

Capacity building for animal research in teaching and research institutions

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Animal Research



- Animal research is irreplaceable in many situations:
 - Preclinical testing of new chemical entities.
 - Validation of novel physiological concepts.
 - Research in veterinary sciences.
 - Training in surgical techniques.
- Animal research practices are keenly observed by various stakeholders: CPSCEA, politicians, scientists, media and general public.

Capacity building measures

- Infrastructure development.
- Compliance with CPCSEA guidelines.
- Training of scientists.
- Training of allied workforce.
- Animal welfare practices- 4R Concept.
- Appointment of IAEC.
- Appointment of IBSC.

Infrastructure development

- Establishment or up-gradation of animal research facilities in research institutions.
- Compliance with CPSCFA guidelines for establishment and maintenance of laboratory animal facility.
- MCI has made the requirement of animal houses optional for recognition of new medical colleges with intake less than 150 students, since 2008.

Animal procurement

- Animals must be acquired lawfully from licensed breeders.
- Health surveillance program for procured animals.
- Quarantine and stabilization of procured animals for adequate period according to species.
- Physical separation of animals by species to prevent interspecies disease transmission and anxiety.
- Isolation of diseased animals from healthy for containment of spread of infections.

Expert Veterinary Care

- A veterinarian should provide adequate veterinary services at all animal research facilities.
- Daily observation of animals for signs of disease and appropriate isolation and treatment.
- Establish policies for ancillary services of:
 - Animal husbandry
 - Zoonosis control programs
 - Supervision of animal nutrition and sanitation.
 - Review of animal research protocols.
- Maintain SOPs describing procedures adopted with regard to animal husbandry, maintenance, breeding, animal house microbial analysis and experimentation records

Training of Scientists



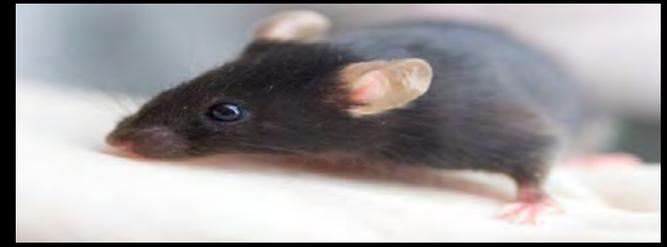
Training of Scientists

- Scientists should be trained early on in good animal welfare practices:
 - Animal handling techniques.
 - Techniques of blood sampling from animals.
 - Techniques of anaesthesia and euthanasia
 - Effective analgesia and infection control after surgical procedures.
- Special training for specific invasive procedures in research protocols under expert supervision.

Training of Ancillary workforce

- Adequately qualified ancillary staff.
- A few weeks of in-house training of the newly recruited staff in animal handling techniques, cleaning of cages, personal hygiene, disinfection and sterilization.
- Training to distinguish healthy and sick animals during daily routine check of cages.

The 4R Concept



- **Replacement**- replace animal research by equally valid alternative methods wherever possible
- **Reduction**- reduce number of animals employed in experiments,
- **Refinement** of experimental techniques and procedures
- **Rehabilitation** of animals after completion of experiments

Record Keeping

- Animal House plans, which includes typical floor plan, all fixtures etc..
- Animal House staff record – both technical and non – technical.
- Health record of staff/ animals.
- All SOPs relevant to the animals.
- Breeding, stock, purchase and sales records.
- Minutes of institute Animals Ethics Committee Meetings.

Institutional Animal Ethics Committee (IAEC)

- All research institutions conducting animal research should constitute an IAEC according to CPSCEA guidelines.
- Experimental protocols should be considered in a two-tier system:
 - evaluated internally for scientific merit by a committee of subject experts
 - approved protocols should then be considered by IAEC.

IAEC Composition

- a biological scientist
- two scientists from different biological disciplines of the institute,
- a veterinarian involved in the care of animals,
- the scientist in charge of animal facility of the establishment concerned,
- a scientist from outside the institute,
- a non scientific socially aware member and
- a representative or nominee of the CPCSEA.

Institutional Biosafety Committee (IBSC)

- Constituted in all centers engaged in genetic engineering research and production activities.
- Any research project likely to have biohazard potential during the execution stage or which involve the production of either micro-organisms or biologically active molecules that might cause biohazard should be notified to IBSC.

Thank You..



Institutional Biosafety Committee (IBSC)

- IBSC will allow genetic engineering activity on classified organisms only at places where such work should be performed as per guidelines.
- Provision of suitable safe storage facility of donor, vectors, recipients and other materials involved in experimental work should be made and may be subjected to inspection for accountability.

Bibliography

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