Standard Operating Procedure #9
Title: Minor Medical Treatment of Rodents

Purpose:

Currently, the Office of the Campus Veterinarian (OCV) is mandated to examine and direct the treatment for any and every medical condition in animals at WSU other than care covered by an individual medical SOP, ASAF or under IACUC policy #3 (Guidelines for Veterinary Care of Animals by Veterinary Researchers and Veterinary Faculty: http://www.iacuc.wsu.edu/documents/forms/pdf/Policy_3.pdf).

Rodents do suffer occasional minor injuries and illnesses which can be assessed and treated by faculty, students, research staff and animal care technicians. This SOP authorizes and provides direction for the initial evaluation and treatment of rodents with specific minor medical conditions by faculty, students, research staff and animal care technicians.

Policy:

Faculty, students, research staff and animal care technicians may assess medical conditions and provide the treatments for rodents with the following specific minor medical conditions (conjunctivitis, balanoposthitis or paraphimosis (inflammation of the penis or prepuce), rectal prolapse, bite wounds, ulcerative dermatitis, malocclusion, ringtail and unthrift).

OCV remains responsible for veterinary medical care at WSU and must still be notified about ill or injured animals as directed in the Notification Protocol for Abnormal Behavior in Research or Teaching Animals (http://campusvet.wsu.edu/contact/documents/OCVNotificationprocessFINAL.pdf). All ill or injured animals should be entered into the OCV Animal Health database for case tracking.

OCV will continue to provide veterinary medical care when there are no other appropriate personnel available to provide care. They will also examine ill and injured animals as needed and inspect medical records of animals receiving medical care from non-OCV personnel. Animals with severe injury or illness and animals with medical conditions not covered in this SOP must be evaluated by the OCV veterinary staff. All assessments and treatments should be recorded in a medical record.

Procedures:

When an animal is noted as having a medical issue, the person noting the animal’s condition must do the following:

- **Notification:** The principle investigator (or his/her designee) must be informed prior to initiating treatment. All ill or injured animals should be entered into the OCV Animal Health database for case tracking.
- **Flagging of Cage:** The cage should be flagged to indicate that there is an animal receiving medical treatment.
Common Minor Medical Conditions:

1) Conjunctivitis:
   a. Symptoms: closed or partially closed eyelid, redness of the tissues, clear ocular discharge.
   b. Treatment: minor injuries to the eye or inflammation of the conjunctiva can be treated with application of triple antibiotic ophthalmic ointment to the affected eye once a day for 1-3 days.
   c. Contact OCV: If no improvement is observed in 3 days or if there is visible blood, pus, swelling of the globe, corneal ulceration or corneal rupture, the animal should be evaluated by the OCV veterinary staff.

2) 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: 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 application of triple antibiotic ointment, chlorhexidine ointment, silver sulfadiazine or dilute chlorhexidine solution to the affected area once a day for 1-3 days. Breeding males should be separated from females until the condition is resolved.
   c. Contact OCV: Animals that are unable to urinate and those with entrapping fibers, infection, depression, lack of appetite and inflammation that do not heal appropriately should be evaluated by the OCV Veterinary Staff.

3) Bite wounds:
   a. Symptoms: Minor dermal ulcerations, hair loss, evidence of minor bleeding
   b. Treatment: If minor bleeding is noted, apply gentle pressure to the wound till bleeding stops. If hair is matted or if there is discharge noted, gently cleanse wound with clean gauze soaked with warm water and diluted chlorhexidine or other appropriate solution. Minor skin trauma can be treated with application of triple antibiotic ointment ± pramoxine, silver sulfadiazine, chlorhexidine ointment or dilute chlorhexidine solution to the affected area once a day for 1-3 days. Affected mice should be housed in isolation from other mice.
   c. Contact OCV: Animals with wounds penetrating a body cavity, wounds with serious hemorrhage, infection, lameness or loss of limb function, depression, lack of appetite, and wounds that do not heal appropriately should be evaluated by the OCV Veterinary Staff.
4) **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 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.
   c. **Contact OCV:** Animals with severe jaw abnormalities, those with misaligned molars that cannot be trimmed easily or with teeth penetrating soft tissues of the mouth or broken teeth should be evaluated by the OCV Veterinary Staff.

5) **Ulcerative Dermatitis:**
   a. Ulcerative dermatitis of mice is managed under WSU IACUC SOP #11. Below are initial treatment recommendations. Please refer to SOP # 11 for management of ulcerative dermatitis and criteria for euthanasia.
   b. **Symptoms:** Mice are typically reported for pruritus, skin irritation and ulceration. Lesions range from hyperemic skin and alopecia to large full thickness skin ulcerations in the affected areas. Lesions typically start around the ears and between the shoulder blades. Ulcerative dermatitis is a strain & age-related poorly treatable, chronic progressive condition that typically does not ever fully resolve so has to be managed for the life of the animal. Severe cases should be euthanized as they are unlikely to improve and the resulting inflammation and life-long treatment requirements can have a significant impact on research data.
   c. **Initial Treatment:**
      i. Housing- separating affected animals does help prevent future aggression
      ii. Trimming of rear toenails
      iii. Topical treatment
         a. Triple antibiotic ointment ± pramoxine - apply once a day for 1-3 days. If lesions are near the eye then triple antibiotic ophthalmic ointment may be used AND/OR
         b. Dilute chlorhexidine solution or chlorhexidine ointment- apply once a day for 1-3 days AND/OR
         c. Silver sulfadiazine ointment- apply once a day for 1-3 days AND/OR
         d. Green clay (montmorillonite) Apply clay poultice to a thickness of 5 mm every 3-4 days
   
   **Contact OCV:** Animals that do not improve within 3-4 days of treatment should be managed as per SOP# 11. Dermatitis and excess scratching may also be a symptom of a fur mite infestation so increased incidence of dermatitis in a rat or mouse colony
should be reported to and investigated by the OCV Veterinary Staff.

6) 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 strains.

b. **Treatment:** Small rectal prolapses may be treated with application of Hemorrhoid Cream with pramoxine, chlorhexidine ointment, petroleum jelly-based products such as triple antibiotic ointment or Puralube or dilute chlorhexidine solution. Female breeding mice with prolapses should not be bred again.

c. **Contact OCV:** Mice with bleeding, large and/or necrotic prolapses and mice with accompanying symptoms such as lethargy and diarrhea should be evaluated by the OCV Veterinary Staff. Rectal prolapses may be a symptom of enteric disease and underlying parasitic, viral or bacterial infections so increased incidence of rectal prolapses in a colony should be reported to and investigated by the OCV Veterinary Staff.

7) Ringtail in mouse and rat pups: Ringtail in rats and mice associated with low relative humidity of mice is managed under WSU IACUC SOP #12. Below are initial treatment recommendations. Please refer to SOP #12 for management of ringtail.

a. **Topical treatment:** frequent liberal applications of lanolin (medical grade 100% lanolin such as Lansinoh),

b. **Increasing relative humidity:** If housed in a ventilated cage, remove the cage from the ventilation. Add water soaked nesting material and/or mist the cage with water daily to increase the humidity within the cage environment.

8) Supportive feeding for compromised animals:

a. **Symptoms:** Animals that have difficulty reaching and gnawing on hard rodent chow pellets. This can include dehydration, neurological disease, geriatric animals, animals with tumors, post-partum or post-operative animals and weanlings.

b. **Treatments:**
   i. Nutrical 1-2 ml/animal per day orally, on rodent chow or in a dish
   ii. Rodent chow, water/nutrical softened rodent chow or commercial gel diet products such as Dietgel recovery in the bottom of the cage.
   iii. Individual housing of an animal with minor medical conditions may be necessary to reduce stress, more closely monitor the animal’s condition and food/water intake & waste output, and reduce the possibility of further trauma being caused by a cage mate.
   iv. Long-term use of softened feed may result in overgrown teeth
   v. Rodent chow and diet gel products may be routinely fed on the cage floor for 7 to 14 days for weanlings and post-operative animals without notification of OCV or
documentation in a medical record.

c. Contact OCV: Severely debilitated animals should be evaluated by the OCV veterinary staff.

Office of the Campus Veterinarian Contact Information: 509-335-6246

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