

ARMED FORCES RESEARCH INSTITUTE OF MEDICAL SCIENCES (AFRIMS)

Role of the Attending Veterinarian and Adequate Veterinary Care



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Disclaimers

The views expressed are those of the presenter and do not reflect the official policy of the Department of the Army, Department of Defense, or the U.S. Government.

Research was conducted in compliance with the Animal Welfare Act and other federal statutes and regulations relating to animals and experiments involving animals and adheres to principles stated in the *Guide for the Care and Use of Laboratory Animals*, NRC Publication, 2011 edition.

Overview

- Role of Attending Veterinarian
- Role of Attending Veterinarian per AFRIMS's Policy
- Line of authority (direct or delegated responsibility)
- Veterinary Care Program
 - Well-maintained Facility
 - Adequate personnel training
 - Proper equipment and services
 - Prevent and Control Diseases (animal receipt and quarantine)
 - Surveillance and Vaccination programs
 - Animal observation: assess animal health and welfare
 - Enrichment program
 - Medical management
 - Protocol support

An attending veterinarian (AV),

Guide 8th edition

- **AV is responsible for the health and well being of all animals in the institution.**
- **Has sufficient authority to access all animals, manage the program of veterinary care and oversee all aspects of animal care and use.**



Role of Attending Veterinarian per AFRIMS's Policy (1 of 2)

- (1) Procure, maintain, and provide health and adequate veterinary care to animals housed in Institute facilities and maintain required records of those activities
- (2) Provision of animal husbandry, healthcare and animal facility maintenance
- (3) Provide protocol support, as needed, to research personnel and ensure that all animal use procedures are performed in accordance with applicable laws and regulations

Note: the AV is authorized by the IO, by virtue of approval of this policy letter, to treat an animal and institute appropriate measures to relieve severe pain or distress, including euthanasia.



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Role of Attending Veterinarian per AFRIMS's Policy (2 of 2)

- (4) Provide training to investigators and technicians
- (5) Provide veterinary consultation to PIs during the draft stages of each protocol and throughout the study
- (6) Maintain the Institute's AAALAC Accreditation standard
- (7) Serve as a voting member on the IACUC
- (8) Communicate any concerns regarding pilot studies to the IACUC
- (9) Evaluate potential animal vendors for quality of animals they supply. No animals may be procured prior to IACUC approval of a research protocol

Adequate Veterinary Care: Accepted professional practice or treatment for the particular circumstance or condition

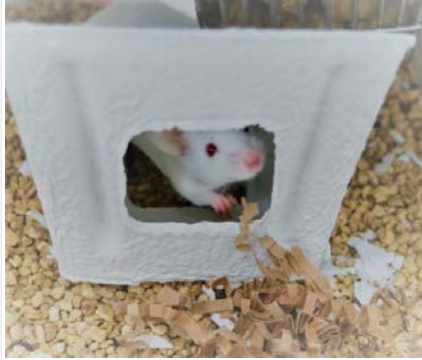


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AFRIMS Animal Census

- ICR mice and rhesus macaques
 - Outbred ICR mice (*Mus musculus*): 293
 - Rhesus monkeys (*Macaca mulatta*): 494

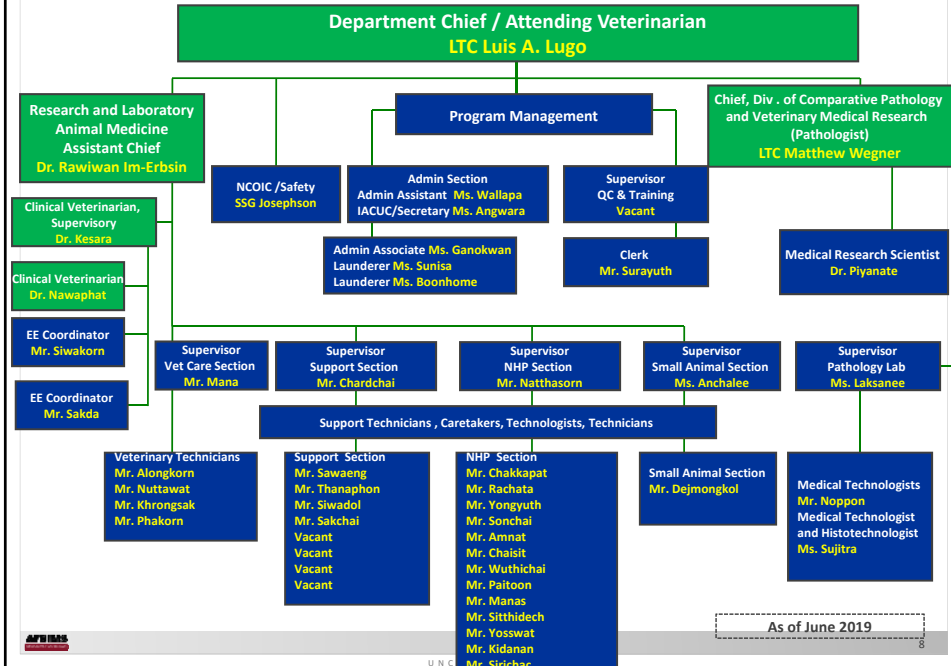


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Line of Authority (direct or delegated responsibility)



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As of June 2019

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Veterinary Care Program

- Adequate facilities
- Qualified and well-trained personnel
- Appropriate equipment and services
- Appropriate methods to control, prevent, diagnose, and treat diseases and injuries
- Weekend, holiday, and emergency care must be readily available
- Daily observation of all animals to assess their health and well-being
- Mechanism of direct and frequent communication (timely and accurate information on problems of animal health, behavior, and well-being)
- Appropriate care and use of animals including handling, immobilization, anesthesia, analgesia, tranquilization, and euthanasia
- Adequate pre and post procedural care
- Well established Occupational Health Program

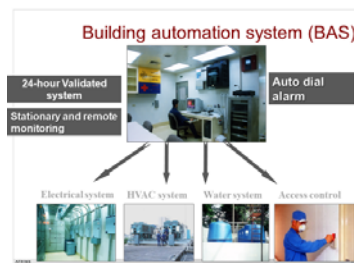
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WELL-MAINTAINED LABORATORY ANIMAL FACILITY

- Multiple renovations since 1999



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Adequate Personnel Training



AALAS technician certification, www.aalas.org

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In-house laboratory service facilities: Hematology / Pathology Laboratory Support Team

HEMATOLOGY SECTION

METHEMOGLOBIN DETERMINATION



AUTOMATED BLOOD CELL COUNTS BY SYSMEX K-800 ANALYZER



HISTOLOGY SECTION

RHS-1 Vacuum Histoprocessing



Microtome



Embedder



Redundant Facility Systems



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NHP Receipt and Quarantine



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Receipt and Quarantine Procedures

Receipt

- Quick check of the container to note any damage
- Validate the shipment
- Check animal health certificates
- Immediately disinfect the outside of the containers
- Verify both animal number and sex.
- Briefly examine the animals
- Transport to designated quarantine room

Quarantine

- Quarantined for 90 days or after the completion of 3 consecutive negative TB tests
- Within 24-48 hours, stool examination
- 72-96 hours, perform thorough examination
- Collect specimens: blood samples for CBC and chemistries, rectal swab for enteric pathogen culture
- Prophylactic de-worming
- Perform TB testing every 2 weeks at least total 3 times
- At the end of the period, perform another TB testing and physical examination

Health monitoring

- Observation 3 times daily for:
 - signs of disease
 - food/water deprivation
 - physical trauma
 - any abnormalities in animal health, behavior, or appearance



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Surveillance and Vaccination Programs:

- Semi-annual Tuberculosis testing (MOT)
- Physical examination
- Body weight
- Blood for CBC and chemistries
- Serology
- DNA testing



Vaccination Program

- Based on risk assessment; measles, rabies and tetanus
- If the animals are maintained in indoor housing, only measles vaccination is required



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Serology testing

- Serum samples are sent to reliable commercial laboratories such as VRL (USA), for surveillance of antibodies to specific primate viruses such as:
 - Simian retrovirus (SRV)
 - Simian immunodeficiency virus (SIV).
 - Simian T-cell leukemia virus (STLV)
 - *Macacine herpesvirus 1* (B-virus): Zoonosis
 - Measles

Screening Methodology: Enzyme-Linked Immunosorbent Assay

Confirmation Methodology: Western blot



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Assess animal health and welfare



- Scheduled observations must be appropriate and frequent enough to provide adequate veterinary care to all animals at all times.
- Observe animals for clinical signs and behavior:
 - at least three times daily by Animal technician
 - At least once daily by Veterinary technician
 - At least once daily by Veterinarian

The observation time point can be increased depending on:

- the number of animals
- the species of animals
- the type of housing for the animals
- the type of work or research done on the animals
- the possibility, or level, of pain or distress that may be involved
- any other conditions or factors that may affect the animal's well-being



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Enrichment program



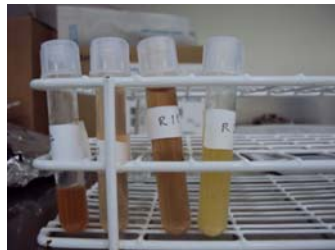
- Social activity: house social species in compatible pairs or groups
- Sensory: provision of devices that enhance visual, auditory, tactile, olfactory and gustatory stimulation
- Physical: the complexity of the animal's enclosure
- Occupational: provision of devices that provide challenges or encourage movement
- Nutritional: provision of new or varied food types or modification of how food is delivered
- Positive reinforcement interaction: provision of regular positive interactions with humans
- Human interaction: Personnel spend as much time with the same animals as possible to allow cooperation during common procedures

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Medical Management



- Provide adequate care to all animals, available 24/7 including weekends, holidays and emergencies by qualified veterinarian
- Adequate record keeping system and up to date medical records
- Timely and accurate method to inform abnormalities or concerns about animal health to veterinarians
- Well-planned experiments with clearly delineated scientific goals and humane endpoints
- Well developed SOPs including those for recurrent or significant problems or health conditions (to expedite treatment)

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Protocol Support

- Consider to use the appropriate anesthetic or analgesic drug for Protocols involving potential pain or distress. unless withholding such drugs is justified for scientific reasons, in writing, by the principal investigator and will continue only for the necessary period of time.
- Ensure that specimen samples are collected IAW the approved protocol to meet the scientific and animal welfare aspects.
- Euthanasia should be performed IAW the approved protocol or to relieve pain or distress that cannot be alleviated by any other means
- Criteria for Euthanasia, including specific-endpoints, must be described on each study protocol



Questions?