

UBC Facilities Grading System and Response Guide for Rodents

This grading system is intended for use by animal care facility staff. If an animal has grades in multiple health observation categories, the highest grade determines the health status and response required. Use general descriptions of grades for conditions that are not listed. May need adaptation for use in experimental monitoring.

Health Observations	Grade 1 A mild ailment or condition with no or minimal detrimental effects on animal's overall health and welfare.	Grade 2 An ailment with observable effects on animal's health and welfare but the animal is not painful and their overall health & welfare is still good.	Grade 3 A moderate ailment with observable effects on animal's health and welfare; interferes with normal functions (e.g. senses, mobility, eating, urination, or defecation); may be painful.	Grade 4 A severe ailment where the animal is severely morbid; significant interference with normal functions; obviously painful; animal is at risk of rapidly deteriorating to humane endpoint.	Grade 5 Animal's health and welfare is at or beyond humane endpoint and will be euthanized. Humane endpoints as approved in protocol are considered.
Response by Staff	<ul style="list-style-type: none"> Flag cage, include grade, and update records. No email required. <p align="center">No change in monitoring</p>	<ul style="list-style-type: none"> Flag cage, include grade, and update records. Email and/or phone lab contact(s). Discuss treatment with lab¹. <p align="center">Lab contact has 24 hours to respond</p>	<ul style="list-style-type: none"> Flag cage, include grade, and update records. Email and/or phone lab contact(s). Discuss treatment, monitoring or euthanasia with lab contact(s)¹. Increase monitoring to frequency appropriate to the severity of the impact and/or the risk of deterioration of the animal's welfare" (see Policy 004)² Consult clinical veterinarian for uncommon conditions <p align="center">Lab contact has until end of working day to respond (4 pm)</p>	<ul style="list-style-type: none"> Flag cage, include grade, and update records. Email and/or phone lab contact(s). Discuss treatment, monitoring or euthanasia with lab contact(s)¹. Increase monitoring to frequency appropriate to the severity of the impact and/or the risk of deterioration of the animal's welfare" (see Policy 004)². Consult clinical veterinarian for uncommon conditions. <p align="center">Lab contact has 2 hours to respond</p>	<ul style="list-style-type: none"> Email and/or phone lab contact(s). Euthanize within 15 minutes OR time frame appropriate to the severity of the impact and/or the risk of deterioration of the animal's welfare (see Policy 004)². Keep carcass cool until lab is contacted or follow lab instructions for tissue collection. Flag cage, update records. <p align="center">Lab contact has 15 minutes to respond</p>
Behaviour: Activity Gait	Intermittent stereotypic behaviour (e.g. only when cage changing)	Slightly slow moving; still interested in environment.	Less interested in the environment, interacts less with cage mates, disregards observer; when nudged, reluctantly moves away. Occasional abnormal gait e.g. limping or "tip-toed" gait.	Isolated from cage mates, minimally active; does not readily move when cage disturbed. When nudged, reluctantly moves. Frequent limping or "tip-toed" gait.	Immobile or hyperactive; not moving when nudged; animal cannot right itself. Stereotypic behavior that cannot be stopped, impacting health and welfare (e.g. poor body condition, lesions).
Appearance: Grooming/Fur Posture Head shape	Barbering but skin healthy.	Piloerection/ruffled (< 10% of body). Runted weanling.	Piloerection (25% of body e.g. base of neck) and dull fur (not shiny or smooth). Slight hunching in back.	Piloerection (50% of body), matted and un-groomed. Whiskers barbered. Severe hunching in back, even when walking.	Piloerection (>75% of body), matted and un-groomed with other severe signs of illness. Barbering with > 50% loss of fur and signs of inflammation. Hydrocephalus.
Skin (MUD, wounds): Surface area Tissue damage Discharge Scratching	Some scratching but skin intact.	Mice: Body < 3 mm or Face < 1 mm. Rats: Body <5 mm or Face <3 mm. Skin red; mild hair loss.	Mice: Body < 10 mm or Face < 3 mm. Rats: Body < 30 mm or Face < 10 mm. Skin red, swollen, hair loss, some damage but dry or scabbed; possible scratching.	Skin open with signs of infection (wet discharge of blood or pus); frequent scratching of area. MUD lesions extending down to front legs.	Mice: Body > 10 mm or Face > 3 mm. Rats: Body > 30 mm or Face > 10 mm. Skin severely damaged (infected, necrotic), open to muscle or bone. Loss of body tissue or parts. Evidence of severe self-mutilation. Constant scratching (even when disturbed). Jaundice.
Eyes	Microphthalmia, anophthalmia, or cataracts (opacity on lens) with no evidence of inflammation or discomfort.	Mild discharge quickly groomed away, no eyelid swelling, mild squinting (>75% open). Small pinpoint area of damage/change to cornea.	Evident yellow/white discharge around eyes, squinting (50-75% open) and eyelids or conjunctiva inflamed (red, swollen); scratching eyelids but not causing lesion. Irregular corneal surface and/or cloudy (25% of cornea) with watery eyes.	Severe yellow/white discharge that stains fur around eyes or legs, squinting (25-49% open) and inflamed (red, swollen) eyelids or conjunctiva; scratching eyelids resulting in lesions. Irregular corneal surface and cloudy (>25% of cornea) with watery eyes and squinting.	Enlarged globe or bulging eye; very damaged (rough, indented, cloudy, infected) or dry cornea; squinting (< 25% open). Severe swelling or inflammation around eyes from scratching or mass.
Porphyrin (rats only)	Occasional porphyrin	Porphyrin around nostrils.	Porphyrin around eyes, nostrils, and front paws/legs, and not groomed away.	Porphyrin on face, front paws and shoulders/back and not groomed away.	Widespread Porphyrin, no attempt to groom.
Prolapses (rectal, vaginal, penile)	Minimal exposure of tissue (< 1mm). Tissue healthy.	Intermittent prolapse but tissue healthy. Tissue easily reduced (returned to normal location). Animal can urinate and defecate.	Moderate amount of tissue exposed which requires treatment to reduce. Tissue healthy and animal can urinate and defecate.	Fully prolapsed tissue. Tissue swollen, red, or bleeding. Requires treatment to reduce and improve tissue health. Unsure if animal can urinate or defecate.	Prolapsed tissue severely inflamed, infected, necrotic or dry. Animal unable to urinate or defecate. Evidence of mutilation. No response to treatment.
Malocclusion	N/A	Mildly overgrown incisors, trimming < every 2 weeks to allow animal to eat.	Teeth very overgrown or uneven, requiring regular trimming (1-2 x per week). Vet approval needed to keep for >3 trims.	N/A	All cases of malocclusion unless approved by veterinarian for teeth requiring > 3 trims. Teeth that cannot physically be trimmed (e.g. grown into soft palate/lips).
Dehydration	N/A	Mildly sunken eyes (appear >75% open).	Skin tent > 2 seconds (decrease in skin elasticity) represents 10-15% dehydration. Sunken eyes (appear half closed).	Skin tent > 5 seconds represents 15- 20% dehydration. Completely closed or severely sunken eyes; tail feels square. Cool to touch.	Animal unresponsive and cold to touch. Severe skin tent (> 10 seconds).
Elimination: Feces Urine	Intermittent (every other day) soft feces but formed. Hydration normal.	Daily paste-like feces. Hydration normal.	Daily watery diarrhea with occasional formed soft feces or increased output of urine. Small area of fecal staining around anus or mild urine scalding (wet, reddish skin). Hydration normal.	Watery diarrhea or increased urine output resulting in dehydration. Large area of fecal staining on fur or urine scalding (wet, reddish skin) or visible fecal smearing on cage wall.	Only watery or bloody diarrhea and increased urine output; unable to maintain hydration.
Respiration: Rate Rhythm Effort	Occasional bout of increased rate after activity. Regular rhythm and effort.	Subtle change in rate or effort with activity but normal at rest. Regular rhythm.	Obvious change in rate or effort with activity and at rest (see chest expansion). Occasional irregular rhythm. Small amount of nasal discharge or sneezing.	Reduced rate (easy to count) at rest and when active. Irregular rhythm. Appears to require effort (head bobs or body moves with breathing). Noisy breathing; Nasal discharge affecting breathing.	Reduced rate (=Mice <95; Rats <75 bpm). Irregular rhythm. Gasping, struggling to breath, open mouth breathing. Skin cyanotic (blue).
Abdomen	N/A	Mild abdominal distention.	Moderate abdominal distention. Abnormal increase in BW.	Enlarged and tense abdomen or palpable mass. Body weight increases.	Ascites/abdominal distention where burden exceeds 10% of BW (looks full term pregnant) with other clinical signs. Abnormal body weight increase. Abdominal hernia.
Subcutaneous Masses or Tumors	Barely palpable mass. Animal otherwise healthy.	Mass Diameter: Mice 5-8 mm; Rat 8-10 mm. Animal otherwise normal.	Mass Diameter: Mice > 9 mm; Rats > 11 mm. Mild redness on skin. Location with no possibility of impairing normal bodily functions.	Mass Diameter: Mice > 17 mm (dime); Rats > 27 mm (Toonie). Mild redness on skin. Mass in location with potential to impair normal bodily functions (anus/genitals, eyes, nose, mouth) or in high movement area (e.g. armpit).	Tumor burden: weight of tumor > 5% of normal BW. Ulceration or infection of the tumor. Tumor that interferes with locomotion or normal bodily functions (anus/genitals, eyes, nose, mouth). Persistent self-induced trauma. Invasion of surrounding tissues.
Body Weight	↓ weight by 1-4%	↓ weight by 5-9%	↓ weight by 10-14%	↓ weight by 15-19%	↓ weight by ≥ 20%
Body Condition Score (BCS)	N/A	N/A	N/A	Under conditioned BCS 2 = Segmentation of vertebrae evident. Dorsal pelvic bones readily palpable.	Emaciated - BCS 1 = Skeletal structure extremely prominent with no flesh cover. Vertebrae distinctly segmented.
Neurological Signs	N/A	Mild or occasional head tilt; occasional losses of coordination but can still move well	Seizures: Occasional of short duration (< 10 sec) and normal afterwards. Head nodding, facial or neck jerks, mouth chewing, rhythmic contractions/extensions of forelimbs and/or hind limbs with or without loss of balance. Gait: altered (e.g. hopping, wobbling, circling, wide stance and weak) but able to navigate the cage and readily access food and water.	Persistent head tilt. Seizures: Prolonged duration (minutes) and repetitive, possibly affecting ability to maintain weight or behaviour (hyperactive or aggressive). Gait: Marked abnormality (e.g. wobbling, circling, wide stance and weak), impairing ability to move and function normally.	Status epilepticus Animal can no longer navigate the cage nor maintain itself. Gait: Paralysis in 1 or more limbs. Inability to express bladder.
Pain		Facial Grimace: Narrow or closed eyes, bulge on top of nose (mice), flattening of bridge of nose (rat), cheek (between eye and whiskers) bulge (mice), cheek sunken (rat), ears back or flat, whiskers pointing back or "standing out on end". Other: Muscle twitching or flinching, staggering, back stretch (like cat), abdominal writhing or pressing.			Persistent signs of pain that interfere with normal functions or cannot be alleviated.

A failure to respond within the time lines noted above will result in Animal Care Staff and/or Clinical Veterinarians being the sole decision makers regarding an animal's fate. Animals may be euthanized or treated without researcher input if they fail to respond. The response MUST clearly describe the plan for the animal (e.g. time lab will arrive, treatment (including euthanasia), tissue collection required, etc.)².

¹ Consult UBC Veterinarian and/or "UBC Facilities Immediate Care and First Aid for Rodents" for recommendations for common conditions and treatments.
² UBC Animal Care Committee, Policy #004 - Animal Health and Welfare Concerns: Treatment and Humane Endpoints. **Note** increased monitoring of animals with poor health or welfare is the responsibility of the research team. This can be delegated to facility staff with their agreement.