trash barrel and proceed to room where indirect bedding needs changing.

B. If rack has removable waste trays:

1. Remove tray from rack and set on cart.
2. Remove soiled pan liner and place in trash barrel.
3. Place properly sized clean pan liner on tray and replace on rack.
4. Repeat until all pan liners have been switched.

C. If rack does not have removable waste trays:

1. Pull off soiled cage board and place in trash barrel.
2. Replace with properly sized, clean cage board
3. Repeat until all pan liners have been switched.

STANDARD OPERATING PROCEDURE: Power Outage

I. Principle

To provide a procedure consistent with university policy to deal with planned and unplanned power outages so that animal care is not significantly affected.

II. Procedures

A. Planned Electrical Power Shutdowns:

1. Prior to planned electrical power shutdown, the appropriate building coordinator is notified in writing of the proposed shutdown.
2. The building coordinator then contacts the animals facility director and arranges for auxiliary power to be supplied to the animal quarters.

B. Unplanned Electrical Power Outage:

1. The building coordinator will contact the animal facility director of the power outage and provide an estimate of the time required to restore power.
2. In the event that power cannot be restored within a few hours, the facility director through the building coordinator will then arrange for auxiliary power for the animals quarters until normal power can be restored.

STANDARD OPERATING PROCEDURE: Euthanasia

I. Principle

To provide a rapid and painless death to prevent or eliminate animal suffering.

II. Method

There are many methods of euthanasia, though the most widely used method for small animals utilized in research is CO₂ (carbon dioxide) narcosis. This method can be and is utilized for all of the species currently housed in this facility.

III. CO₂ Narcosis Method

A. Equipment

1. Euthanasia chamber
2. CO₂ tank fitted with appropriate pressure regulator

B. Procedure

1. Place animal in chamber as gently as possible using the proper restraint method for that species and replace lid on chamber. Turn on CO₂ at a low flow rate for approximately 30 seconds. Turn off gas and wait for animal(s) to appear "down." Turn on CO₂ supply for an additional 30 seconds to ensure that all room air is evacuated from the chamber. Animals may be left in chamber for approximately 30 minutes to assure death of animal(s).
2. If animal(s) need to be removed immediately then a second assurance of death must be performed.

Acceptable forms of assurance of death are:

- a. bi-lateral pneumothorax
- b. cervical dislocation
- c. decapitation
- d. removal of one or more vital organs

IV. Following assurance of death, place animal(s) in appropriately-sized body bag and place in freezer for proper disposal at a later date. Under no circumstances should carcasses be placed in the trash.

STANDARD OPERATING PROCEDURE: Acceptable Alternate Forms of Euthanasia

I. Principle

CO₂ narcosis may not always be an appropriate or available form of euthanasia. Therefore, acceptable alternative methods and procedures are listed below.

II. Barbiturate Overdose

A. Equipment

1. Syringe and needle appropriate for species and size.
2. Sodium pentobarbital or commercial euthanasia solution.
3. Proper dosage for species, size and drug used.

B. Procedure

1. Determine proper dosage amount and proper route of administration.
2. Properly restrain animal.
3. Place animal back in cage.
4. After death has occurred, perform assurance of death and place animal in freezer for proper disposal.

III. Cervical Dislocation (For mice and small chickens only.)

A. Procedure

1. Remove animal from cage and place on flat, stable surface.
2. Place pencil on back of neck and apply slight pressure.
3. Grasp tail at base as close to body as possible and pull straight back while still applying slight pressure to back of neck. Popping sensation should be felt if done correctly and respirations and heart beat will cease.
4. Perform assurance of death and place in freezer for proper disposal.

STANDARD OPERATING PROCEDURE: Analgesia and Anesthesia

I. Principle

To provide a humane means of eliminating pain and consciousness in research animals in accordance with AVMA guidelines. Muscle relaxants or paralytic drugs (succinyl choline, pancuronium Br, curare, etc.) are not anesthetics and should not be used as such.

II. Sodium Pentobarbital Anesthesia for Rats and Mice

A. Equipment

1. Sterile syringe and needle of appropriate size and gauge.
2. Sterile pentobarbital solution.

B. Procedure

1. Obtain animal to be anesthetized and weigh to ascertain correct weight.
2. Calculate out accurate dosage and prepare syringe.

Mouse - 40 mg/kg IP or IV for sedation 50-90 mg/kg IP for surgical anesthesia

Rat - 40 mg/kg IP or IV for sedation 60-100 mg/kg IM for surgical anesthesia

Gerbil - 60-100 mg/kg IP

3. Determine route of administration and properly restrain animal for delivery of anesthesia.
4. Following injection, place animal in cage (alone) and wait for animal to lose consciousness. Monitor animal for heartbeat and respirations.
5. If 10 to 15 minutes has elapsed and animal is still not in surgical plane of anesthesia, additional small amounts (10-20 mg/kg) of anesthesia may be administered by the same route.
6. Animal should be monitored frequently throughout course of procedure by the same route.

PROGRAM OF ADEQUATE VETERINARY CARE

FACILITIES

Animal rooms will be used solely for animals involved with approved activities. Central Michigan University shall be responsible for providing all equipment necessary to operate the animal facilities. The veterinarian shall be available for consultation on procurement and operation of the equipment.

DISEASE PREVENTION AND TREATMENT

To prevent disease it is our goal to procure selected, pathogen-free animals. Every effort will be made to maintain separation of species to limit cross-species transmission of disease.

Diagnosis of animal disease will be the responsibility of the consulting veterinarian. Whenever an illness or injury is discovered, the investigator shall make the determination whether or not to euthanize the animal. Euthanasia shall be conducted according to the AVMA guidelines. If treatment is elected, the veterinarian shall be contacted. Dr. Osbeck's office number is (989) 773-3969. Dr. Osbeck's home number is (989) 772-9257. Dr. Osbeck's cell phone number is (989) 289-0261. If necessary, additional diagnostic services may be requested of Michigan State University.

Veterinary care will be available at all times. If Dr. Osbeck is going to be unavailable, arrangements will be made to provide a "back-up" veterinarian. Veterinary visits to the facility will be on an as necessary basis.

USE OF ANESTHETIC DRUGS

A program has been established to ensure the appropriate use of drugs. Through review of applications to use animals, the Central Michigan University Institutional Animal Care and Use Committee, along with the consulting veterinarian, will review the selections and dosages of anesthetics, analgesics, and tranquilizers. The consulting veterinarian shall be available for consultation regarding the use of those agents.

EUTHANASIA

Procedures for euthanasia are reviewed by the Central Michigan University Institutional Animal Care and Use Committee and the consulting veterinarian. Euthanasia is performed according to AVMA guidelines.

PROCEDURAL CARE

Investigators must anticipate any probability of adverse effects to the procedural animals. Pain and stress relieving measures must be given in their application. The consulting veterinarian will pass judgment on those procedures.

SUBMITTED: Neal Osbeck, DVM

ANIMAL CARE STANDARD OPERATING PROCEDURES

CHICKENS

DAILY:

Check health status of all animals; report any abnormalities to supervisor.

Change all pan liners.

Remove, rinse and refill water troughs fully with fresh water.

Check food levels and replenish when necessary. Feed no more than can be consumed within 48 hours.

Dispose of wet or contaminated food.

Sweep entire floor.

Mark room chart with all activities performed, temperature, humidity and initials.

3 TIMES WEEKLY: (M-W-F)

Sweep and mop floor (moving all movable objects).

WEEKLY:

Record census count.

Clean sink.

Empty small trash barrel (more often if needed; replace bag if necessary).

TWICE MONTHLY:

Switch entire rack. Mark clean rack with date switched and the next date rack is to be switched.

MONTHLY:

Sanitize food barrels.

Sanitize trash barrels.

QUARTERLY:

Sanitize entire room.

CRICKETS

DAILY:

Check condition and level of water daily. If ring appears dirty or slimy or water level is less than 25% of jar, wash entire apparatus (jar, ring and base) and refill with distilled water only.

Check cricket food (corn meal). If food appears low or wet or cricket-specked, replace with fresh corn meal (3 scoops topped with cricket calcium builder).

Discard any "used" vegetable/fruit scraps.

Check light bulb and replace when necessary (no more than 50 watts).

TWICE WEEKLY:

Wash water apparatus and replace with fresh distilled water.

Remove waterer, food dish and egg carriers and sweep entire box.

Add small amount of vegetable/fruit scraps (in fridge).

3 TIMES YEARLY:

Sanitize entire cricket box.

NOTE:

Shipment arrives every 2 weeks (usually Tuesdays).

Cricket house should be prepared prior to arrival of new crickets.

Prep: Food dish - Remove, Empty, wash and refill (if necessary)

Waterer - Remove (try not to spill), Wash in entirety (if necessary)

Discard egg carton pieces

Sweep entire floor of box.

Take care not to toss out any crickets that might remain from last shipment.

FROGS

DAILY:

Check health status of colony.
Remove and properly dispose of any expired animals. Report any abnormalities to supervisor.
Check water flow into tank.
Check lid is on properly - if not check floor for escapees.

TWICE WEEKLY:

Feed.
Estimate number of frogs in tank and place like number of crickets in tank.
Replace lid securely.

TWICE MONTHLY:

Clean tank.
Remove frogs from tank and place in a lidded container with a small amount of water.
Secure lid.
Drain water from tank.
Scrub sides and bottom with sponge (NO DETERGENTS!).
Rinse tank.
Replace stopper and allow tank to refill.
Replace frog in tank.

GERBILS

DAILY:

Check health status; report any abnormalities to supervisor.
Check food levels. Feed only enough to last approximately 48 hours. (FYI: An adult gerbil will eat about 6-8 grams of food per day. This equals out to about 1 larger pellet per animal per day.)
Check water level. Refill with fresh water when bottle is 1/2 (or less) full. Empty bottle and replace with entirely fresh water - DO NOT "TOP-OFF".
Sweep as necessary.
Mark room chart with all activities performed, temperature, humidity and initials.

3 TIMES WEEKLY: **(M-W-F)**

Give all animals fresh water.

WEEKLY:

Switch cages and lids.
Wash all water bottles and stoppers.
Give each cage a small amount (depends on number of animals per cage) of seed treat.
Perform census count.
Empty trash barrel (more often if needed).
Clean sink.

MONTHLY:

Sanitize shelving unit.
Sanitize food barrel.
Sanitize trash barrel.

QUARTERLY:

Sanitize entire room.

MICE

DAILY:

Check all animals; report any abnormalities to supervisor.
Check food levels. Feed as necessary. Do not feed more than what will be eaten in approximately 48 hours.
Check water levels. If bottle is 1/2 or less full, empty contents and refill with fresh water. Do not "top-off."
Sweep (as necessary).
Mark room chart with all activities performed, temperature, humidity and initials.

3 TIMES WEEKLY: **(M-W-F)**

Water all animals.
Move all moveable objects and sweep entire floor.
Mop floor.

TWICE WEEKLY:

Switch any cages that have pups more than 10 days old.

WEEKLY:

Switch all cages and wire lids.
Wash all water bottles and stoppers.
Perform census count.
Clean sink.
Empty trash barrel (more often, if necessary).

MONTHLY:

Sanitize shelving unit(s).
Sanitize trash barrel.
Sanitize food barrel.

QUARTERLY:

Sanitize entire room.

RABBITS

DAILY:

Check all animals; report any abnormalities to supervisor.

Feed all animals.

1. Rabbits 5 lbs. or less should be fed 5 ounces of chow.

2. Rabbits over 5 lbs. should be fed 6 ounces of chow.

Discard any uneaten food from previous day. Amount of uneaten food should be noted on animal's cage chart.

Replenish water. Empty remaining water from bottle and give fresh water. Do not "top-off".

NOTE: Water should be checked twice daily and replenished as necessary.

Sweep floor (as necessary).

Mark room chart with all activities performed, temperature, humidity and initials.

3 TIMES WEEKLY:

(M-W-F)

Change pan liners

Move all moveable objects and sweep entire floor.

Mop entire floor.

WEEKLY:

Wash all water bottles and stoppers.

Perform census count.

Clean sink.

Empty trash barrel (more often if necessary).

TWICE MONTHLY:

Switch rack.

Mark rack with date switched and the date rack due to be switched again.

MONTHLY:

Sanitize food barrel.

Sanitize trash barrel.

QUARTERLY:

Sanitize entire room.

RATS

DAILY:

Check all animals; report any abnormalities to supervisor.
Check food levels. Feed as necessary. Do not feed more than rats will eat within 48 hours.
Check water levels. If bottle is 1/2 or less full, empty contents of bottle and refill with fresh water. Do not "top-off".
Sweep floor as necessary.
Mark room chart with all activities performed, temperature, humidity and initials.

3 TIMES WEEKLY: **(M-W-F)**

Fresh water to all animals.
Change pan liners.
Move all moveable objects and sweep entire floor.
Mop entire floor.

WEEKLY:

Wash all water bottles and stoppers.
Perform census count.
Clean sink.
Empty trash barrel (more often if necessary).

TWICE MONTHLY:

Switch entire rack. Mark rack with date switched and the date rack next due to be switched.

MONTHLY:

Sanitize food barrel.
Sanitize trash barrel.

QUARTERLY:

Sanitize entire room.

REPTILES, AMPHIBIANS, ETC. (RM.116 & AVIARY)

DAILY:

Check all animals; report any abnormalities to supervisor.
Check all water levels. Replenish as necessary with distilled water only on NON-VENOMOUS animals. Any VENOMOUS animals needing water or cleaning should be reported to supervisor or Dr. Gillingham.
Check turtles. Ensure filters are working properly. Add water to enclosures when necessary.
Sweep floor as necessary.
Record all activities performed, temperature, humidity and initials in log book.

3 TIMES WEEKLY: **(M-W-F)**

Feed geckos, turtles and iguanas*.
* Number of times per week that iguanas get fed depends on ambient temperature. Gauge number of times fed by food intake on previous day(s).

TWICE WEEKLY:

Feed indicated snakes and frogs.
Clean turtle boxes.
Wash cricket waterer.
Sweep and mop floor (116).
Sweep aviary.

WEEKLY:

Feed indicated snakes, Gila monster, alligators and caimans.
Clean cages (more often, if necessary).
Wash all water dishes (NON-VENOMOUS ONLY).
Clean counters and shelves (more often if necessary).

MONTHLY:

Sanitize trash barrel.

QUARTERLY:

Sanitize room.

PLEASE NOTE:

All information regarding these animals must be recorded in the log book.
Daily temperature and humidity readings must be recorded.
Distilled water only is used for all purposes in this room.

STANDARD OPERATING PROCEDURES: EQUIPMENT & SUPPLIES

BOTTLES & STOPPERS:

Bottles and stoppers are to be sanitized one time per week.

Bottles: Wash with hot water and proper dilution of Manu-Klenz for the amount of water used. Scrub with bottle brush and rinse well. Determine number of bottles needed and refill with fresh water. Any clean bottles not needed must be returned to proper place in storage cupboard.

Stoppers: Soak stoppers in hot water and proper dilution of bleach for the amount of water used. Stoppers must be soaked for a minimum of 5 minutes. Following soak, stoppers must be rinsed in clear, running water for a minimum of 5 minutes. Any stoppers not needed must be returned to proper place in storage cupboard.

POLYCARBONATE CAGING AND WIRE LIDS:

These items are, as a rule, cleaned with detergent and the Vesta Foamer.

When first placed in the cagewash area the polys (cages) should be rinsed with plain hot water to remove the majority of debris left in the cages after dumping the bedding. The cages should then be sprayed with the foamer (inside and out) and allowed to set for approximately 10 minutes. They should then be rinsed with clear water and checked carefully for any remaining debris. If it is necessary, the cages should be scrubbed with a bunny tail and re-rinsed. Cages should then be allowed to air dry before being placed in their proper place in the storage area.

Stainless steel wire lids are sanitized in the same manner as the polycarbonate caging. The lids may be stacked 4 or 5 high to facilitate the amount of time needed to clean them. Once lids are sanitized they may be combined for the purposes of drying. Once lids are dry they should be placed in their proper location in the storage area.

SHELVING UNITS, RACKS, PANS, GRATES, FEEDERS & WATERERS:

Shelving units must be switched and sanitized once per month.

Place soiled shelving unit in cagewash room. Spray with hot water to remove any obvious debris. Then spray entire unit with Vesta Foamer and detergent. Allow to set 10 minutes then rinse with clear water. Allow to dry totally before using again. Mark rack with date of sanitization.

Rat racks must be switched every two weeks.

After switching, remove soiled pan liners to trash. Place soiled rack in cagewash room. Remove pans (if used) and set aside. Remove all cages that were used and set aside. Spray rack with hot water to rinse away as much debris as possible. Attach Vesta Foamer to hose nozzle and spray entire rack (top to bottom) with detergent. Let stand 10 minutes then rinse. Check rack carefully for any remaining debris. If necessary, scrub any areas with stubborn debris with detergent and a bunny tail. Re-rinse rack and double-check for debris. If clean, allow majority of water to drip off in cagewash area before placing in storage area. If debris remains, repeat above steps until rack is clean.

Pans and cages that were set aside can now be sprayed with hot water first, then with detergent and allowed to set for 10 minutes. Following rinsing of these items, scrubbing with bunny tail and detergent may be necessary if any debris remains. Re-rinse item and allow majority of water to drip off before placing back on rack.

Feeders that attach to outside of rat cage should be sanitized at the same time as the cage and then replaced in the cage before being placed back on rack. Scrubbing the feeder with a bunny tail is the most effective method of cleaning.

Chicken racks must be switched every two weeks.

Remove animals to clean caging, separating into smaller groups, if necessary. Remove soiled pan liners and move soiled rack to cagewash room. Remove food and water troughs, waste pans and grates and set aside. Dismantle all removable parts of rack. All pieces of the rack should be sprayed with detergent and allowed to set for 10 minutes. If necessary, difficult to remove debris should be scrubbed off with a bunny tail. Rinse with clear water and allow pieces to dry before re-assembling rack. Place rack in storage area.

Rabbit racks must be replaced every two weeks.

Follow instructions for sanitizing chicken racks.