



Table 1. EAE Adverse Effects

Adverse Effect	Description	Image (if available)	Intervention Apply independent of EAE score
Injection site skin ulceration	Open skin wound from induction injection.		<ul style="list-style-type: none"> • Monitor daily to every other day for ulceration at injection sites. If seen, contact LARC vet staff.¹ • LARC vet staff will assess severity on a case-by-case basis. Treat, monitor, and euthanize at the discretion of LARC veterinary authority. • To avoid recurrence, minimize injection volume, use multiple, well-separated SC sites, use least irritating adjuvant and sterile technique.
Dehydration	<p>Onset common at EAE score of 3.</p> <p>Ruffled fur and hunched posture can indicate dehydration.</p>		<ul style="list-style-type: none"> • Lightly pinch the skin over the neck to determine skin turgor. If skin remains in the “tented” position the animal is dehydrated. • At least 1 mL (or volume per LARC vet) of pharmaceutical grade sterile 0.9% Saline or Lactated Ringer’s, SC or IP, once per day. Give more frequently as specified per LARC veterinary requirements.
Urinary incontinence lesions	<p>Onset common at EAE score of 3.</p> <ul style="list-style-type: none"> • Dermatitis • Urine scald • Penile prolapse <p>Image: Urine scald</p>		<ul style="list-style-type: none"> • Contact LARC vet staff.¹ • LARC vet staff will assess severity on a case-by-case basis. Treat, monitor, and euthanize at the discretion of LARC veterinary authority. <p>Euthanize: If urine scald or infection are non-responsive to treatment, and/or penile prolapse.</p>
Urinary retention	<p>Onset possible when EAE score of 3 is observed/expected.</p> <p>Difficulty voiding urine.</p>		<p>Perform manual bladder expression:</p> <ol style="list-style-type: none"> 1. Gently roll mouse on its back, 2. Lightly palpate abdomen to produce urine flow. 3. Do at least twice per day (morning, afternoon), and additionally as needed until function returns. 4. Animals may need to be cleaned. 5. If unable to express bladder (either due to lack of technical skill or inability to produce urine), contact LARC vet staff.¹
Tail necrosis/wound	<p>Death (necrosis) of a portion of the animal’s tail.</p> <p>Image: Significant necrosis</p>		<ul style="list-style-type: none"> • Contact LARC vet staff.¹ • LARC vet staff will assess severity on a case-by-case basis. Treat, monitor, and euthanize at the discretion of LARC veterinary authority. <p>Euthanize:</p> <ul style="list-style-type: none"> • Significant necrosis and/or • Tail necrosis resulting in tail amputation and/or exposure of vertebra.
Rectal Prolapse	<p>Protrusion (partial or full) of the rectum that presents as red, bulging mucosa/tissue.</p> <p>Image: Full rectal protrusion</p>		<ul style="list-style-type: none"> • Contact LARC vet staff.¹ • LARC vet staff will assess severity on a case-by-case basis. Treat, monitor, and euthanize at the discretion of LARC veterinary authority. <p>Euthanize:</p> <ul style="list-style-type: none"> • Obstruction and /or • Full rectal protrusion and/or • Partial rectal protrusion with ulceration and/or bleeding
Neurologic signs	<p>Animals may develop axial-rotatory movements prior to onset of paralysis.</p> <ul style="list-style-type: none"> • Head tilt • Cerebellar ataxia • Circling <p>Image: Head tilt</p>		<ul style="list-style-type: none"> • Contact LARC vet staff.¹ • LARC vet staff will assess severity on a case-by-case basis. Treat, monitor, and euthanize at the discretion of LARC veterinary authority.
Pain ^{2, 3} and associated secondary lesions	<p>Urine scald, penile prolapse, and self-mutilation are painful.</p> <p>Neuropathic pain is also possible.</p> <p>Image: Self-mutilation</p>		<ul style="list-style-type: none"> • Contact LARC vet staff.¹ • LARC vet staff will assess severity on a case-by-case basis. Treat, monitor, and euthanize at the discretion of LARC veterinary authority. <p>Euthanize:</p> <ul style="list-style-type: none"> • Urine scald or infection are non-responsive to treatment and/or, • Penile prolapse and/or, • Deep wounds and/or exposed vertebra (pain associated with self-mutilation or con-specific aggression)
Body condition score (BCS) 2 or less	<p>EAE animals are expected to develop a low BCS</p>		<ul style="list-style-type: none"> • Treat, monitor, and euthanize at the discretion of LARC veterinary authority. <p>Euthanize: BCS1, euthanize by end of day</p>
Weight loss			<p>Euthanize: 20% weight loss over 24 hours, or a cumulative 25% maximum weight loss</p>

¹ Email LARC vet staff at healthcheck@ucsf.edu or verbally notify LARC staff in room.

² Wolfensohn, S. (2013). Reducing suffering in experimental autoimmune encephalomyelitis (EAE). *Journal of Pharmacological and Toxicological Methods*, 67: 169- 176.

³ Khan, N. (2014). MS-induced neuropathic pain: pharmacological management and pathophysiological insights from rodent EAE models. *Inflammopharmacology*, 22: 1-22.