TEXAS A&M UNIVERSITY
SAN ANTONIO

IACUC SOP	Common Minor Medical Conditions of Small Animals and Treatments	
SOP#301.00	**IACUC Approval: 1/12/2024**	**IO Approval: 4/18/2024**

Purpose:
This SOP authorizes and outlines early assessment and treatment by principal investigator and other responsible personnel for common minor medical injuries and illness in small animals.

Statement:
The use of all live vertebrate animals subject to oversight by Texas A&M University-San Antonio (A&M-SA), whether for research, teaching, testing purposes must be submitted for evaluation by the IACUC.

Responsibilities:
The Attending Veterinarian (AV) is responsible for ensuring adequate medical care for all A&M-SA research and teaching animals. By defining common minor medical conditions of rodents and treatment options, animal care and research personnel can implement early treatment, **if approved by the AV**.

Procedures:
Identification and Treatment may include but not limited to the following:

Eyes and surrounding tissues

1: Conjunctivitis:

a. Symptoms: inflammation of the conjunctiva that presents with swollen, pink tissue exposed from within the eyelids. Ocular discharge may be present. Closed or partially closed eyelid.

b. Treatment: gentle flushing of the eye with sterile saline if necessary for cleaning, and topical application of an ophthalmic ointment or drops daily for 1-5 days. Cage changing frequency may be increased for neonates (excess shedding in first week of life). Bedding change for nude or hairless mice may be considered, or if in static cage, move to ventilated cage system.
For reptiles: Clean the affected area and flush with DI water once per day. If swelling persists, contact veterinarian.

2: Cataract (Cloudy eye):

a. Symptoms: a small, circular, circumferential white/opaque appearance of the lens deep within the eye. The eye maintains a normal contour and appearance. C57BL/6 strain mice are susceptible.

b. Treatment: cataracts do not cause animal welfare problems and can be monitored by staff on rounds.

3: Microphthalmia or anophthalmia:

a. Symptoms: a small or missing eye. This can be a congenital condition.

b. Treatment: if the eye has discharge, treat topically as directed for conjunctivitis. Otherwise, no treatment is needed and condition can be monitored by staff on rounds.

Skin Lesions

4: Fight wounds/Bite wounds

a. Symptoms: most commonly seen in co-housed male mice. Typical presentation is a cluster of wounds, hair loss, bleeding on the rump, hips, and/or genital region.

b. Treatment: minor wounds can be treated with topical medications daily for 1-7 days. Co-housed male mice with fight wounds should be separated. Treatment for severe fight wounds should be based on veterinary recommendation.

For reptiles: Clean the affected area wipe with diluted Chlorohexidine and apply topical medication as previously approved by the Veterinarian. If wounds worsen, contact Veterinarian.

5: Ear Dermatitis

a. Symptoms: often related to ear tags used for identification. Similar lesions to ulcerative dermatitis but isolated to the ears.

b. Treatment: removal of the ear tag followed by topical medications daily for 1-7 days.

6: Alopecia/Barbering

a. Symptoms: hair loss, especially around the face or in one location on several mice within a group. The skin is not inflamed. If whiskers have been removed, vet services should be notified as soon as possible.

b. Treatment: no medical treatment is necessary but increased environmental enrichment may decrease the behavior.

7: Abscesses

a. Symptoms: can occur in any location, but may be secondary to bite wounds, tumors or blocked ducts to normal exocrine glands such as the preputial glands of male mice or rats.

b. Treatment: if the lump has opened and is draining, topical medications can be used once daily for 1-7 days.

For reptiles: Clean the affected area, flush with DI water once per day, apply diluted Chlorohexidine or other topicals. If abscess worsens or persists, contact Veterinarian.

<u>Congenital deformities</u>

8: Hydrocephalus:

a. Symptoms: pups will visibly have a rounded head and shortened muzzle. They will be smaller than littermates.

b. Treatment: these animals rarely survive to adulthood. Supportive care with special food may be provided until the PI or AV is contacted for euthanasia permission.

9: Malocclusion:

a. Symptoms: misaligned incisor teeth that do not wear down normally and overgrow. The condition can cause teeth to grow into the soft tissue of the mouth and will interfere with food consumption causing weight loss and runting. This is a hereditary condition in some strains and affected rodents should not be used for breeding.

b. Treatment: Check and trim incisor teeth at least every 2-3 weeks. Animals may require feed on the floor of the cage or soft food. This is a life-long condition requiring continual treatment.

10: Runt pups:

a. Symptoms: small, poorly developing pups usually indicate a genetic abnormality or competitive disadvantage.

b. Treatment: Check the teeth for any malocclusion. If teeth are normal, provide softened food, Hydrogel packs, or other commercially available gel diets on the cage floor.

11: Dystocia (difficulty in delivery of pups)

a. Symptoms: signs include presence of a pup in the vaginal canal but not passing, immobility and dehydration, distention of the abdomen with little muscle tone, or labor for an extended period of time (more than a couple hours).

b. Treatment: call AV immediately if dystocia is suspected. Treatment should be only at the direction of a veterinarian.

12: Vaginal or uterine prolapse:

a. Symptoms: exposed uterine or vaginal tissue. Can be secondary to hyperplasia or excessive abdominal contractions. A uterine prolapse requires emergency intervention and most likely euthanasia. Minor vaginal prolapses can be treated but female breeding mice with vaginal prolapses should not be bred again.

b. Treatment: call AV immediately if suspect vaginal or uterine prolapse. Treatment at the direction of a veterinarian.

13: Rectal Prolapse:

a. Symptoms: The distal portion of the rectum is prolapsed exterior to the body presenting as a small red mass at the anus. Can be confused with a vaginal or uterine prolapse. The rectal tissue may bleed or become dry & necrotic. Incidence varies with different mouse strain.

b. Treatment: call AV if concerned about rodent with rectal prolapse. If the prolapse is minor, it may be treated with application of topical medications once daily for 1-5 days. Affected animals should be separated from cage mates to prevent more trauma. Female breeding mice with prolapses should not be bred again.

14: Balanoposthitis or paraphimosis (inflammation of the penis or prepuce):

a. Symptoms: swelling and redness of the prepuce or foreskin (balanoposthitis) and prolapse of the penis exterior to the prepuce or foreskin (paraphimosis). The exteriorized penis will be red and swollen and may bleed or become dry & necrotic.

b. Treatment: call AV if concerned about rodent with paraphimosis. If the inflammation is minor, gently cleanse the penis with clean gauze or cotton soaked with warm water and diluted chlorhexidine, saline or other appropriate solution. Examine the area for entrapping fibers or bite wounds. Simple inflammation can often be treated with topical medications once a day for 1-7 days. Breeding males should be separated from females until the condition is resolved.

<u>Mobility Issues:</u>

15: Foot injuries

a. Symptoms: lameness, dragging of the limb, dark color to the skin, swelling.

b. Treatment: call AV if lameness or dragging of the limb is noted to last for more than a few minutes or if the limb has any dark discoloration. If lameness is minor, then observation overnight is warranted. Treatment at the direction of a veterinarian.

16: Neurologic (seizures, head tilt, rolling, circling):

a. Symptoms: seizures or epilepsy can occur intermittently when stimulated (e.g. cage change). The animal may show signs of lack of mentation, chewing, righting difficulty, and muscle contractions. These episodes should only last for a few minutes. Certain strains are more susceptible. Head tilt, rolling or circling can be an indication of brain lesion or inner ear disturbance.

b. Treatment: call AV promptly if you note animals with any of these conditions. Moistened food or commercially available gel packs can be provided. Debilitated or compromised animals

17: Dehydration, geriatric, post-operative animals, cage flooding with subsequent hypothermia

a. Symptoms: hunched, hair coat ruffled, lack of spontaneous movement with stimulation.

b. Treatment: call AV and the PI immediately. Provide moistened food or commercially available gel packs can be provided until AV can assess. If flooded cage, prompt warming (gel packs, heat lamp, recirculating water blankets). Never leave a cage exposed to a heat source unattended.

For reptiles: Food and water may be provided through processes such as oral gavage or syringe. Increase the misting frequency and observe the animals. Acute dehydration increases the pain and distress level and must be reported as an adverse event to IACUC and the Veterinarian promptly.

Notification: Personnel identifying any of these conditions must notify the principal investigator (or designee) and Attending Veterinarian prior to initiating treatment unless prior approval for treatment has been given. All animals identified with a minor medical condition must be reported to the IACUC office via iacuc@tamusa.edu. Emergency first aid procedures (i.e. cleansing of wound, stopping hemorrhage) should be accomplished prior to notifying the PI or AV if the condition is severe.

Documentation: To initiate treatment documentation, use the back side of the cage card or individual lab records. The card provides enough space to document one week of daily treatment. The AV will assess treatment efficacy and develop a follow up care plan if needed or will resolve the case. When the case has resolved (returned to normal limits, euthanasia) or transferred to long term care, write the date on the card or animal record.

Resolution of Case: Affected animals that have been assessed and treated and have improvement of clinical signs where there are no active clinical signs (described above) can be resolved and treatment stopped. Resolution of a case can be initiated by trained research staff, animal care staff or the AV. Resolution date should be noted in the daily log. The cage card should be placed behind the cage card for the life of the animal to indicate prior history and possible recurrence of the condition. If the animal is euthanized place the date of euthanasia on the card and keep the card with the lab records.

References:

1. Burkhold, T, Folt, C, Smith, J.M, 2012. Health Evaluation of Experimental Mice. Curr Protoc Mouse Biol. 2012 June ;
2. 2: 145–165 2. Hankenson, C.F, Critical Care Management for Laboratory Mice and Rats. 2014. CRC Press.

History:

Version 01 - Initial Approval: 1/12/2024

IO Approved: 4/18/2024