

UBC ANIMAL CARE COMMITTEE GUIDELINES for POLICY 017

Guidelines on Monitoring and Medical Records of Animals used for Research, Teaching and Testing

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PURPOSE:

The purpose of this document is to provide details on assessing animal health in different animal models. It is intended to accompany the “Policy 017 Monitoring and Medical Records of Animal used for Research, Teaching and Testing”. Minimal requirements for health assessments for rodent models are included in Appendix I. A major goal of health and welfare monitoring is to be able to quickly identify “abnormal” animals and to have a clear plan of action to address the health concerns identified.

MONITORING RECOMMENDATIONS:

1. A monitoring checklist should be developed with input from all involved with animal monitoring, including the Principal Investigator (PI) and all personnel involved with the study. Input from the clinical veterinarians, post-approval monitoring (PAM) team, and members of the ACC is encouraged. This will be particularly important for non-rodent species that may have specific monitoring requirements.
2. The clinical health variables to be recorded will vary between studies. At a minimum these should capture overall health and study specific concerns.
3. For rodents, what is included in a health assessment for monitoring should be based on recommendations listed in **Appendix IA-ID**. Additional monitoring may be required for specific studies and non-rodent species.
4. Researchers should aim to complete both invasive procedures and ACC required post-procedure monitoring within normal working hours. If surgery or other major procedures are performed late in the day or on a Friday it is expected that out of hours monitoring will be done by the study team members or specifically arranged with facility staff.
5. In many studies and for many species, especially rodent species, change in weight is a helpful measure of animal health.
6. For most surgeries, animals should be assessed for pain and analgesia for up to 3 days post-operatively (for details see “UBC Animal Care Committee Guidelines -

Rodent Procedures Classifications and Analgesia Requirements”). Analgesia must be considered appropriate if the condition is known to be painful and/or the animal shows signs of pain and there is no contraindication that would make the risk of side effects outweigh the benefit. Pain relief may be required beyond the 3rd day depending on the study. Exceptions must be approved by the committee and clearly written in the protocol.

7. The actions taken by researchers when welfare concerns are identified as a result of monitoring should follow the “Policy 004 Animal Health and Welfare Concerns: Treatment and Humane Endpoints”.

Appendix IA - ID: Rodent Monitoring Sheet/Record Guidelines. Minimum expected monitoring requirements for different examples of animal models.

Appendix II: References used to create monitoring sheet/record guidelines in Appendix I.

APPENDIX IA: RODENT MONITORING SHEET/RECORD GUIDELINES - These signs should be documented for experimental monitoring
Monitoring sheets and humane endpoints are approved on a per protocol basis. The frequency of monitoring MUST increase with risk of
deterioration and severity of clinical signs. See Appendix 2 for References

Important: more than one column or several columns may apply to each study and additional monitoring requirements may apply

Variables	Post-Surgery Minor e.g. SC implant *Class 1 or 2¹	Stereotaxic Surgery *Class 2¹	Post-surgery Major (Invasive) *Class 3 or 4¹	Spinal Cord or Brain Injury Models *Class 4
Appearance Activity Posture and Gait	During first 30-60min for recovery from anesthesia and 12 (Class 2) to 24 (Class 1) hours post-op, for 72 hours and then until recovered/stable.	During first 30-60min for recovery from anesthesia, then every 12 hours for at least 72 hours and then until recovered/stable.	During first 30-60min for recovery from anesthesia and 4-8h post-op, then every 8 (Class 4) to 12 (Class 3) hours daily for at least 72 hours and then until recovered/stable.	During first 30-60min for recovery from anesthesia and 4-8h post-op, then every 8 hours daily for at least 72 hours and then until recovered/stable.
Body Weight Initial baseline weight required	Daily until pre-surgery weight recovers or remains stable.	Daily until pre-surgery weight recovers or remains stable.	Daily until pre-surgery weight recovers or remains stable.	Daily until pre-surgery weight is recovered or remains stable.
Hydration	Daily until animal has recovered (at least 3 days).	Daily until animal has recovered (at least 3 days).	Daily until animal has recovered (at least 3 days).	Daily until animal has recovered (at least 3 days).
Temperature				
Respiration				
Elimination				Spinal: check bladder and bowel function 2-4x daily until bladder function returns, then weekly to detect urinary tract infections.

¹ Refer to UBC ACC Guidelines on Rodent Surgical Classifications and Analgesia

Neurological Signs		Daily until animal has recovered/stable. Monitor for: blinking, head tilt, circling, ataxia, seizures, motor deficits, & altered behavior.		1-3x daily. Monitor for: unexpected limb paresis or paralysis, autotomy, ability to access food and water, ability to urinate/defecate, seizures, unexpected ataxia, & inability to right itself.
SKIN Incision, Wound, injection or sampling site	Check incision daily for 3 days minimum. If incision inflamed, moist or opened, continue daily until healed.	Check incision daily for 3 days minimum. If incision inflamed, moist or opened, continue daily until healed.	Check incision daily for 3 days minimum. If incision inflamed, moist or opened, continue daily until healed.	Check incision daily for 3 days minimum. If incision inflamed, moist or opened, continue daily until healed. Sutures removed when incision healed (typically 10-14 days).
Tumour				
Other				
Pain Assessment	<p>Frequency of pain assessment depends on dosing interval for the drug chosen. See UBC Animal Care Committee Guidelines-Rodent Surgical Classifications and Analgesic Guidelines</p> <p>Animals should be monitored when the analgesia is expected to wear off (6-8h for buprenorphine, 24h for Meloxicam (Metacam) or Ketoprofen (Anafen), especially for the first 24 hours of a procedure.</p>			
	Upon recovery from anesthesia, then 12-24h post-op, then daily for first 72h. Continue daily if not recovering normally.	Upon recovery from anesthesia, then 12-24 h post-op, then daily for first 72h. Continue daily if not recovering normally.	Upon recovery from anesthesia, then 4-8h post-op, then every 8-12h for first 72h. Continue daily if not recovering normally.	Upon recovery from anesthesia, then 4-8h post-op, then every 8h for first 72h. Continue daily if not recovering normally.
Nursing care depends on health assessment and scientific goals of study	Analgesia as approved in animal care protocol (minimum 24-48 hours). Additional: heat support, food on bottom of cage, fluid replacement e.g. hydrogel, & SQ fluids until recovered/stable.	Analgesia as approved in animal care protocol (minimum 48 hours). Additional: heat support, food on bottom of cage, fluid replacement e.g. hydrogel, & SQ fluids until recovered/stable.	Analgesia as approved in animal care protocol (minimum 72 hours). Additional: heat support, food on bottom of cage, fluid replacement e.g. hydrogel, & SQ fluids until recovered/stable.	Until recovered/stable: heat support, food on bottom of cage, fluid replacement e.g. hydrogel, SQ fluids.

<p>Humane endpoints specific to model and referenced in the literature. Ensure typical endpoints and study-specific endpoints are included.</p>	<p>Dehiscence or infected incision, hunched, dehydrated and/or piloerected despite nursing care. Failure to recover from anesthesia.</p>	<p>Dehiscence or infected incision, hunched, dehydrated and/or piloerected despite nursing care. Failure to recover from anesthesia. Corneal rupture secondary to corneal damage. Seizures and other neurological signs that prevent animal from caring for itself.</p>	<p>Dehiscence or infected incision, hunched, dehydrated and/or piloerected despite nursing care. Failure to recover from anesthesia.</p>	<p>Dehiscence or infected incision, hunched, dehydrated and/or piloerected despite nursing care. Weight loss of >20%. Failure to recover from anesthesia. Corneal Rupture. Autonomy of >2 digits. Ruptured bladder or untreatable bladder/kidney infection. Seizures and other neurological signs that prevent animal from caring for itself.</p>
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APPENDIX II: REFERENCES – Sorted in alphabetical order by model

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