1. Personnel and Purpose
   a. This SOP authorizes and outlines objective scoring and various treatment options of mice with ulcerative dermatitis by veterinary staff, investigative personnel and animal care technicians and provides criteria for determining euthanasia in severe intractable cases of ulcerative dermatitis.

2. Explanation of Ulcerative Dermatitis
   a. Etiology: The cause of ulcerative dermatitis syndrome is unknown but is likely multifactorial with an epigenetic component. Risk factors include high fat diet and certain genotypes such as E or P selectin and inducible nitric oxide synthase knockouts. Ulcerative dermatitis may be spontaneous or may occur secondary to a break in the skin, such as fight wounds or ear tags. There is no definitive cure for ulcerative dermatitis but mild cases can be managed with long-term therapeutic intervention.
   b. Incidence: Ulcerative dermatitis is common in C57BL/6 mice or strains with C57BL/6 background. Most genetically modified mice have C57BL/6 as part of their genetic background.

3. Identification and Scoring Guidelines
   a. Common clinical signs:
      i. Alopecia, pruritus, ulceration, crusting and exudation of the skin. Common location of lesions are the dorsum, cervical area, flank, between the scapulae, and behind the ears. Chronic conditions can cause ulcerated areas, scarring and contracture of the skin that leads to restriction of movement.
   b. Scoring Guidelines
      i. Mild
         1. Excoriations and/or punctuate crust(s) (≤ 2 mm**)
         2. Any ulcerative lesion ≤ 5 mm** in diameter on the body but not on face or extremities.
         3. Lesion is not characterized by scratching.
         4. Mild cases are the most likely to respond to treatment and may resolve naturally
      ii. Moderate
         2. Any lesion < 3 mm** involving the face or extremities.
3. Any lesion that is continually scratched.

iii. Severe
   1. Any ulcerative lesion > 1.5cm** in diameter.
   2. Multiple ulcerative lesions that add up to > 1.5 cm** in length
   3. Ulcerative lesion > 3mm** on face

4. Notification
   a. Personnel identifying the condition must notify the Animal Care Facility Director (or their designee). The Director or their designee will promptly assess the animal and notify the principal investigator.
   b. The cage should be flagged with a blue “Dermatitis” flag with the date flagged, initials of the person flagging the cage, and whether the ACF Director has been notified.

5. Treatment Options
   a. Early treatment of mild cases has been shown to be more effective.
   b. Trimming of the rear toenails every 7 days.
      i. This has been shown to be very effective in the treatment of mild UD. A restraint device is strongly recommended to help facilitate proper handling of the mice for the nail trim. Use small suture removal scissors.
   c. Topical treatment options:
      i. Apply any of the topical medications listed once daily for 7 days. If the lesions improve after daily treatment for one week, then application can be reduced to 2-3x per week. Top choice is Vetericyn Plus Ophthalmic Gel.
         1. Vetericyn Plus Ophthalmic Gel® (Hypochlorous Acid (0.010%))
         2. Triple antibiotic ointment (bacitracin zinc, neomycin sulfate, polymyxin B sulfate) +/- pramoxine
         3. Chlorhexidine 2% ointment or solution
         4. Silver Sulfadiazine cream 1%
      ii. All topical treatments must be noted on the cage card with the initials of the person, date, and treatment applied. See 6, Documentation.
   d. Housing:
      i. Separating affected animals can prevent worsening of clinical signs due to aggressive behavior of cage mates.

6. Documentation
   a. To initiate treatment documentation, use the back side of the cage card. Once
the case exceeds one week, the ACF Director or their designee will assess treatment efficacy and develop a follow up care plan if needed or will resolve the case. When the case has resolved, either returned to normal limits, euthanasia or transferred to long term care, write the date on the front of the card.

b. A number score should be given to each UD case and documented in the treatment section: (1) Mild; (2) Moderate (3) Severe. See 3.b for scoring guidelines.

7. Resolution of Case
   a. Affected animals that have been assessed and treated and have improvement of clinical signs where there is no active inflammation (hair loss may still be present) can be resolved and treatment stopped. Resolution of a case is determined by the Animal Care Facility Director or their designee in consultation with the attending veterinarian. Resolution date should be noted on the cage card. If the animal is euthanized place the date of euthanasia on the card.

8. Criteria for Euthanasia
   a. Severe UD with score of 3 that has not resolved or improved after 10-14 days with treatment.
   b. Presence of lesions which impair normal functions such as eating or drinking, locomotion.
   c. Depression, lethargy, loss of body condition.
   d. Every effort will be made to contact the PI and staff when animals have reached the criteria for euthanasia before the animal is euthanized.

9. Exceptions
   a. The Attending Veterinarian or designee may grant exceptions to this policy when it is deemed in the best interest of the animals.