

EXPERIMENT NO.: 4

DATE:

AIM: MAINTENANCE OF LABORATORY ANIMALS AS PER CPCSEA GUIDELINES.

Source: <http://cpcsea.nic.in>

The Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA)

The Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA) is a statutory Committee, which is established under Chapter 4, Section 15(1) of the Prevention of Cruelty to Animals Act 1960.

India is one of the pioneering countries to institute Prevention of Cruelty to Animals Act in 1960 whereas such Act was instituted in France in 1963 and in USA in 1966. The detailed rules for experimentation on animals were first enacted by the Ministry of Agriculture in 1968 and were implemented by a Committee set up in pursuance of Section 15(1) of the PCA Act, 1960.

However, the Committee was later wound up in 1977. After a hiatus of 13 years, a recommendation to reconstitute Committee for the purpose of control and supervision of experiments on animals (CPCSEA) was received from Animal Welfare Board of India (AWBI). After due consideration of the recommendation of AWBI, CPCSEA was set up by this Ministry on 8th February, 1991.

The Committee was, subsequently, reconstituted on 23rd February, 1996 with 15 Members and one Member Secretary. Since then, this Ministry has reconstituted the CPCSEA routinely. The present Committee was constituted on 30th August, 2012 under the chairmanship of Additional Secretary, MoEF with 17 Members. At present, Shri Hem Pande, Additional Secretary, MoEF & CC is the Chairman of the Committee.

The main functions of CPCSEA are:

1. Registration of establishments conducting animal experimentation or breeding of animals for this purpose.
2. Selection and assignment of nominees for the Institutional Animal Ethics Committees of the registered establishments.
3. Approval of Animal House Facilities on the basis of reports of inspections conducted by CPCSEA.
4. Permission for conducting experiments involving use of animals.
5. Recommendation for import of animals for use in experiments.
6. Action against establishments in case of established violation of any legal norm/stipulation.
7. Conduct of Training Programmes for the Nominees of CPCSEA.
8. Conduct / Support of Conference / workshop on Animal Ethics.

MAINTENANCE OF LABORATORY ANIMALS AS PER CPCSEA GUIDELINE:

- The goal of these guidelines is to promote the human care of animal used in biomedical and behavioural research and testing.
- To avoid unnecessary pain before, during and after experiment.
- To provide guideline for:
 - Housing, care, breeding and maintenance
 - Source of experimental animals
 - Acceptable experimental procedures for anesthesia and euthanasia

It is essential to take care of below mention points regarding the experimentation on animal as per CPCSEA guideline:

ANIMAL PROCUREMENT

1. QUARANTINE
2. STABILIZATION AND
3. SEPARATION

1. QUARANTINE:

- Separation of newly received animals from those already in the facility until the health and possibly the microbial status of newly received animal have been determine.
- A minimum duration of quarantine for small animal-1 week and for larger animal-6 week.

2. STABILIZATION:

- Physiologic, psychological and nutritional stabilization should be given before their use.
- Duration of stabilization will depend on type and duration of animal transportation, and species of animal.

3. SEPARATION:

- Physical separation of animal by species is recommended to prevent interspecies disease transmission and to eliminate anxiety and possible physiological and behavioural changes due to interspecies conflict.
- Housing different species in separate room.
- It shall be acceptable to house different species in the same room, e.g. two species have a similar pathogen status and are behaviourally compatible.

SURVELLANCE, DIAGNOSIS, TREATMENT AND CONTROL OF DISEASE:

- All animal should be observed for signs of illness, injury, or abnormal behaviour by animal house staff.
- Animals that show signs of a contagious disease should be isolated from healthy animals in the colony.

ANIMAL CARE AND TECHNICAL PERSONNEL:

- Animal care require technical and husbandry support.
- Institution should employ people trained in laboratory animal or provide for both formal and on the job training to ensure effective implementation of the program.

PERSONAL HYGIENE:

- Animal care staff maintain a high standard of personal cleanliness.
- Clothing suitable for use in the animal facility should be supplied and laundered by the institution.
- It acceptable to use disposable gear such as gloves, masks, head covers, coats, coveralls and shoe covers.
- Person should change clothing as often as is necessary to maintain personal hygiene.
- Personnel should not be permitted to eat, drink, smoke or apply cosmetic in animal rooms.

MULTIPLE SURGICAL PROCEDURES ON SINGLE ANIMAL:

- Multiple surgical procedures on a single animal for any testing or experiment are not to be practiced unless specified in a protocol only approved by the IAEC.

DURATIONS OF EXPERIMENTS:

- No animal should be used for experimentation for more than 3 years unless adequate justification is provided.

PHYSICAL RESTRAINT:

- Restraint devices cannot be used simply as a convenience in handling or managing animals.
- The period of restraint should be the minimum required to accomplish the research objectives.
- Provision should be made for observation of the animal at appropriate intervals.

PHYSICAL RELATIONSHIP OF ANIMAL FACILITIES OF LABORATORIES:

- Animal shall be housed in an isolated building located as far away from human habitations as possible and not exposed to dust, smoke, noise, wild rodent, insects and birds.
- This separation can be accomplished by having the animal quarters in a separate building, wing, floor or room.
- The animal room should occupy about 50-60% of the total constructed area and the remaining area should be utilized for service such as stores, washing, office and staff, machine rooms, quarantine and corridors.
- Since animals are very sensitive to environmental changes, sharp fluctuations in temperature, humidity, light, sound and ventilation should be avoided.

FUNCTIONAL AREAS:

- Ensure separation of species or isolation of individual projects when necessary.
- Receiving and storage areas for food, bedding.

- Space for administration, supervision, and direction of the facility.
- Showers, sinks, lockers and toilets for personnel.
- Washing and sterilization equipment and supplies.
- For holding soiled and cleaned equipment.
- For repairing cages and equipment.
- To store wastes prior to incineration or removal.

PHYSICAL FACILITIES:

i. BUILDING MATERIALS

Moisture-proof, fire-resistant, seamless materials are most desirable for interior surfaces including vermin and pest resistance.

ii. CORRIDOR:

Wide enough to facilitate the movement of personnel as well as equipments and should be kept clean.

iii. UTILITIES:

Water lines, drain pipes and electrical connection.

iv. ANIMAL ROOM DOORS:

Rust, vermin and dust proof. It properly within their frames and provided with an observation window.

v. FLOORS:

Smooth, moisture proof, non-absorbent, skid-proof, resistant to wear, acid, solvents, adverse effects of detergents and disinfectants. Capable of supporting racks, equipment and stored items without becoming gouged, cracked, or pitted.

vi. DRAINS:

Floor drains are not essential in all rooms used exclusively for housing rodents.

vii. WALLS & CEILINGS:

Free of cracks, unsealed utility penetrations, or imperfect junction with doors, ceilings, floors and corners.

viii. STORAGE AREAS:

Separate storage areas should be designed for feed, bedding, cages and materials not in use.

ix. FACILITIES FOR SANITIZING EQUIPMENT AND SUPPLIES:

An area for sanitizing cages and ancillary equipment is essential with adequate water supply.

x. EXPERIMENTAL AREA:

It should be carried out in a separate area from the place where animals are housed.

ENVIRONMENT:

i. TEMPERATURE AND HUMIDITY CONTROL:

- Air conditioning
- Temperature with in the range of 64.4-84.0 F
- Relative humidity- 30-70% throughout the year
- For large animal comfortable zone-18-37° c

ii. POWER & LIGHTING:

- The electrical system should be safe and provide appropriate lighting and a sufficient no. of power outlets.
- A time control light system should be used.

iii. NOISE CONTROL:

- Noise free environment

ANIMAL HUSBANDRY CAGING & HOUSING SYSTEM:

- Adequate ventilation
- Meet the biological need of animal
- Keep the animal dry and clean
- Facilitate research while maintaining good health of the animals
- Cages made of steel or painted steel
- Feeding and watering devices should be easily accessible for filing, changing, cleaning and servicing.

FOOD:

- It should be fed palatable, non-contaminated and nutritionally adequate food.
- Feeders should allow easy access to food while avoiding contamination by urine and faeces.
- Food should be available in a mounts sufficient to ensure normal growth in immature animals and maintenance of normal body weight, reproduction and lactations in adults.
- Areas in which diets are stored should be kept clean and enclosed to prevent entry of insects or other animals.
- Diet should be free from heavy metals.

BEDDING:

- Absorbent, free of toxic chemicals or other substances that could injure animals or personnel, and of a type not readily eaten by animals.
- It should be removed and replaced with fresh materials as often as necessary to keep animal clean and dry.
- It should be easily stored

- Uncontaminated
- Non-toxic
- Non-malodorous
- Disposable by incineration

WATER:

- Fresh
- Potable
- Uncontaminated

WATER DISPOSAL:

- The most preferred method of waste disposal is incineration.
- If wastes must be stored before removal, the waste storage area should be separated from other storage facilities and free of flies, cockroaches, rodents and other vermin.

PEST CONTROL:

- Programs designed to prevent, control, or eliminate the presence of or infestations by pests are essential in an animal environment.

EMERGENCY, WEEKEND AND HOLIDAY CARE:

- Animal should be cared for by qualified personnel every day, including weekends and holidays, to safeguard their well-being including emergency veterinary care.

RECORD KEEPING:

- Animal house plans
- Animal house staff record
- Health record of staff/animals
- All SOPs relevant to the animals
- Breeding, stock, purchase and sales records
- Minutes of institute animals ethics committee meetings
- Records of experiments conducted with the no. of animals used
- Death record
- Clinical record of sick animals training record of staff involved in animal activities → Water analysis report

STANDARD OPERATING PROCEDURES (SOPs)/ GUIDELINES:

- Maintain SOPs describing procedures/ methods adapted with regard to animal husbandry, maintenance, breeding, animal house microbial analysis and experimentation record.
- SOPs should contain following items-

- Name of author
- Title of SOP
- Date of preparation
- Reference of previous SOP on the same subject and date
- Location and distribution of SOPs with sign of each recipient
- Objectives
- Detailed information of the instruments used in relation with animals
- Normal value of all parameters.

TRANSPORT OF LABORATORY ANIMALS:

- The main considerations for transport of animals are the mode of transport, the containers, the animal density in cages, food and water during transit, protection from transit infection, injuries and stress.

ANAESTHESIA:

- Sedatives, analgesics and anaesthetics should be used to control pain or distress under experiment. Before use actual anaesthetics the animals is prepared for anaesthesia by overnight fasting and using pre-anaesthetics.
- Local or general anaesthetics may be used depending on type of surgical procedure.

DISPOSAL:

- The transgenic and knockout animal should be first euthanized and then disposed off as prescribed elsewhere in the guidelines.
- A record of disposal and the manner of disposal should be kept as a matter of routine.