1.0 Purpose

The purpose of this Standard Operating Procedure (SOP) is to describe the Cage Card System for communication between DCM and investigators on husbandry, health, and experimental issues.

2.0 Scope

This SOP pertains to all personnel working in the Animal Facilities at MIT and/or WIBR including Animal Care Technicians (ACTs), Area Supervisors, Animal Resource Managers, Veterinary Staff, and Research Staff.

3.0 Materials/Equipment

- Assorted DCM Cage Cards

4.0 Procedure

DCM’s cage card system consists of color-coded cards placed on cages to identify sick animals, overcrowded animals, animals not to be disturbed for breeding purposes, or other. Cards are preprinted and contain pertinent information to be filled out by the ACTs, the Veterinary Staff, or the Investigator.

4.1 General Cage Card

a. Investigators may use their own cage cards for mouse and rat cages, but must make sure to provide the following information on the card:
   - PI name
   - Contact person
   - Phone number
   - Account number
   - CAC Protocol number

b. DCM can provide investigators with a supply of cards in assorted colors containing this basic information.

c. Contact Cheryl Buccieri (cbuccie@mit.edu) to place a free cage card order.

d. Blank white cards are also available in the facilities. There are prompts for the information listed above to be filled out by hand.

4.2 Health Check (Green)

a. A green “Health Check” card indicates a sick animal is in the cage and must be examined by the Veterinary staff.

b. A red sticker is added to the card in cases where the animal needs immediate attention from the veterinary staff.
   - See SOP AH-36 Emergency Care “Red Dot” System for more detail.

c. Each card will have a number preprinted on it.

d. The following information must be filled in by the ACT:
   - Date
   - ACT’s initials
• Room number
• Investigator
• Description of the problem

4.4 Overcrowded Cage (yellow)

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4.4 Cage Card Needed (yellow)
This is most often used in a case when DCM has separated cages due to overcrowding.

b. After DCM staff separates cages, the blue cards (see point 4.5 below) can stay in place for up to 7 days.

c. If after 7 days the blue cards have not been replaced by the investigator, the “Cage Card Needed” cards will be placed indicating that the investigator needs to put on regular cage cards (see point 4.1 above).

d. If the yellow card is not replaced within 7 days, DCM will place a regular cage card and the investigator will be billed for this service.

4.5 Cage Separation (blue)

a. Blue “DCM Separation” cards are placed on a cage when animals have been separated into other cages due to overcrowding, treatment, or fighting.

b. There are two variations of the blue cards, one is placed on the original cage over the current cage card (A) and the second is placed on all additional cages generated from the separation (B).

c. The blue card (A) on the original cage has a unique number printed in the upper right hand corner.

d. This number is written on a second blue card (B) that is placed on all new cages that have been generated due to the separation.

e. The investigator will be billed for cages separated due to overcrowding.

4.6 Surgery (white)

a. A white “Surgery” card is placed by the researcher to alert DCM personnel that an animal has had surgery and requires special attention.

b. Surgery cards, including the number on the top right corner, must be recorded on the door sheet.

- The researcher placing the surgery cards must record this information on the door sheet when the card is placed.

- ACTs should check the door sheet when they noticed new surgeries in order to make sure that it has been recorded. If it has not been recorded on the door sheet, the ACT is responsible for adding the information.

c. Adding the information to the door sheet alerts the Veterinary staff that a new surgery has been done and that monitoring needs to be performed.

d. Surgery cards are required for ALL mammalian (including mice and rats) and avian surgeries when the species is identified by a cage card.

e. Post-operative notes and treatments are recorded on the card (front and back) unless a Post-Surgical Care Form and/or Clinical Progress Form is filled out.

f. The white surgery card will remain in front of the animal cage card until the animal has fully recovered and sutures/wound clips have been removed.

- At this time, the surgery card can be put in the researcher’s notebook or destroyed.

g. When a surgery results in a permanent alteration to the animal which is visible (e.g., a head implant or eyelid closure), the researcher must also write the type of surgery and the date it was performed on the animal’s basic identifying cage card.
h. With DCM Veterinary staff permission, one surgery cage card can be used to identify animals on a shelf/rack or in a cubicle that have undergone the same procedure (e.g., embryo transfer).

4.7 Do Not Disturb (pink)
a. A pink “Do Not Disturb” card may be placed on a cage when an investigator does not want DCM ACTs to change the cage.
   - For example – there is a newborn litter or expectant mother in the cage.
b. This card states that the investigator is responsible for cage changing.
c. Investigators must date the card and indicate the length of time in days/weeks that they are responsible for changing the cage.
d. The investigator is responsible for recording the dates of cage changing on the spaces provided on the card.
e. DCM will disregard the request and change the cage in the following situations:
   - The cage is very dirty or wet.
   - In the case of static caging, the cage has not been changed in 7 days.
   - In the case of ventilated caging, the cage has not been changed in 14 days.
f. DCM is responsible for ensuring that there is proper food and water in the cages at all times.
g. The investigator must complete a cage change on the day that the card is placed.
h. The investigators must complete a cage change and remove the card when they want DCM staff to resume husbandry of the cage.

4.8 Special Diet (gray)
a. A gray “Special Diet” card indicates that the cage is being given a diet other than the normal rodent chow DCM provides.
b. The cage card must be filled out completely and include the following information:
   - Type of Diet
   - Storage Location
   - Who is responsible for feeding: DCM or Investigator
   - Person responsible & contact information
c. The Expiration date, type of diet, and lab contact information must be clearly labeled on the storage container.
d. Investigators need CAC approval to feed special diets.
e. A special diet/water form must be filed with the Area Supervisor.

4.9 Special Water (salmon)
a. A salmon “Special Water” card indicates that the cage is being given water other than the normal water DCM provides. Examples include:
   - Septra
   - Doxycycline
b. The cage card must be filled out completely and include the following information:
   - Type of water
• Bottle color/type
• Who is responsible for changing water: DCM or Investigator
• Person responsible & contact information

c. Investigators need CAC approval to provide special water.
d. A special diet/water form must be filed with the Area Supervisor.

4.10 **Do Not Feed (white)**

a. A white “Do Not Feed” card is placed on a cage when the investigator wants to handle all the feeding.

b. It can be used to restrict food for a short period of time, or when a certain amount of food is being measured and the investigator doesn’t want the DCM staff to add or remove food from the cage.

c. When using this card, the animal must be weighed every day and its weight recorded on the card.

4.11 **Food and Water Monitoring (dark yellow)**

a. A dark yellow “Food and Water Monitoring” card is placed on the cage when food or water is going to be regulated by the researcher.

b. Both food and water cannot be regulated at the same time.

c. Food and water regulations must be described in the CAC protocol.

d. The veterinary staff of DCM must be involved and informed about all regulation protocols that are being used in the animal facilities.

- You must contact the veterinary technician that monitors your colony before starting regulation.
- The DCM veterinary staff can work with you to ensure that the study is designed with minimal distress to the animals.

e. The entire card must be filled out completely.

- Having two lab contacts listed is beneficial.
- At least one cell phone number is required.

f. **Cages on food/water monitoring must be checked daily and the card has to be filled out correctly, or the investigator will be charged a fee.**

4.12 **SCID (cream)**

a. A cream “SCID” card is placed on cages of severely immune compromised mice that must be housed in sterile cages with sterile food and water.

b. All handling of cages (by both DCM staff and Research staff) must be performed under a laminar flow hood or Bio-Safety Cabinet.

c. SCID caging is required for immune compromised mice that have received human cells.

- These precautions are in place to protect both the animals and the personnel handling them.
4.13 **REX (salmon)**
   a. A salmon “REX” card is placed on cages of moderately immune compromised mice that must be housed in sterile cages with sterile food and water.
   b. Cages do not need to be handled under a laminar flow hood.

4.14 **Relocation/DCM Animal Transfer (cosmic orange)**
   a. An orange “Relocation” card must be completely filled out and placed by the researcher on all animal cages for the desired transfer.
      - All animal moves must be performed by DCM.
   b. An email must be sent to Kris Hewes (khewes@mit.edu) to request the transfer.
   c. Relocation cards should be removed by the investigator once the cages arrive at their destination.
   d. DCM will move the cages within 48 hours after approval is given for the relocation.

4.15 **Animals to be Shipped Out (lavender)**
   a. A lavender “Animal to be Shipped Out” card is placed on animal cages by the investigator to indicate cages they would like to have shipped off campus to an outside institution.
   b. The investigator is required to fill out the front side of the card with the following information:
      - Institution & Investigator being shipped to
      - MIT/WI Investigator
      - Contact Person & phone number
      - Placement Date
      - Special caging/diet requirements
   c. DCM will fill out the information on the back of the card.
   d. These moves are prearranged by a request submitted to Leslie Kline by email (lkline@mit.edu) along with completing the appropriate paperwork.

4.16 **Special Case Animal Transfer (emerald green)**
   a. An emerald green “Special Case Animal Transfer” card is placed on animal cages by the investigator to indicate cages they would like to have transferred within a Containment/Imaging area.
      - These cards are currently in use in the 76 and WI Animal Facilities. Contact the relevant Area Supervisor for additional detail on which room(s) these cards may be used in.
   b. Investigators must complete the emerald green “Special Case Animal Transfer” cage card.
      - Date, Origin, and Destination must be complete for the transfer to occur.
   c. Investigators must place a completed card on each cage they wish to have transferred.
   d. Investigators **DO NOT** need to send an email requesting the transfer if it is internal to the Containment/Imaging Area.
   e. DCM ACTs will check daily (excluding weekends/holidays) for any cages properly marked with the emerald green transfer card.
      - If the transfer request meets the health status guidelines the DCM ACT will relocate the cages to the destination marked on the card.
f. Once the cages have reached their destination, the Investigator must remove the emerald green transfer card.
   - If the card is not removed after 7 days, the ACT will remove it and place the card vertically behind the other cage cards.

g. Movement within the facility is based on the health status of individual rooms.

h. Cages CANNOT move from the Containment/Imaging area into the regular health status rooms.

4.17 Experiment in Progress (large, bright yellow)
   a. A large, bright yellow “Experiment in Progress” card is placed at the rack level to inform DCM of specifics for a particular study.
   b. Examples include, but are not limited to:
      - Neurologic symptoms expected due to animal phenotype or study such as: paralysis, tremors, seizures
      - Internal tumor models where secondary symptoms are used as an indicator for tumor growth
      - Aberrant behavior due to strain/phenotype

4.18 Hazmat (white)
   a. A white “Hazmat” card is required when an animal receives a chemical, biological, and/or radioactive hazardous material.
   b. The card must remain on the cage for as long as any “hazard” risk remains.
   c. A color-coded hazard sticker is placed on the card along with the date(s) of administration.
   d. “Hazmat” cards are only to be used in Containment Areas.
      - These cards are used in conjunction with a “Bulleted Sheet” and other applicable signage that detail specific “hazmat” details.

4.19 Procedure/Monitoring (white)
   a. A white “Procedure/Monitoring” card is placed on a cage when a non-surgical yet major procedure that may significantly impact the health of the animals has been conducted. Examples include, but are not limited to:
      - Irradiation procedures
      - Inoculation with agents expected to cause morbidity
      - Procedures requiring prolonged anesthesia
   b. The card serves as a health check card and indicates to DCM staff that the animals either require special husbandry, additional monitoring by veterinary staff, or both.
   c. It will also serve as a monitoring card for investigative staff to record post-procedural observations, and thus notify DCM of any changes in the animal’s status following the procedure.
      - This is similar to post-operative monitoring and notes on the surgery card.
   d. The procedure card has an identifying number in the upper right corner (P, followed by a 4 digit number) to allow for tracking.
e. Investigators must note new procedure cards on the door sheet of each room so that the Veterinary staff knows to look for these cages.

f. A blue sticker is placed to indicate special husbandry will be used on the procedure cards.
   - There is an outline on the front of the card to place this sticker.
   - When the investigator fills out the Procedure/Monitoring card, they should add the sticker and write on it the husbandry that is needed. This may include Septra, REX or SCID caging, and/or Wet Food.
   - If special husbandry in no longer needed (i.e., after 2 weeks of Septra water), the sticker can be crossed out.
   - If no special husbandry is required for a particular procedure, a sticker is not needed.

g. The back side of the card is to be used for post-procedural monitoring.

h. Animals must be checked by investigative staff on the day after the procedure, and subsequent to that based on their CAC protocol and/or DCM guidelines.
   - All irradiation experiments require twice daily monitoring for the first 14 days.

i. DCM veterinary staff will make monitoring notes on the bottom portion of the front of the card.
   - This will be done at least once, when the card is initially noted on the door sheet, and subsequently based on the technician’s initial assessment.

j. The procedure card must remain on the cage until the mice are euthanized, however, they may not need to be monitored for the entire time.

k. In cases of long-term monitoring, and at the Veterinary staff’s discretion, the Procedure/Monitoring cards may be placed behind other cage cards on the condition that it is positioned vertically with any special husbandry sticker visible to animal care staff at all times.

4.20 Euthanize by DCM (magenta)
   a. A magenta “Euthanize by DCM” card is placed on cage(s) by the investigator when they would like cages euthanized.
   b. These cards must be **filled out completely**.
   c. The cages can be removed from the census sheet once the cards have been placed.
   d. DCM staff will euthanize the animals at no charge.
   e. Cages will be removed from the animal holding room and euthanized using the automated Euthanex system.
   f. **Animals must be clinically normal, i.e., this card can never be placed over an active surgery card, health check card, or active hazmat card.**
   g. **The cage must not be overcrowded.**

5.0 Revision History

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Reviewed By: Facilities Team  
Signature: EMH  
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