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SOP FOR ANIMAL RECEIVING

RODENTS (twice a week)

When receiving rodents, the following procedures need to be followed:

1) Take the rodent boxes to the designated receiving room of the facility and spray them with Alcohol 70% (do not spray the floor)

Receiving room for HSC-------- ZNI B-107

Receiving room for UPC ------ RRI B-4

Different vendors for rodents: Charles Rivers, Harlan, Simonsen, Jackson, Taconic and Hill Top

2) Before signing for the animals, verify that the orders belong to the appropriate Facility/Campus. If there is a mistake on the delivery address, confirm with the driver and try to correct the delivery by sending it to the right destination. If it is our mistake, receive the box(es) and call the appropriate destination to arrange transportation via our van (usually boxes that belong to UPC/HSC or vise versa). Reject any orders that belong to other Facilities or Universities.

3) With the schedule of deliveries, identify all the boxes by Campus:

HSC-------- Animals for: ZNI, HMR, IGM, DOH and MMR

UPC-------- Animals for: RRI, GER and HNB

Verify the order #, vendor, species, sex, quantity, and age. With a black marker, write on the box the facility that it belongs to, along with the name of the PI. Once all of the orders have arrived for a facility, call the appropriate personnel to come and pick up the animals and house them as soon as possible to avoid the animal remaining in the box for a long period of time.
HOUSING RODENTS

1) Once animal boxes have been identified with the proper PI name, using the computerized cards, obtain the DOB (date of birth) from the animal box or packing slip. Write the DOB on every ID card and the quantity of animals per cage desired. If pregnant animals are received, provide the PLUG DATE in the ID card. Pregnant animals MUST be housed one per cage (individually) unless otherwise noted by the PI.

2) Remove the packing slip from the box and attach it to the V1 form or Animal Purchase Request verifying one more time that what was ordered was received.

3) Take the animal box (es) to the designated animal room. Do the housing according to the room sequence of the facility.

4) Designate where the animals (mice or rats) are going to be housed (which rack) and find clean empty cages.

5) Use your PPE, carefully open the animal box inside the hood (if provided). OPEN ONE BOX AT A TIME.

6) Get one clean cage, open the filter top, insert and ID card in the ID holder, check the animal’s SEX and verify with ID, transfer the quantity of animals (by the base of the tail one at the time) designated by the ID into the clean cage, provide fresh food, provide fresh water (bottle or valve), close the filter top and return the cage to the rack. Repeat steps until box is empty.

7) Verify that the box is COMPLETELY EMPTY by moving the bedding with your hand and make sure ALL the animals are out before discarding the box.

8) Repeat steps 1 thru 7 until all orders have been housed.

9) Notify the appropriate person (Person to be notified) of the arrival of the animals and fill out the bottom part of the Animal Purchase Request. Please notify them of any EXTRA animals they received and ask if they want them or not. If they do, please remind them that the EXTRA animal (s) will be deducted from their PROTOCOL accordingly. If they don’t want them, please notify the Business office to make other arrangements.

10) DOA (Dead on Arrival) If DOA, notify the person to be notified and ask them to call the Business office for arrangements of Replacing or Credit.

11) Log all the animal orders in the Facility LOG IN BOOK

12) Log all the animal orders in the PER DIEM CARDS accordingly - by PI, PROTOCOL#, and ACCT#

13) Received all the Animal Orders in ARM (Animal Resources Management) and stamp them with the date received and initial the stamp.
RECEIVING AND HOUSING DOGS

When receiving dogs, the following procedures need to be followed:

1) Be at the facility early to receive the dogs with your documentation ready (Animal orders, ID cards, etc.)
2) Visually inspect the vehicle making the delivery and the way the dogs are housed in the vehicle (make your own notes and share with Veterinarians and Manager if anything wrong is noticed).
3) Unload the dogs (usually in crates) and take them into the facility.
4) Check dogs’ personality before uncrating; if the dog is aggressive, ask for assistance from the driver. If the dog is uncontrollable, REJECT IT!
5) When uncrating the dogs, check the tattoo # (usually in one ear) against the USDA form from the driver. Also, check the sex of the dog against the animal order.
6) Once all the dogs are unloaded and uncrated, proceed to sign the USDA form and include the following information on the form: Vehicle License Plate #, driver’s license #, full name of driver, quantity of dogs received and condition of the dogs.
7) Provide fresh food and water to the new Trojan Dogs! If in automatic watering system, clean the drinking valve and drain old water out of the line.
8) Fill out the Animal Purchase Form and notify the contact person of the arrival of the dogs, give the ID cards to the veterinarian in charge of processing the dogs and log in the new dogs in per diem cards and login book.
9) Clean up the dirty path (bedding) from the loading dock to the animal rooms caused by the delivery. “DO NOT PUT WOOD SHAVINGS IN THE DRAINS.”
10) Receive animal orders in ARM at the end of the day.
RECEIVING AND HOUSING GUINEA PIGS

When receiving Guinea Pigs, the following procedures need to be followed:

1) Identify the animal order with the schedule of deliveries
2) Provide the DOB on the ID card, verify sex, size, color, etc. the number of guinea pigs per cage is determine by the size of the animal.
3) Wear your PPE and go to the designated room to house the guinea pigs
4) Pickup the guinea pig one at the time with both hands gently squeezing to avoid jumping.
5) Transfer to a clean cage
6) Repeat sequence until box is empty
7) Provide fresh food and water
8) Log in new arrivals in per diem card and books
9) Notify contact person and/or investigator
10) Attach USDA form and packing slip to animal purchase form verifying that all is correct.
11) Receive the animal order in ARM at the end of the day and send completed orders to the business office.
RECEIVING AND HOUSING PIGS

When receiving pigs, the following procedures need to be followed:

1) Be at the facility early to receive the pigs, have all your documentation ready (Animal purchase order, ID cards, etc.)
2) Always ask for assistance when unloading heavy pigs
3) Take crated pigs to the designated animal room and uncrate them one at the time to avoid injuries and mixing animals in the room
4) Once pigs housed, provide clean and fresh water to the new Trojan Pigs. If in automatic system, clean drinking valve and drain old water out of the line. Identify the pigs by PI, Order #, Protocol #, etc., using the computerized cards provided and designate a sequence number to each of the pigs from the pig book. Make sure to check the sex of the pig and match it with the order.
5) Clean up the messy mess from the loading dock, elevator, halls and animal rooms left behind by pigs. “DO NOT PUT WOOD SHAVINGS IN THE DRAIN”
6) Log in new pigs in per diem cards and in receiving book
7) Notify Investigator or contact person and fill out the Animal purchase form
8) Receive animal orders in ARM at the end of the day

RECEIVING AND HOUSING RABBITS

When receiving rabbits, the following procedures need to be followed:

1) Have the clean cages and the ID cards ready the previous day
2) In automatic watering system, connect the water hose to the rack and test the drinking valve before housing the rabbit. If bottles are being used, have them clean and ready.
3) Receive and house the rabbits one at the time matching the information from the ID card and Animal purchase form against the rabbit being housed
4) Supply one alfalfa cube and a plastic chain to each new rabbit
5) Feed them fresh rabbit chow
6) Once all rabbits are housed, log in the new rabbits in the per diem cards
7) Fill out the animal purchase form notifying the contact person in the form
8) Receive the new rabbit orders in ARM at the end of the day and send completed orders to business office
SOP FOR SERVICING ANIMAL ROOMS

Animal Rooms with Mice or Rat Ventilated Racks

When servicing Mice or Rat rooms with ventilated racks, the following procedures need to be followed:

Wear your PPE (Personal Protection Equipment; Disposable gown, face mask, gloves, shoe covers and head covers)

1) Check each cage with your flash light and observe the following:
   A) Sick animals (follow procedures if you find any sick animals)
   B) Dead animals (follow procedures if you find any dead animals)
   C) Overcrowded cages (follow procedures if you find any overcrowded cages)
   D) Newborn animals (write on ID card in pencil the DOB)
   E) Flooded cages
   F) Check food (regular and special diets, too)
   G) Check for leaks on ventilated racks
   H) Log your findings in the Animal and Room Care Sheet (ARCS)

2) Clean Animal room:
   A) Remove all dirty cages from hood and floor
   B) Clean (using disinfectant) the hood, door, door frame and sink
   C) Take the trash out and replace trash liner
   D) Sweep and mop the floor
   E) Check the light timer if applicable (new facilities have computerized light controls)
   F) Complete the Animal and Room Care Sheet including room temperature and humidity
   G) Report to PI’s any sick or dead animals and log in facility records
Animal Rooms with Regular Static Micro Isolator Mice, Rat, Guinea Pig and Hamster Cages

When servicing these rooms with static micro isolator cages, the following procedures need to be followed:

Wear your PPE (Personal Protection Equipment)

1) Check each cage with your flashlight and observe the following:
   A) Sick animals (follow procedure if you find any sick animals)
   B) Dead animals (follow procedures if you find any dead animals)
   C) Overcrowded cages (follow procedures if you find any overcrowded cages)
   D) Newborn animals (write on ID card in pencil the DOB)
   E) Check water bottle for leaks or if they need to be refilled
   F) On rat racks with automatic watering, check for leaky valves
   G) Check food
2) Remove all the dirty cages from hood and floor
3) Clean (using disinfectant) door and door frame, hood and sink
4) Take the trash out and replace trash liner
5) Sweep and mop the floor
6) Check light timers switch (it should be on down position)
7) Complete the Animal and Room Care Sheet including room temperature and humidity
8) Report to the PI’s of any sick or dead animals were found and log in facility records
9) Report to the main office (2-1689) any sick animals for treatment

SOP for Nude Guinea Pigs

When housing Nude Guinea Pigs, they should be housed in filter top cages with sterilized bedding, RO water, and Purina Certified Guinea Pig Diet 5026.

Changing Cages (always change one cage at a time)

Wear your PPE (Personal Protection Equipment)

1) Sterilize the cages as sets: cage bottom, wire bar lid, bottle, feeder and filter top
2) Using clean gloves, transfer one guinea pig at a time to the clean cage
3) Fill up the water bottle with R/O water
When changing rabbit cages the following procedures need to be followed:

Wear your PPE (Personal Protection Equipment)

1) Prepare a clean cage rack with clean bedding in trays; make sure bedding is spread evenly on the tray
2) On automatic watering systems
   a. Connect the cage rack to the automatic water line
   b. Open the bottom and top drain valves
   c. Run water in the manifold for a few minutes to clear the manifold of old water
   d. Close the bottom valve and leave the top valve open to “bleed” the air out of the line
   e. Once there are no air bubbles visible, close the top valve. With the manifold full of water and connected to the water line, test each drinking valve in each cage and make sure there is water flow
3) For cages with bottles
   a. Use washed plastic bottles and clean stoppers
   b. Fill bottles with clean water
   c. When attaching the bottle to the cage, make sure that the sipper tube passes through the cage allowing the tip of the tube to dispense water to the rabbit
4) Transfer one rabbit at a time from the dirty cage to the clean one as follows:
   a. Transfer ID card to clean cage, open dirty cage and approach the rabbit from the top slowly, if the rabbit is aggressive, use a towel to cover his eyes or ask for assistance.
   b. Grab the rabbit by the scruff of the neck with one hand and lift the rabbit from the bottom hind legs with the other hand being careful not to get any toe nail stuck on the cage floor.
   c. Bring the rabbit closer to your body pressing lightly against you to avoid injuries to both, the rabbit and you
   d. Move rabbit to clean cage, be careful as it might kick once in clean cage
   e. Close cage.
   f. Repeat procedures until all rabbits are changed
5) Once all the rabbits are changed, proceed to fill up the feeders with fresh food
6) Give one alfalfa cube per rabbit, unless otherwise noted in the cage
7) Check that every rabbit has a toy (plastic chain, plastic ball, etc.)
8) Disinfect the animal room using Sunkleen 45
9) Take notes of any problem such as sick animals, room problems, etc., and call the appropriate people
10) Clean counters and sinks, clean doors and door frames, take out trash, and mop the floor
11) Fill out the Animal and Room Care Sheet
12) Take per diem inventory from the board

RABBITS

SOP for Servicing Rabbit Rooms (DAILY)

When servicing rabbit rooms, the following procedures need to be followed:

Wear your PPE (Personal Protection Equipment)

1) Check animals health
2) Check food and refill with fresh food and alfalfa cubes
3) Check water on automatic system. Check for leaks and make sure there is water flow on every drinking valve on every cage. On cages with bottles, rinse the bottles and refill with fresh water. Please observe that if a water bottle is still full since from the day before, there might be a water obstruction on the sipper tube. Replace the tube and test it for flow before giving to the rabbit and make sure the rabbit is fine.
4) Clean the air vents for rabbit hair and dust
5) Clean the doors and door frames
6) Clean the sink and refill the paper towel dispenser
7) Take the trash out
8) Sweep and mop the floor
9) Fill out the animal and room care sheet, including humidity once a week
10) Make all your phone calls and notifications of your findings if any
11) Take per diem inventory from the board
MICE AND RATS

SOP for changing mice and rat cages in ventilated racks (WEEKLY)

When changing mice or rat cages in ventilated racks, the following procedures need to be followed:

Wear your PPE (Personal Protection Equipment)

1) Bring a load of autoclaved cages to the animal room
2) Set up the alcohol sponge and bring fresh food next to the working area
3) Move the changing station or hood next to the rack to be changed
4) Do not clutter the working area of the changing station, this will eliminate the proper air flow
5) Start changing cages from top to bottom on the first left row of the rack, and work from left to right row leaving the cages in the original order
6) Pull out the first cage with animals and take it to the changing station
7) Turn changing station “ON” making sure the sash is down and open the cage
8) Dip your gloved fingers in the alcohol sponge and transfer animals to a clean cage one at the time grabbing them by the base of the tail.
9) CHANGE ONE CAGE AT A TIME AND DIP YOUR FINGERS IN THE ALCOHOL SPONGE BETWEEN EACH CAGE CHANGE
10) When changing the cage, check the quality of the food, if it needs to be replace, dump the old food and refill with fresh food.
11) Check the automatic water drinking valve for good flow or bad leak
12) Continue changing cages until all the animal racks are changed
13) Change wire bar lids twice a month
14) Change filter tops once a month, when changing tops make sure the ID card stays with the original cage (do not mix ID cards)
15) Use any empty clean cages (sets) from the racks, to change and rotate them
16) Change complete racks quarterly, wash and sterilize before use
17) Take all the dirty cages to the dirty cage wash room
18) Service the animal room
19) Fill out the ARCS (animal and room care sheet)
20) Take per diem inventory from the board
MICE AND RATS

SOP for changing mice and rats static micro-isolator cages (BI-WEEKLY)

When changing regular static micro-isolator mice and rat cages, the following procedure needs to be followed:

Wear your PPE (Personal Protection Equipment)

1) Bring a load of clean cages to the animal room
2) Set up the alcohol sponge and bring fresh food to the working area
3) Bring the animal changing station (if using one) next to the rack of cages to be changed and turn it "ON"
4) Bring water bottles and wire bar lids if they are due to be changed
5) Start changing cages from top to bottom on the left row of the rack, and work from left to right row leaving the cages in the original order
6) Pull out the first cage with animals and take it to the changing station or cart
7) Transfer the ID card to the clean cage
8) Dip your gloved fingers in the alcohol sponge and transfer the animals using the appropriate technique
9) CHANGE ONE CAGE AT A TIME AND DIP YOUR FINGERS IN THE ALCOHOL SPONGE IN BETWEEN EACH CAGE CHANGE
10) When changing the cage, check the quality of the food, if it needs to be replaced, dump the old food and replace with fresh food
11) Change the wire lid if is due to be changed
12) Change the water bottle if is due to be changed; if not, refill with fresh water. In automatic watering check drinking valve for good flow or bad leak
13) Close the cage and return to original space
14) Continue changing cages until all the racks are changed
15) Change the cage racks twice a month
16) Change the filter tops once a month
17) Take all the dirty cages to the dirty side of the wash room
18) Service the animal room
19) Fill out the ARCS (Animal and Room Care Sheet)
20) Take per diem inventory from the board
DOGS

SOP for servicing dog rooms (DAILY)

When servicing dog rooms, the following procedure need to be followed:

Wear your PPE (Personal Protection Equipment; Rubber boots, gloves, ear plugs, face mask and disposable gown or water repellant gown)

1) Check the health of all the dogs in the room before starting cleaning
2) Start with the first run, letting the dog out to socialize while the run gets disinfected (do not get the dog (s) wet)
3) With the dog out of the run, spray the run, walls, water drinking valve and feeder with disinfectant Sunisol Ultra
4) Rinse off all of the fecal matter down to the drain trench (do not open the trench water valve nor the flush drain, open until the last run is rinsed in order to save water)
5) Rinse all components of the run very good
6) Return the dog to his run and repeat with the following run
7) Once all runs are rinsed, open the flush trench and drain valve to flush all fecal matter down the drain
8) Squeeze off all excess floor water to the drain
9) Mop the floor
10) Feed the dogs, except the ones being fasted
11) Medicate dogs as needed
12) Clean the sink, door, door frame, and take the trash out
13) Wash dog feeders and toys once a month in the cage washer
14) Disinfect the entire room once a month
15) Fill out the ARCS
16) Take per diem inventory from board
PIGS

SOP for servicing pig rooms (DAILY)

When servicing pig rooms the following procedures need to be followed:

Wear your PPE (Personal Protection Equipment; Rubber boots, gloves, ear plugs, face mask and disposable gown or water repellent gown)

1) Check the health of all the pigs in the room before start cleaning
2) Move the pig to an empty run by sliding open the middle partition of the run and allowing the pig to go to the empty run, if the room is full, work around the pig(s) being careful not to get them wet
3) Spray the run’s floor, feeders, water drinking valve, toys and walls with disinfectant Sunkleen 45 (keep the trench and flush drain valves closed to conserve water)
4) Rinse all fecal matter to the trench drain
5) Rinse all components of the run very well
6) Return the pig to his run and continue with the next run
7) Once all runs are cleaned, proceed to open the trench flush drain valves to flush all fecal matter down the drain
8) Squeeze off all excess water to the drain
9) Mop the floor
10) Feed the pigs except the ones being fasted
11) Medicate pigs as needed
12) Clean sink, door, door frame and take the trash out
13) Wash feeders and toys in cage washer once a month
14) Disinfect entire room once a month
15) Fill out the ARCS
16) Take per diem inventory from board
NHP PRIMATES

SOP for changing cages in NHP rooms (WEEKLY)

When changing primate cages, the following procedures need to be followed:

Wear your PPE (Personal Protection Equipment; Rubber boots, face mask, face shield, disposable gown, gloves and head cover)

1) Bring a clean primate rack to the room
2) Connect the transfer tunnel to the rack with the primate
3) Make sure that all of the clean rack cages are locked, except the one being use to transfer the primate
4) Connect both racks with the transfer tunnel
5) Open the clean cage connected to the tunnel
6) Open the cage with the primate
7) Allow the primate to move to the clean cage and lock the cage
8) Once sure that the cage it's locked and save, remove the transfer tunnel from both racks
9) Transfer ID card to clean cage
10) Repeat procedure with the other primates
11) Always change one primate at a time
12) Once all racks are changed, take dirty racks to wash room
13) Change the water bottles and refill with clean water
14) Feed the primates following the menu posted in the room or as directed by the veterinarian or PI
15) Disinfect room using disinfectant Sunkleen 45
16) Squeeze off all excess water to the drain
17) Mop the floor
18) Clean sink, door, door frame and take trash out
19) Play a movie for the primates (make sure to program the TV on SLEEP mode to shut off automatically)
20) Fill out the ARCS
NHP PRIMATES

SOP for servicing NHP rooms (DAILY)

When servicing NHP rooms the following procedures need to be followed:

1) Check animal’s health before servicing the room
2) Refill the water bottles
3) Feed the Primates their dry food (Purina 5037 large biscuit) according to the MENU posted in the animal room. Feed the fruit in the afternoon
4) Clean the sink, door, door frames sweep and mop the floor
5) Play a movie to the primates (Use the SLEEP mode on the TV to shut the TV OFF automatically)
6) Fill out the ARCS
7) Do the per diem deductions from the board, if any
CHICKENS

SOP for changing chicken cages (WEEKLY)

When changing chicken cages, the following procedure need to be followed:

Wear your PPE (Personal protection equipment) including hard face shield.

1) Bring your clean chicken rack(s) to the room
2) Move the ID to the clean cage, one at a time
3) Change one chicken at a time, using the appropriate technique; approach the chicken from the top and gently press down, with the other hand, lift the chicken being careful that the toes are not stuck in the cage floor and transfer to the clean cage. BE CAREFUL WITH THE ROOSTERS, THEY ARE MORE AGGRESSIVE.
4) Verify that the cage size is right for the chicken height
5) Continue changing cages until the entire room it’s changed
6) Feed and water all the chickens
7) Check the brooder for new chicks from the lab, if any, feed them chick starter, fresh water and install the heater (Temperature should be set at 83 to 90 F)
8) Sweep the floor (avoid bedding and feed from going into floor drain)
9) Spray the animal room with Sunkleen 45 and rinse
10) Squeeze all the excess water to the floor drain
11) Clean sink, doors, door frames
12) Fill out the animal and room care sheet
13) Do the per diem deductions from the board
14) Mop animal room
SOP for Servicing Chicken rooms (DAILY)

1) Check animal’s health before servicing the room
2) Remove any eggs from the cages with females only and dispose
3) Remove the eggs from the cages that have male & female together and ask the PI if they need them (Fertile eggs), if not, dispose them.
4) Provide fresh food and water
5) Check the brooder for new chicks or existing ones, feed and water
6) Clean sink, door and door frame
7) Sweep the floor (avoid bedding or feed from going into the floor drain)
8) Mop the floor using disinfectant solution
9) Take the trash out and replace trash liner
10) Fill out the ARCS
11) Take the per diem deductions from the board
SOP FOR REPORTING SICK ANIMALS

When a sick animal is found, please follow these procedures:

1) Gather all the information from the cage card such as PI name, protocol #, phone #, rack #, cage#, species and room#, and identify the cage or run with the BLUE SICK ANIMAL CARD provided by DAR. Place the BLUE SICK ANIMAL CARD behind the cage card.
2) Contact the PI and report the sick animal with your findings.
3) Notify the Director’s office with all the information. (X 2-1689)
4) Log in Sick Animal Book for facility records.
5) Follow up treatment with the DAR Animal Health Technician.
6) Remove the BLUE SICK ANIMAL CARD once the animal is recovered or sacrificed.

SOP FOR FINDING DEAD ANIMALS

When a dead animal is found, please follow these procedures:

1) Gather the following information from the cage card: PI name, species, and protocol #.
2) Place the dead animal(s) in a PAPER BAG with all the information and your initials, time and date and write “SAVE” on the bag.
3) Place the bag in the refrigerator located in the disposal room - “DO NOT FREEZE”.
4) Notify the PI.
5) Save the dead animal(s) for 5 days before cremating.
6) Take the animal off the Per Diem charge card (if applicable) or cage charge.
7) Log in the Dead Animals Log-In book for Facility records.
SOP FOR FINDING OVERCROWDED CAGES

Overcrowded cages, for mice, consist of more than 5 adult mice per cage. In other species such as rats, hamsters, or guinea pigs, overcrowding is determined according to the weight of the animal in relation to the size of the cage. Consult the guide with your supervisor if in doubt.

When an overcrowded cage is found, please follow these procedures:

1) Identify the cage with a BLUE TRANSPARENT CARD marked “OVERCROWDED CAGE” and write the date found.
2) Notify the investigator or the contact person noted in the ID card.
3) Remind them that they have 24 hours to separate the mice.
4) If mice are not separated after the 24 hours notice, notify the Director’s office. After the second notice, please separate the mice and charge the investigator special service time.
# Diets Being Used at USC Animal Resources Facilities

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<th>SPECIES</th>
<th>DIET</th>
<th>DISTRIBUTOR</th>
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<td>DOG</td>
<td>PROLAB 2000</td>
<td>NEWCO</td>
</tr>
<tr>
<td>HMR (Purina)</td>
<td>DOG</td>
<td>CANINE HIGH DENSITY</td>
<td>NEWCO</td>
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<td>DOG</td>
<td>CD CANINE PLATINUM</td>
<td>NEWCO</td>
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<tr>
<td>HMR (Purina)</td>
<td>RATS</td>
<td>PMI 5001 Lab Rodent</td>
<td>NEWCO</td>
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<tr>
<td>HMR (Purina)</td>
<td>MICE</td>
<td>PMI 5053 Irradiated diet</td>
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<td>PMI 5061 Pico-Vac regular</td>
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PMI 5525 Irradiated breeder | NEWCO
---|---
RATS | PMI 5001 Lab Rodent | NEWCO

### UPC

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<td>HNB</td>
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# Bedding Currently Used at USC Facilities

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<td>Guinea Pigs</td>
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<td>MMR Mice</td>
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<td>Cats</td>
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<tr>
<td>Birds</td>
<td>Bed O’Cobs ¼”</td>
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Standard Operating Procedure
ENVIRONMENTAL MONITORING

Purpose:
To describe an effective environmental monitoring program to give assurance that biosecurity processes are functioning properly, to minimize risk, and detect contamination.

Equipment:
Charm novaLUM analyzer – A handheld testing device that uses bioluminescence to detect residual ATP.
PocketSwab Plus- A room temperature stable hygiene swab that rapidly detects ATP as a measure of surface cleanliness
WaterGiene – A refrigerated wet swab that us a rapid sanitation/hygiene test used to detect the presence of ATP as a marker for biological contaminants in water and on wet surfaces

Overview:
ATP, or Adenosine Triphosphate, is naturally present in all organic material. The CHARM novaLUM system uses bioluminescence to detect residual ATP. The presence of ATP indicates that it has not been adequately cleaned and has the potential to harbor and support bacterial growth.

A. PocketSwab Plus
1. Bring PocketSwab to room temperature before use.
2. Withdraw the swab by gently pulling and twisting the swab handle out of the swab body.
3. Swab an area of 100 cm² (16 in 2), rotating the handle to achieve full swab contact with surface.
4. Hold upright with the microtube pointing down for the remainder of the test.
5. Reinsert the swab and gently push and twist the handle down to engage thread.
6. NOTE: To hold for later counting, do not twist down or puncture the microtube seal. The swab is stable at room temperature in this position for up to 6 hours.
7. To activate the swab, twist handle down completely to puncture the seals.
8. Gently shake side to side 3 times to mix reagents. NOTE: Liquid should appear in bottom of vial. If not, unscrew swab handle until
swab is just above microtube, and twist handle down again. Shake side to side 3 times.

9. Within one minute of activating, insert the PocketSwab into the chamber of the luminometer and press gently until fully seated.

10. Immediately select a channel or sampling plan that is calibrated for the LUM assay and press enter.

B. WaterGiene
   1. Bring WaterGiene to warm to room temperature before use *Avoid direct sunlight on WaterGiene microtube immediately before analysis. This may cause a high count.

   2. Withdraw the sawb by pulling cap from WaterGiene body. Place swab in water and swirl for 5 seconds.

   3. Hold WaterGiene body upright with microtube pointing down. Reinsert swab by pushing cap down. Twist to engage threads. Take 2 to 3 seconds to screw down the cap. The swab breaks the vial foil seals to activate reagents.

   4. Unscrew swab cap to withdraw swab from the microtube, and gently shake 3 times to force liquid reagent into tablet reagent.

   5. Insert WaterGiene until fully seated into the chamber of the LUMGiene. Screw down cap.

   6. Press Enter to read on LUM Channel. Read relative light units (RLU) and interpretation.

   7. Remove the LUMGiene analyzer and discard.

C. Disposal
   1. The WaterGiene or PocketSwab Plus contain no glass or hazardous substances and may be discarded in ordinary water containers.
Standard Operating Procedure
Mouse Quarantine

**Purpose:** To describe the quarantine procedures for mice, specifically directed at the technician who will be handling the mice while in quarantine.

**Overview**
Mice imported from non-commercial sources will be accepted into the quarantine rooms in the Ray R. Irani (RRI) Building room B8 and B12 approximately the Tuesday – Thursday of the first 2 weeks of each month. Mice will be accepted to the quarantine facility with the following stipulations:

1. An Animal Transfer Request (ATR) Form B approved by a DAR veterinarian will accompany the mice (call the Business Office at 2-1695 or the Attending Veterinarian at 2-1689 if mice arrive with no ATR Form on file).

2. Regardless of their origin (USC or non-USC facilities), all rodents will have a clean health history (i.e. animals suspected of being positive for pathogens (adventitious viruses, parasites, etc.) will not be accepted to the quarantine facility). However, **all quarantine mice should be considered pathogen-suspect.** This means that no other animal rooms should be entered after entering quarantine rooms.

**Upon arrival:** Upon arrival the outside of the shipping container should be decontaminated and the mice removed and housed in filter top cages. Mouse cages should be opened only under the HEPA-filtered hood present in the quarantine room. The number of rodents to be housed per cage is designated on the ATR form. All mouse cages should receive water bottles for the duration of quarantine. All receiving paperwork will be copied and sent with the mice and attached to the yellow copy of the ATR form and return this to the Business Office ASAP.

**Contact sentinel:**
1. A contact sentinel designated for each separate shipment will be ordered to arrive shortly after all of the imported mice arrive. To order sentinels fill out an Animal Purchase Request Form, (write "sentinel" under Requisition number and Protocol number, Preferred vendor is CR (Charles River), 6 weeks for age, and "CD" under strain). Ask the facility supervisor if more sentinels are needed within the last 2 weeks of each month and he will provide a list.

2. The contact sentinel should be identified with a colored marker and placed in one of the cages belonging to a PI (principal investigator) listed on the V1 form; use your judgment when placing contacts, e.g. place contact with single males or group-housed females, not group-housed males.
3. Each time the cages are cleaned, the contact sentinel can be moved to a new cage belonging to the same PI. The contact sentinel will be housed with the PI’s imported animals for **two weeks only**, after which time the contact sentinel will be transferred to a separate cage along with a pink quarantine sentinel cage card and treated as a standard sentinel (dirty bedding added from the PI’s cages at each cage change, etc.).

**Cleaning:** *The counter surface in the hood should be cleaned and disinfected between mice belonging to different PI’s in each room.*

**Protective clothing:**
Protective clothing is required for anyone entering the quarantine room. Protective clothing will be supplied outside the quarantine room and will include disposable gowns, caps, masks, booties and gloves.

**Treatment:**
Once during quarantine mice should be sprayed with a mite treatment solution. Refer to [Mite Treatment SOP](#) for treatment directions. Animals will be given a fenbendazole-treated rodent chow on alternate weeks for a period of 5 weeks (weeks 2, 4 and 6 of the quarantine period.)

**Mouse procedures in quarantine:**
1. The PI or PI’s staff are **not allowed** into the quarantine room for any reason **without permission** from a DAR veterinarian. PI’s are allowed to request a transfer of mice out of quarantine before the end of the quarantine period only for transport to the PI’s laboratory and used immediately for terminal procedures.
2. Rodents are not allowed back into the quarantine room once they have been removed. Any pairing (breeding) requests from the PI should be worked out with the technician or veterinarian (the Animal Health Technician/RVT or Veterinarian will do the pairing).
3. Colony animals can be brought in for breeding with newly imported animals only during the open quarantine period, first 2 weeks, for that group.

**Quarantine end:**
1. During week 6 of quarantine, a DAR veterinarian or designee will collect mice for diagnostic testing. If the sentinel mice are clean, the Animal Health Technician or AHT will contact the DAR veterinarian to approve release from quarantine. If approved, the correspondence will be forwarded to the facility Supervisors by AHT including transfer form # (Bxxxx), PI, and institution of origin.
2. Charge PI for mouse transfer by submitting transfer form B to Business Office.
3. Once the rodents have been released from quarantine, the technician should arrange for transfer of the mice to the animal facility space designated on the ATR form (call the PI to confirm this). Please use designated transfer cages when moving the mice.
**Standard Operating Procedure**  
**FUR MITE TREATMENT IN QUARANTINE**

**Purpose:** To prophylactically prevent parasitic infection of *Myobia musculi* and *Mycotes sp.* in imported quarantine mice.

**Treatment:**

A. At each cage change, the Animal Laboratory Technician will place 2-3 cotton balls of MiteArrest® per mouse in each quarantine mouse cage for the duration of 6 weeks.

B. Continue quarantine process with contact and indirect bedding sentinels as described in the [Mouse Quarantine SOP](#).

C. Sentinel mice will be tested before the release from quarantine for presence of mite infection.

Please direct questions or report problems to the DAR Veterinarian (2-1689).
Standard Operating Procedure
HEALTH SURVEILLANCE PROGRAM FOR RODENTS

Purpose

To describe the methods and procedures for maintaining the program for monitoring rodent colonies for diseases using sentinel animals.

Overview

Subclinical microbial, particularly viral, infections occur frequently in conventionally maintained rodents but can also occur in facilities designed and maintained for production and use of pathogen-free rodents if a component of the barrier is breached. In addition to the adverse effects of disease on individual animals, the presence of viral or bacterial infectious agents and endo- or ectoparasites may severely compromise the scientific objectives of a study. The Department of Animal Facilities will maintain a program for detection of disease causing agents in rodent colonies. The program includes bacteriological testing, serologic monitoring, parasitology, and gross and histopathology.

Sentinel Animals

A. Monitored Colonies
   1. Breeding colonies- bedding sentinels will be placed in each room used for mouse and rat breeding colonies.
   2. Experimental holding- bedding sentinels will be placed in each room where rodents are held for long term and short term experiments.
   3. Quarantine- contact sentinels will be placed for a 2 week period in the cages of mice from each non-commercial source.

B. Sentinel Animals:
   1. For mice, sentinel animals will be young (4 week old) CD-1 mice females placed 1 mouse per rack. Bedding sentinels will have a pinch of dirty bedding from random cages on that rack added to the sentinel cage each week at cage changing time. Contact sentinels will be placed in the cage with colony or quarantine mice for a period of at least one but no more than 2 weeks then separated and treated as a bedding sentinel.
   2. For rats, sentinel animals will be young (4 week old) SD rats placed one rat per rack.
   3. For hamsters, sentinel animals will be young (4 week old) Syrian hamsters placed one hamster per rack.
   4. For guinea pigs, sentinel animals will be young (4 week old) Hartley guinea pigs placed one guinea pig per rack.

Frequency of Testing: Quarterly
Samples

A. Serology- sera will be collected via cardiac puncture and sent to a diagnostic laboratory, e.g. Charles River Laboratories.
B. Bacteriology- bacterial cultures will be performed annually using Charles River PRIA PCR fecal sample pooling.
C. Parasitology- examination for parasites will be done at necropsy.
   1. Ectoparasites- ears and surrounding pelage will be dissected and examined grossly at necropsy.
   2. Endoparasites-
      Pinworms- perianal tape test
      Other nematodes- cecal content examination
      Protozoa- cecal content examination
D. Pathology- gross necropsy will be done at the time of euthanasia.
  Histopathology will not be done routinely unless there are gross lesions or to assist in diagnosis of suspected infections.

Procedures

A. Gross examination
   1. Examine the animal for general condition, activity, gait, etc. and record on a necropsy report form.
   2. Record gross abnormalities including skin lesions, swellings, discharges, etc.
   3. In cases where there are abnormalities inform the veterinarian or animal care supervisor before proceeding. It may be necessary to start a disease diagnostic profile.
B. Draw blood sample for Serology
   1. Euthanize the animal using CO2 from a tank source.
      Perform a cardiac puncture through the skin to draw blood. Withdraw the maximum amount possible, and transfer 0.5cc (mouse) or 0.75cc-1cc (rat, hamster, g.p.) to 1.0cc or 1.5cc saline respectively. Refrigerate tubes.
C. Parasitology
   1. Perform the perianal tape test for pinworm ova. Set the tape test aside for later examination.
D. Pathology
   1. Reflect the skin and examine the underside of the skin and the body wall for gross abnormalities.
   2. Open the chest and examine the mouth, neck and thorax for gross abnormalities.
   3. Open the abdomen and examine the abdominal viscera for gross abnormalities.
   4. If there are lesions noted, notify the veterinarian or animal care supervisor. It may be necessary to start a necropsy report.
5. Histopathology will not be done routinely, but tissues may be saved in 10% buffered formalin for further processing; histopathology should be done on tissues with gross lesions.

E. Sample processing
1. Perform the microscopic examination of cecal contents and note observations.
2. Perform the microscopic examination of the tape test tape and note observations.
3. After clot is formed in blood sample tube (24 hours) separate serum and transfer using plastic pipette to a clean centrifuge tube. Serum should fill to 1.25ml.
4. Put tubes in Biohazard bag and fill out Charles River Serology Submission Form. Put form in pocket of bag. Put bags in freezer to await batch shipment if conventional sentinel, send out right away if quarantine sentinel.
5. Ship serum to diagnostic laboratory by using Fed Ex. Use Charles River box (small one for quarantine, large one for quarterly sentinel testing). Place ice pack in box according to size. Place neon green sticker that comes with supplies on side of box and check “Non-GLP” and “Serology”. Ask BO for Airbill and fill out. Place duplicate copy of Airbill in pocket of sticky film and place over box opening. Ask Administrative Assistant for Requisition form and leave in office.
6. Currently, Charles River Laboratories are used. Charles River Tracking serology panel is used 3 times a year, Assessment Plus serology is used annually (usu. Oct or Nov). Quarantine serology is tested using the Assessment Plus panel.
7. Collect fecal pellets from a representative 8 cages/rack and pool samples in one container.
8. Send out fecal samples for PRIA testing by Charles River once a year.

Ordering

A. Ask Supervisors within the first week of health testing how many Sentinels are needed and in which buildings and room number they are located.
B. Fill out duplicate Animal Purchase Request form. Turn in to Gerald and he will return pink copy no later than 7 business days in advance. Desired date of delivery is usually on a Thursday.
C. Technicians will communicate animal delivery upon arrival.
Standard Operating Procedure
Clinical Examinations

Purpose: To specifically outline the duties and responsibilities of the Veterinarian and Animal Health Technician when it comes to the management of clinical animal cases.

1. An animal observed to have signs of illness will be reported to the main office by an Animal Laboratory Technician. The reported information will be copied onto the Clinical Examination Form. The Veterinarian and the Animal Health Technician will receive the form by email.

   a. If the Animal Laboratory Technician feels that the case is urgent or an emergency, they will contact the Veterinarian personally or indicate it to the DAR office.

2. The Veterinarian will triage the reports and delegate which animals the Veterinary Technician should examine for that day.

3. The Veterinary Technician will send a standardized email to the PI providing information from the report and suggested actions.

4. The Animal Health Technician and/or the Veterinarian will examine the animal. There is a 24 hour window in which these animals must be seen for routine non-emergency cases.

5. After examination the Animal Health Technician must communicate all findings and impressions from the exam. All diagnosis, treatments, prognosis, and Veterinary services must be finalized by the Veterinarian prior to implementation.

6. Upon completion, the Clinical Examination Form must be completely filled out, signed by a Veterinarian, and placed in the Clinical Examinations Binder ordered by date. All communications after the standardized email sent to the PI must be attached to the form or documented on the form.

7. It is the Animal Health Technician’s responsibility to follow-up on any outstanding or ongoing clinical cases. Treatment response must be monitored and reported to the Veterinarian until animal is euthanized or the case is closed.
Standard Operating Procedure
Controlled Substances

Purpose:
To establish appropriate procedures for procurement, distribution, use, record keeping, and disposal of controlled substances used in research and teaching protocols.

Policy:
1. University policies regarding procurement, distribution, use, security, and record keeping of controlled substances regulated by the Drug Enforcement Administration (DEA) are guided by the regulations detailed in 21 CFR 1300-1308.

2. Each vial of controlled substance procured under the Department of Animal Resources (DAR) is assigned an inventory number.

3. The DAR maintains records of controlled substance distributions to principal investigators. These records consist of a chronological log of all controlled substance dispersals indexed by substance.

4. Request for controlled substances must be submitted in writing to the appropriate personal in DAR using the Special Services and Supplies Request form.

5. Additional requests for a controlled substance can only be filled when the status of the previous dispersal has been verified with the appropriate manager.

6. Principal investigators (PIs) must identify the specific research or teaching protocols wherein the controlled substances are used, the individual(s) responsible for assisting in their compliance with these policies, the location where the controlled substance will be securely stored, and ensure that complete records will be maintained.

7. Faculty must ensure controlled substances are stored in an area of limited access securely locked in a substantially constructed cabinet. Controlled substances must be secured behind two locks. Laboratory doors can be considered one lock, if doors of unattended labs are kept locked.

8. Principal Investigators are responsible for maintaining accurate records of controlled substances used while in their possession by recording the amount used, and the amount remaining in each vial.

9. Principal Investigators are responsible for returning empty vials with the Control Drug Use Record to the DAR when their inventory is depleted. Any
unused controlled substance, a controlled substance associated with a completed protocol, or an out of date controlled substance must be returned to the DAR.

10. Laboratories, storage cabinets, logs of use, and inventory records are subject to unannounced inspections and audits by the DEA, IACUC, and DAR.

11. Noncompliance can result in suspension of privileges to use controlled substances.

**Procedures:**

1. Procedures for receiving controlled substances.
   a. The DAR is responsible for ordering and receiving of controlled substances from outside vendors.
   b. When controlled substances arrive, they are checked and then assigned a consecutive vial inventory number.
   c. The controlled substance is then entered on the *Controlled Substance Inventory*, listing:
      1. The inventory number
      2. Substance name
      3. Amount received
      4. Date received
      5. Date expires
      6. Received by

2. Procedures for dispensing controlled substances:
   a. A controlled substance is dispensed by locating its inventory number and adding the following information in the *Controlled Substance Inventory*:
      1. Date dispensed
      2. PI issued to
      3. Amount dispensed
   b. When *Controlled Substance Inventory* records are completed and the person receiving the drugs has signed for them, the drugs may be dispensed.
   c. Additional controlled substance cannot be dispensed until the status of the previously dispensed substance has been determined.

3. Procedures for research staff requesting controlled substances:
   a. Faculty can order the controlled substances described in their protocols.
   b. Request for controlled substances are made by research staff to the DAR in writing using the *Special Services and Supplies Request* form.
   c. Prior to filling an order, the DAR personal reviews the IACUC protocol to
determine if the controlled substance is described within. Finally, the Controlled Substance Inventory is reviewed to determine if all prior dispersals have been accounted for.

d. A controlled substance may be dispensed only when all the above requirements have been met. The PI will be called when their order is available to be picked up at DAR.

4. Procedures for maintaining the Controlled Drug Use Record:
   a. The Controlled Drug Use Record should be kept preferably with the controlled substance.

   b. Each time the controlled substance is used, the date, the volume removed from the vial, the initials of the person removing it, and the balance remaining in the vial is recorded on the Controlled Drug Use Record.

5. Procedure for conducting the closeout of a controlled substance:
   a. When the vial of controlled substance is depleted, the PI completes the Controlled Drug Use Record and returns it to the appropriate personnel in DAR to close out their use.

   b. DAR enters the date the Controlled Drug Use Record is received on the Controlled Substance Inventory to close out their dispensation.

   c. Any controlled substance that becomes outdated, is no longer in use, or is associated with a completed protocol will be returned, with the Controlled Drug Use Record to the DAR for proper disposal and closeout. The Controlled Drug Use Record is filed numerically/alphabetically.

6. Procedure for controlled substance audit:
   a. Audits and inspections of controlled substance procurement, dispersal, use, storage, and record keeping may be conducted, unannounced by the DAR. Records of Audits and inspections are memorialized on the Controlled Substance Audit Form and are maintained by the DAR.

7. Access to controlled substances is limited to:
   a. Clinical Veterinarians and health technicians have keys to inventory cabinet located at the DAR.

   b. Lab Managers and principal investigators have keys to the dispensing cabinets located within their labs.
Standard Operating Procedure
USE OF ISOFLURANE IN MICE AND RATS

Purpose:
This procedure describes the safe use of Isoflurane, an inhalant anesthetic agent for a brief non-surgical procedures or surgical manipulations.

Overview:
Isoflurane is a volatile agent used for gas anesthesia of animals. Gas anesthesia is an accepted method for animal restraint and surgical anesthesia for most species of animals. Isoflurane may be used for anesthesia of rodents for short procedures, such as blood collection, using a simple induction chamber and an "open drop" method of gas delivery. Isoflurane has advantages over injectable agents because of the very rapid induction and recovery from gas anesthesia. Delivery methods and considerations relating to personnel exposure are covered below.

General Guidelines:
- Inhalant anesthetic agents must be listed in the IACUC protocol and be approved by the IACUC prior to its use.
- Principal Investigator must identify all staff members that will perform animal anesthesia.
- Investigators must insure that the staff members have experience and training in the delivery and safe use of isoflurane.
- Isoflurane may be delivered by one of two methods, either the "open drop" method or by use of a precision vaporizer.
- The Minimum Alveolar Concentration (MAC or ED50) value in rats and mice is 1.4. MAC is defined as the concentration of isoflurane gas that produces surgical anesthesia in 50% of the animals. Typically, a somewhat higher concentration of gas (e.g., twice the MAC value) will be required to induce anesthesia with maintenance of anesthesia at concentrations near the MAC value.
- Clinical indications of anesthesia include the lack of a righting reflex and a 50% reduction in respiratory rate.

Materials:
- For the "open drop" method, any type of container with a secure lid and known volume that will allow constant visualization of the animal. This may be a bell jar, zip-lock bags (volume 300 to 500 ml), or a commercially available induction chamber. Cotton balls, gauze pads or nestlets may be used to absorb the liquid isoflurane within the container.
- For the precision vaporizer method, a vaporizer calibrated for isoflurane must be used. The vaporizer must be calibrated at least once every three years.
- Isoflurane liquid may be purchased from DAR or directly from a Veterinary supplier.

Procedures:
A. “Open drop” Method:

- Based on the vapor pressure of isoflurane at average room temperatures (20° C) the gas concentration can be predicted based on the chamber volume as follows:

<table>
<thead>
<tr>
<th>Concentration % Isoflurane</th>
<th>Volume/ liter (1000ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1%</td>
<td>0.05 ml</td>
</tr>
<tr>
<td>2%</td>
<td>0.10 ml</td>
</tr>
<tr>
<td>3%</td>
<td>0.15 ml</td>
</tr>
<tr>
<td>4%</td>
<td>0.20 ml</td>
</tr>
<tr>
<td>5%</td>
<td>0.26 ml</td>
</tr>
</tbody>
</table>

- Place a cotton ball, gauze pad, or nestlet in the chamber with the appropriate volume of isoflurane liquid for the chamber volume.
- Place the animal in the chamber and observe it closely. Induction of anesthesia should occur rapidly (within 1 to 2 minutes).
- For rapid procedures such as blood collection, maintenance of anesthesia is usually not required. However, animals will recover from anesthesia rapidly (within about 1 to 2 minutes) as they breathe room air.
- If maintenance of anesthesia for longer periods is required, place a small volume (0.05 to 0.1 ml) of isoflurane in a nose cone. A small conical plastic tube, 3 cc syringe, or syringe case may be used as a nose cone. Adjust the depth of anesthesia by adjusting the tube closer or farther away from the nose of the animal. Anesthesia can be maintained for an additional 10 minutes using this procedure. However, if the procedure may take more than 10 minutes, the precision vaporizer method must be used.

B. Precision Vaporizer Method:

- Turn on the Oxygen tank and check the pressure gauge and volume.
- Check isoflurane level in the vaporizer before initiation of the procedure. The vaporizer must be on the off position if needed to refill.
- Place the animal in the induction chamber; turn on the isoflurane vaporizer to 2-3% with a flow rate of 1.0 liter/min. The VetEquip anesthetic delivery system has pre-set oxygen flow. (ZNI & RRI procedure rooms)
- Carefully observe the animal in the induction chamber to insure it becomes anesthetized quickly but does not become overdosed. (death can occur with exposure to isoflurane at concentrations higher than the MAC value).
- Remove the animal from the induction chamber and properly attach animal to the nose cone. Turn off the gas supply to the chamber.
- Dial the vaporizer to 1.5-2.0% of isoflurane and adjust low rate to 0.5-0.8 liter/min to give an appropriate level of maintenance anesthesia for rats & mice.
- At the end of the procedure, turn off vaporizer and oxygen source tank.
- Observe animal/s until fully recovered.
• Clean all surfaces that came into contact with animals including the induction chamber and nose cone.

**Safety Considerations:**
Because of safety considerations, the use of isoflurane or other inhalant anesthetics is not allowed on an open bench top without an active anesthetic gas scavenging system in place.

**Available anesthetic gas scavenging options:**
- Perform all procedures inside a certified chemical safety hood.
- Perform all procedures inside a 100% exhausted biological safety cabinet (available in ZNI and RRI procedure rooms).
- Perform all procedures on a down draft work station (available in HMR).
- Direct exhaust gases from the precision vaporizer nose cone to a scavenging tube that is connected to an active scavenging system. Exhaust gasses may then be directed into an F/Air canister, fume hood, or laboratory vacuum line.
- If using an F/air canister, the canister must be weighed, dated and initialed. The canister must be discarded in regular trash if there is an increase of 50 grams from the initial weight.
- Procedures and scavenging systems may be monitored by Environmental Health and Safety and personnel with possible exposure may be required to wear an exposure monitoring badge. Contact EH&S at (323) 442-2200 with any questions.
Standard Operating Procedure
USC INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE POLICY

Rodent Euthanasia Effective 12/9/09
The primary method for the euthanasia of rodents must be written in Section 16a and must include one of the following:
- CO₂, barbiturate overdose, ketamine/xylazine, or isoflurane anesthesia

After one of the methods listed above is used, one of the following must be employed and written in Section 16b as a secondary method of euthanasia.

Mice:
- cervical dislocation
- decapitation
- creation of a pneumothorax via thoracotomy or sternotomy
- Dissection that ensures death (i.e. removal of major organs such as brain, heart, lung)
- exsanguination
- barbiturate overdose (i.e. Euthasol®, Na Pentobarbital)

Rats *:
- thoracotomy
- exsanguination
- dissection that ensures death (i.e. removal of major organs such as brain, heart, lung)
- decapitation
- barbiturate overdose (i.e. Euthasol®, Na Pentobarbital)

*Cervical dislocation will no longer be approved as a method for euthanasia in rats, hamsters, or gerbils of any size.

Neonates:
Neonatal mice and rats 0-6 days old must be euthanized by one of the following methods:
- Hypothermia anesthesia (30 seconds on ice) followed by decapitation
- Decapitation alone
Hamsters, Guinea Pigs, Gerbils and for other rodents not listed here please contact the DAR Veterinary Staff for information regarding more specific euthanasia procedures.

This policy is in accordance with the AVMA Guidelines on euthanasia and the ACLAM Task Force Statement.
Source of Swine
Swine are received from:
- Sinclair- Mini or Micro Yucatan pigs
- Irish Farms

Swine supplied by Irish farms are used for the teaching program. They are used for non-recovery procedures within 1-3 days. Sinclair Mini and Micro pigs are used for recovery/chronic projects.

Receipt of Swine
Swine are examined upon receipt for any signs of ill health. The Veterinarian will evaluate any animal reported on sick calls as to its suitability for the proposed project. Arrangements for a replacement animal are to be coordinated with the department’s purchasing coordinator and the facility supervisor.

Preventative Health Screen
The mini or micro pigs are sedated prior to the study and examined by the Veterinarian. A CBC/Chemistry is performed at this time to evaluate liver, kidney, and hemodynamic health. A fecal sample is collected to screen for any parasites.

Medical Records
All vendor health records, hematologic and fecal results are filed under the investigator’s name with corresponding USC ID#. Medical records generated during the animal’s time at the Vivaria are filed in the DAR Clinical Veterinarian’s office.

Housing
Swine from different sources and with differing health status should be separated to prevent spread of pathogens. Yucatan Micro Pigs are serviced first, then the regular farm pigs.
Source of Rabbits
Rabbits are purchased from Irish Farms—an approved vendor.

Receipt of Rabbits
Rabbits are housed in the designated facility requested by the investigator. Rabbits with signs of ill health noted during receipt will be declined immediately. Quarantine rooms are available for housing newly arrived rabbits.

Medical Records
Medical records generated during the animal’s time in the facility are filed under Investigator’s name. If there is a health problem, blood tests, samples for bacteriology are sent to Antech laboratories. Test results are faxed and reviewed by the Vivaria veterinarian for possible diagnosis and treatment.

Housing
Quarantine areas are designated for each building for housing newly arrived animals. After a week of observation they are moved to a designated area if they will be assigned to a long-term study. Post surgical areas are also identified for each building.
Standard Operating Procedure
CANINE PREVENTATIVE HEALTH PROGRAM

Purpose
This SOP describes the canine preventative health program from animal acquisition, through quarantine, and housing husbandry and maintenance. This program is designed to inform the Veterinarian, AHT, and Animal Laboratory Technician as well as prevent the spread of disease after an incoming shipment of animals.

Source
Conditioned dogs are to be purchased from an approved, certified dealer A vendor. Evaluation may consist of:

- Contacting the USDA for verification of license/permit
- Contacting vendor and requesting information regarding their preventative health program
- Evaluation of written documentation from the vendor
- Reference from other institution they have had business with
- Previous experience with a particular vendor

Currently the vendor in use is Antech Inc.

Receipt of Dogs
Upon arrival to USC the conditioned dogs are examined upon receipt for any signs of ill health by the area Animal Technician or Veterinarian. The newly arrived animals are housed in a designated room in separate and adjoining cages. If circumstances do not permit housing separately, 2 dogs of similar weight and gender may be housed in the same cage at a time.

Veterinary Evaluation
After no less than 3 days of acclimation, a Clinical Veterinarian, with the help of an Animal Laboratory Technician, will then process the dogs. This includes physical examination and laboratory sample collection. Vaccinations history is evaluated. Blood is collected for CBC and Chemistry (SA100, D1 Canine Comprehensive Test). Fecal samples are collected for endoparasite evaluation (Ova and Parasite and Giardia Test). All samples are sent to Antech Diagnostics Laboratory and results are faxed to the director’s office the following day. Test results are evaluated by the Veterinarian. Treatments are prescribed by the Veterinarian for the area Animal Laboratory Technicians to administer if necessary.
For dogs on chronic studies a CBC and chemistry will be performed a week later in quarantine (SA020, D2). For dogs on acute studies, only a CBC is performed (T330)

Medical Records
Information on Individual ID cards will be filled out by the examining veterinarian. This information includes USC designated identification numbers (assigned by Veterinarian), Tattoo number, weight, physical characteristics such as coat color and sex, protocol number, contact name, phone number, and date of birth. Individual records with their corresponding test results are filed according to the animal’s ID # in the DAR Clinical Veterinarian’s office. Once all dogs have been evaluated are free of any pathogens, they are released by the Clinical Veterinarian from quarantine.

Housing
All dogs are kept in large runs that are in a separate area from quarantine. They are allowed to exercise and interact with other dogs during cage cleanings. Please see the SOP on Servicing Dog Rooms for more information.
Source of Non-human Primates (NHP)
If possible, all primates imported to USC facilities must be born and raised in the United States. Non-human primates are to be purchased from approved vendors with health certificates.

Receipt of NHP
Primates are directly housed in the quarantine rooms in the Mudd Building. Complete personal protective equipment is required of all who enter the quarantine rooms. A request for release of these NHP from the State of California Health Service is to be obtained prior to releasing animals from the quarantine room.

Bi-Annual Physical and TB testing
All NHP undergo a bi-annual TB testing, physical examination, CBC/Chem, enteric bacteria screening and parasitology testing. Once sedated with Ketamine IM, the animals are weighed and examined by the Veterinarian. The superior eyelid is used for the TB testing site and alternated at each screen. Results are read at 24, 48, and 72 hours apart and recorded. A rectal swab for enteric bacteria is performed, stool is collected for parasitology, and blood for CBC/chem. All test results are reviewed by the Veterinarian and individual records generated are filed under the investigators name.

Housing
The primates are housed in the designated area for housing primates. Psychological enrichment program is to be followed and logged in the book reflecting the date and time.
Standard Operating Procedure
LABORATORY AUTOCLAVE

Purpose:
To provide USC laboratories with testing ampoules for individual autoclaves used for sterilizing surgical materials.

Overview:
Every quarter the week after animal health surveillance is performed, each PI or lab contact on the list on page 2 will be contacted via email or phone. The AHT will provide instructions on how to autoclave the ampoule and where they can pick it up and drop it off. Once all individuals are contacted the AHT will keep track of who has picked up the ampoules and who needs a reminder email or phone call.

Autoclave Sterilizer Testing Instructions

1) Pick up one biological indicator (BI) test pack and a performance test sheet for each of the autoclave sites listed below.

2) Place one (BI) test pack within the densest pack to be sterilized in the autoclave, preferably in the bottom front over the drain.

3) When the cycle is finished, remove the BI test pack.

4) Fill out the top half of the autoclave performance test sheet completely.

5) Staple the BI test pack to the performance test sheet and immediately deliver it to the ARD Director’s office, HMR 214, or put into a refrigerator and deliver it within 48 hours.
Standard Operating Procedure
RODENT TRANSFER

Purpose
The purpose of this SOP is to designate and define responsibilities for each administrative unit within the Department of Animal Resources (DAR). When assisting an investigator with the transfer of rodents within University of Southern California (USC) facilities, or between a USC and non-USC facilities. Non-USC facilities include all facilities other than approved commercial vendors.

Overview
The principal investigator (PI) initiates the animal transfer process by submitting the appropriate Animal Transfer Request (ATR) Form. To transfer animals, the researcher submits a completed, uniquely numbered, triplicate (white business office copy, yellow receiving copy, and pink researcher’s copy) NCR print form to the Department of Animal Resources Business Office. Three different forms are available: Transfer A – for internal (within USC), Transfer B – for imports (received by USC), and Transfer C – for exports (sent by USC).

The ATR form is used when the PI wishes to do one or both of the following:

**Transfer A**

1. When a PI turns in the appropriate Transfer A request form initiating the process to have animals transferred within the institution the corresponding protocol and requisition are checked and accuracy confirmed and the pink copy is returned to PI.
2. The white copy is submitted to the Attending Veterinarian for approval.
3. The white copy is then returned to DARBO and the animals are subtracted from the corresponding protocol.
4. Yellow copies are sent to the Husbandry staff and an office copy is filed in the “Transfer A” file.
5. The White and yellow copy are matched up and filed in PI’s permanent file.

**Transfer B**

**Import**

1. PI turns in the appropriate Transfer B form to request permission to import animals into the facility from a non-USC facility. The corresponding
protocol and requisition are checked for accuracy. The pink copy is returned to the PI.

2. An “Import Request” form and remaining forms are given to shipping coordinator and sent to exporting institution (step may be skipped if PI submits Health Information when turning in Transfer B form).

3. A folder is created with the transfer number, institution name, and USC principal investigator name that includes animal transfer form, flow chart and health reports.

4. Once health documents are received from exporting institution the entire file is given to the clinical veterinarian for approval or additional testing.

5. After review from the veterinarian the entire file is returned to the shipping coordinator for approval or denial of the import request. If approved for import the import approval document will be emailed or faxed to export institution.

6. The import approval form will include days animals can be received, approved shipping couriers, and the receiving address.

7. Once details regard the shipment arriving at USC are received by the shipping coordinator from the exporting institution the PI and the DAR husbandry team are notified of the expected delivery date.

8. The shipping coordinator will make a copy of the completed import document that includes arrival date and the confirmation number from the courier. A copy of the document will be placed in a designated import folder to follow up on arrival.

9. The shipping coordinator will make a folder which will be labeled with the import number, PI name, arrival date, job number, and number of animals arriving. The shipping folder will contain a yellow transfer form and any requested documentation from the receiving or originating PI.

10. That file is then taken to the DARBO to have the information transferred into the ARM system.

11. When the shipment arrives the yellow form is returned to DARBO.

12. Once the delivery is received and completed the shipping coordinator will enter information into a “Quarantine” excel document for tracking.

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**Transfer C  
Export (Domestic)**

1. PI turns in the appropriate Transfer C form. The protocol and requisition forms are checked by DARBO for accuracy and the pink copy is returned to PI and the remaining form is given to the shipping coordinator.

2. A folder is created with the transfer number, originating facility’s PI name, and receiving USC PI’s name.
3. An export request form is created and sent to the receiving veterinarian and shipping coordinator along with any health reports and an export flow chart to track the progress and any communications.

4. If approval for exportation is received, the entire file is given to the clinical veterinarian for a signature of release.

5. Once the veterinarian approves the release of the animals for export the shipping coordinator will contact the receiving facility to receive the shipping dates, receiving address, shipping company and account number if necessary.

6. Once shipping coordinator receives all necessary information the courier is contacted with a pick up date, time, and number of animals, number of crates, sending and receiving addresses, and the appropriate account number for billing. This information is forwarded to the receiving facility as well.

7. The shipping coordinator contacts the husbandry staff and PI to confirm a date, time, and number of crates needed for shipping. This is also instructed to the PI if he/she will be packing their own animals but also if he/she requests the husbandry staff to do it for them.

8. The shipping coordinator creates a shipping form and a corresponding folder with the written documentation on the outside as well as an export number, PI name, date and time of pick up, current location of animals to be shipped and confirmation number. The shipping and export forms are copied and placed inside the export folder for any follow up and the originals are placed inside the folder.

9. The file is given to DARBO and the shipping folder is placed into the husbandry team file located in the business office.

**Export (International)**

1. The PI turns in the appropriate Transfer C form. The corresponding protocol and requisition are checked the accuracy. The pink copy is returned to the PI and the remaining documents are sent to the shipping coordinator.

2. An Export Request Form is created along with an export Flow Chart and a corresponding file. The file is labeled with the export number, USC PI Name, and receiving facility name.

3. The receiving facility is contacted and the export form and current health reports are forwarded to them.

4. Once approval to export is received then the recommended Courier for Country requirements are contacted. The requirements may include the following: 1.) Customs Invoice 2.) Vet Health Certificate 3.) USDA Health Grid 4.) Health Reports.
5. Signatures are obtained from the PI and Veterinarian on all necessary documents. All documents with dates are only good for 7 days from date to shipment. All documents are then sent to World Courier by Fax to get approval from USDA Veterinarian.

6. Once approval has been approved by USDA Veterinarian then the ship date and time can be arranged. The receiving facility is notified of the day and time of shipment. Shipping arrangements with courier are arranged which include but are not limited to booking shipment with the courier and filling out any required paperwork (i.e. Airway bills, Shipper’s Letter of Instructions, Health Certificates, etc…)

7. The receiving institution is notified of Airway bill/ confirmation number, number of animals, sex, strain and any pertinent information.

8. The Husbandry Team and PI are notified of the time and day for packing.
   * Inform lab that all shipments must be ready to leave USC by 10 am on the day of scheduled shipment and any necessary materials (i.e. shipping containers, dividers, food, etc…) must be ordered from Husbandry staff by PI/ Contact.

9. A clasp envelope is prepared which will contain all necessary documents for shipment including: 1) Yellow transfer copy, 2) USDA form, 3) Health certificate, 4) Recommended Courier shipping form. The outside of the envelope should include the following: 1.) Export number, 2.) PI name, 3.) Facility location, 4.) Pick up day, 5) pick up time, and 6) number of crates being shipped.

10. Copies of all documentation are made and placed in an envelope. The envelope is placed in husbandry folder and the file is given to DARBO for entry into ARM.

11. On the day of shipment the animals are exported from USC.

12. Yellow copies are returned to DARBO. The Transfer Charge Checklist is attached to the paperwork and proper charges are applied. Paperwork filed in PI’s permanent file.

DARBO TRANSFER PROCEDURES

TRANSFER INTAKE PROCEDURE

Transfer A.

Check protocol and requisition in ARM. Check for completeness. Give pink copy to researcher. Enter data into log in DOCSHARE. Scan to darbo and move to Transfer A folder. Put white copy with attached yellow copy in the Director’s mailbox.
Transfer B.

Check protocol and requisition in ARM. Check for completeness. Give pink copy to researcher. Enter data into ARM. Enter data into log in DOCSHARE. Make a print copy, enter data into paper log and put print copy along with paper log in Import Folder. Put white copy with attached yellow copy in Shipping Coordinator’s mailbox.

Transfer C.

Check protocol and requisition in ARM. Check for completeness. Give pink copy to researcher. Enter data into log in DOCSHARE and into paper log. Scan to darbo and move to Transfer C folder. Put white copy with attached yellow copy in Shipping Coordinator’s mailbox.

RECEIVING PREPARATION PROCEDURE

Transfer A.

When returned to the Department of Animal Resources Business Office from the Director, check for Director’s signature and any notes. Put yellow copy in Lab Animal Technicians Box. Put white copy in receiving drawer in Transfer A file (behind delivery date files).

Transfer B.

When returned to the Department of Animal Resources Business Office in a file folder by the Shipping Coordinator, enter Delivery Date into ARM and enter any other changes indicated on the white copy and Post with cc to appropriate DAR technicians. Enter Delivery Date into electronic and paper logs. Remove print copy from Import Folder and if P.I. pays freight, mark Delivery Date on print copy and put in personal PCard file for credit card reconciliation. Put file folder in receiving drawer under Delivery Date.

Transfer C.

When returned to the Department of Animal Resources Business Office in a file folder by the Shipping Coordinator, enter Shipping Date into electronic and paper logs. If P.I. pays freight, make print copy and put in personal PCard file for credit card reconciliation. Put file folder in receiving drawer under Shipping Date.
PROCEDURE AFTER RECEIVING COPY RETURNED

Transfer A.
When yellow copy is returned to the Department of Animal Resources Business Office by the Technicians, match with white copy. If applicable, subtract the number of animals transferred from the recipient’s protocol in ARM and enter data with stamp on yellow copy. Enter data into electronic log. Attach yellow copy to white copy and file in P.I. file. Delete scan from Transfer A folder in darbo.

Transfer B.
When yellow copy is returned to the Department of Animal Resources Business Office by the Technicians, match with file folder in receiving drawer. Copy waybill and receiving papers and place with yellow copy in file folder. Attach original waybill and receiving papers to white copy and give to Accounting Technician to bill Quarantine Fee and Shipping Fee. Enter the date of return to Shipping Coordinator into electronic and paper logs and return file folder to Shipping Coordinator with notation “In Quarantine”.

Transfer C.
When yellow copy is returned to the Department of Animal Resources Business Office by the Technicians, match with file folder in receiving drawer. Copy waybill and receiving papers and place with yellow copy in file folder. Attach original waybill and receiving papers to white copy and give to Accounting Technician for billing Administrative Fee and, if applicable, Shipping Fee and file in P.I. file. Enter the date of return to Shipping Coordinator into electronic and paper logs and return file folder to Shipping Coordinator with notation “Completed”.

BILLING FOR SHIPMENT & QUARANTINE & ADMINISTRATIVE FEES

Transfer B.
After billing in ARM for shipping, attach shipping invoice copy to white copy in P.I. file. After quarantine billing in ARM, attach quarantine release document copy to white copy in P.I. file.

Transfer C.
After billing in ARM for Administrative Fee, put in P.I. file. If applicable, after billing in ARM for shipping, attach shipping invoice copy to white copy in P.I. file.
Standard Operating Procedure
Monitoring light timers and lighting control systems in animal rooms

Purpose:
The purpose of this Standard Operating Procedure is to insure that all the animal holding rooms at USC have the correct light and dark cycle settings based on the species and experimental requirements.

Light Cycle Settings:
The most typical light settings are “on” at 06:00 AM and “off” at 6:00 PM resulting in a 12 hour light and 12 hour dark cycle, unless otherwise noted.

Requests from principal investigators for special light cycle control or monitoring (such as reversed cycles, more frequent or specialized monitoring of light intensity or cycle, or light cycle controls other than the standard for that facility) will be accommodated only with written permission of the Director of Animal Resources. In cases such as these, light cycle control and monitoring will become the responsibility of the principal investigator unless specific agreement with the Director of Animal Resources is established in writing.

Weekly Physical checks:
When doing physical evening and morning checks, Animal Laboratory Technicians will be scheduled to stay after 6:00 PM and to start before 6:00 AM within the same 24 hour period to walk through all the campus facilities and to inspect proper function of the timers and lighting systems. All animal rooms will be entered to confirm the cycle on and off times, with the exception of rooms with special lighting requests, in the following sequence:

HSC
ZNI
IGM
HMR
DOH
MMR

UPC
RRI
HNB
This sequence may be altered for certain facilities or rooms in cases where animals are in quarantine or if an outbreak of infectious disease has occurred. After checking all the rooms, the technician will complete a log sheet that lists each room inspected and will include all the findings. If something out of the ordinary is found, a report will be submitted to the Animal Resources Supervisor and the Animal Resources manager immediately to determine the nature of the problem and resolve it as soon as possible. The supervisor and or manager will be responsible for notifying the principal investigator(s) affected, FMS to correct the problem, and Director, Department of Animal Resources.

**Central Electronic Monitoring Checks:**

The following facilities have lighting systems that can be monitored electronically:

- **ZNI**    Honeywell Systems;
- **RRI**    Metasys System;
- **HMR (Basement only)**    Douglas Controls;

Electronic monitoring does not take the place of physical monitoring described above. However, the Animal Resources Supervisor responsible for the facilities listed above, or the Animal Resources Manager, will monitor electronic reports generated from the systems on a weekly basis to confirm that data show the proper on and off times for each day during the previous week. If any abnormality is noted on the electronic report, the possible problem will be investigated to determine whether an actual lighting problem occurred by arranging for an extra physical check of the room(s) to determine whether the light cycle controls are working properly. If any problem is detected, the supervisor or manager will be responsible for notifying the principal investigator(s) affected, FMS to correct the problem, and Director, Department of Animal Resources.

**Portable Data Logger:**

Portable data loggers will be placed in selected rooms on a rotational basis to confirm that light cycle controls are functioning according to standards. Once per week, the Animal Resources Supervisor responsible for the facilities where the data logger is placed, or the Animal Resources Manager, will monitor electronic reports generated from the data downloaded from the device to confirm that data show the proper on and off times for each day during the previous week. The device will also be used to confirm temperature and humidity levels in addition to light cycles in rooms where a problem is suspected in any of these parameters, or for newly established rooms where the set point for a parameter has been changed or reset.
STANDARD OPERATING PROCEDURE

Housing Mouse Colonies of Health Sciences Campus Investigators at the University Park Campus (Ray R. Irani Hall)

I. Purpose:

To outline procedures and staff responsibilities for housing mice belonging to investigators with laboratories on the Health Sciences Campus in the Ray Irani Hall (RRI) facility on the University Park Campus.

II. Background:

Housing a portion of the mouse colonies of an investigator based at the Health Sciences Campus at the RRI facility on the UPC campus provides an opportunity to increase the cage capacity available to HSC investigators and foster new interactions with research programs across the both USC campuses. Collaborative projects would particularly benefit from this arrangement. Investigators whose research programs depend upon advanced mouse genetics, with needs for expanding mouse lines, would have the capacity to do so in a less restricted manner compared with housing all mice within HSC facilities that are exceeding their capacities. Finally, the use of vivarium space in Ray R. Irani Hall (RRI) would increase occupancy to make the facility more cost-effective for the university. These solutions are balanced by many challenges facing HSC researchers for colony management and experimental procedures at a distant site. The following procedures outline general conditions to expedite this arrangement.

III. General Considerations:

These standard operating procedures are guidelines to allow primarily for expansion of mouse breeding populations. Other procedures using mice may need to be performed within HSC facilities and will involve transportation of mice back to HSC for assignment to experimental protocols. In all cases, procedures must be consistent with those approved by the Institutional Animal Care and Use Committee for the protocol which the mice are assigned to.

IV. Technical Staffing Responsibilities

A. Research Laboratory Technical Staff Members are responsible for:
1. Insuring that all procedures are consistent with IACUC approved protocols.
2. Completion of all forms relating to transfer of animals between campuses.
3. Maintaining cage identification cards that clearly provide all of the required information including principal investigator name, contact information, strain or stock information, breeding information, and relevant dates.
4. Setting up breeding cages for mating for pairs or small group (harem) mating and placing a green colored cage card over the regular cage card if Animal Resources staff members are to check female mice for plugs. Research staff members will provide the appropriate colored card for use by Animal Resources staff members to record the information.
5. Collecting tail tips or other samples for genotyping of mice.
6. Storing samples for genotyping and arranging for transportation of samples as needed.
7. Maintaining records of breeding, genotyping, and other procedures based on data from cage cards provided by Animal Resources.

B. Animal Resources Technical Staff members are responsible for:

1. Daily animal care, feeding, watering, and cage changing according to departmental procedures.
2. Recording the birth dates for new litters on the cage card.
3. Informing Animal Resources veterinarians of any health issues with breeding populations.
4. Informing investigator staff members (contact person on the cage card) of any issues or questions regarding breeding procedures.
5. For cages marked with a colored cage card indicating that postcopulatory plugs should be checked, recording for four days following the mating date whether a plug has been detected for each female mouse in the cage.
6. Once a plug is detected in a female mouse, that animal will be separated into her own cage and a cage card will be placed on the cage with the date the plug was detected.
7. Weaning litters into new cages at day 21 after birth. Cages of weanling animals will be separated by sex and placed five of fewer per cage. Cage cards reflecting the breeding cage from which they were obtained will be completed.

C. Informational meeting:
For each breeding population established with the breakdown of duties as established in items A. and B. above, a meeting will be held in the animal facility to cover the breeding schemes to be used, any unusual characteristics of the strains, expected outcomes such as litter size and maternal care, and any other specific issues relating to the colony. The laboratory staff person responsible for the colony will contact the Animal Resources Manager or Supervisor to arrange for the meeting. If only items B. 1-4 above (not items B.5. or B.6.) are to be performed, a meeting is not required.

V. Animal Housing

1. Initial housing of HSC mice will occur in room B 21G RRI. The room is equipped to hold four individually ventilated racks, each holding 140 cages (total capacity 560 Cages).
2. Additional holding rooms may be added based on the need for increased capacity and purchase of additional racks and cages.
3. Mice will be housed based on standard Animal Resources protocols. The laminar flow biological safety cabinet or change station in this room can be reserved for use by research laboratory personnel using the online sign up sheets (provided on the KSOM site for electronic reservations of conference rooms). Calendars with reservations will be posted by Animal Resources.
4. The facility will have emergency contact numbers for animal health or facility issues and a copy of this Standard Operating Procedure.

VI. Animal Health and Reporting Animal Illness

1. All animals are observed for health and welfare on a daily basis (including weekends and holidays) by Animal Resources staff members.
2. If a sick animal or other problem is detected, the information from the cage card including investigator name, protocol number, contact number is collected along with the room number and cage/rack identification.
3. A blue sick animal card will be placed behind the regular cage card to identify the cage.
4. The veterinarian is contacted and either by reporting to the Animal Resources Director’s office (during regular hours on work days) or by paging the veterinarian on call (after hours or on weekends and holidays).
5. The principal investigator or their designee (contact person listed on the cage card) is contacted prior to initiating any treatment or euthanasia of the animal. However, the Animal Resources veterinary staff members have the authority to treat or euthanize any animals if they have made a reasonable attempt to contact the investigator staff and the animal is suffering or if there is need for emergency medical intervention.

VII. Procedure Room

1. Room B21F will be assigned as the procedure room for personnel to collect, process, and store samples.

2. The procedure room will be used for all procedures in mice other than routine checking for postcopulatory plugs, checking for pregnancy, weaning, animal husbandry, and tail tip amputation procedures without the use of volatile anesthesia. These procedures can occur in the animal room biological safety cabinet or laminar flow change station.

3. The laminar flow biological safety cabinet in this room can be reserved for use by research laboratory personnel using the online sign up sheets. Calendars with reservations will be posted by Animal Resources.

4. For tissue collection purposes, ice for ice buckets can be obtained from laboratory area ice machines on the first and second floors of the RRI building. Ultrapurified water may be stored in a labeled carboy or in smaller quantities in labeled bottles within the procedure room.

5. A -20°C freezer will be located in the procedure room (units to be purchased and installed by KSOM Research Advancement).

6. A data line for internet access and recordkeeping using a laptop computer will be available within the procedure room to immediately enter breeding and genotyping data as needed by laboratory research personnel (computer and data line activation to be provided by KSOM Research Advancement).

7. A secured under-counter cabinet will be provided to store laboratory supplies.

IIX. Animal Transportation and Transfers

To request a transfer of an animal from a) one USC Principal Investigator (PI) to another; b) one facility to another within USC; or c) one USC IACUC approved protocol to another, please do the following:
1. Complete and submit an Animal Transfer Request Form A (signature required) to Animal Resources.

2. Transfers involving only movement of animals from one facility or campus to the other are normally completed within one business day. Animals may me transported by Animal Resources daily during normal workdays.

3. Transfers involving changes in principal investigator or protocol will normally be completed with 48 hours.

IX. Transportation of personnel and biological materials

1. Personnel may be transported between HSC and UPC by one of the following methods: a) USC Transportation Services tram service (trams leave each direction every 30 minutes). b) by personal vehicle and parking in Parking Structure B adjacent to the RRI facility. c) by driving a KSOM provided vehicle and parking in Parking Structure B adjacent to the RRI facility.

2. Biological materials may be transported in approved carriers in personal vehicles or university vehicles. **Transportation of animals or biological materials on USC Trams is absolutely forbidden.** The vehicle may not be used for any other purposes during the transportation of biological materials (such as transporting students to and from campus or stopping for any other purpose during travel between campuses). If there are any questions about biological materials transportation practices, contact the USC biological safety office at 442-2200.

X. Card and Key Access

1. Research Staff members must complete and sign the RRI Access Request Form.
2. Submit the form to Grace Gonzalez in the Department of Animal Resources office.
3. Personnel who already have a Lenel-activated proximity card for entering HSC animal facilities will normally be able to have their card coded for RRI access electronically.
4. Keys to rooms are requested using the same form.