

Surgery and Anesthesia Recordkeeping (Rodents)

IACUP Policy

Effective Date: February 2026

I. Purpose

Careful monitoring and timely attention to problems are critical in preserving animal welfare in research animals. Accordingly, ensuring that surgical and anesthesia records are sufficient is critical to both regulatory compliance and animal welfare. This policy has been created to ensure compliance with federal law and the *Guide for the Care and Use of Laboratory Animals*, Eighth Edition.

II. Regulatory or Accreditation Authority

The Guide for the Care and Use of Laboratory Animals, 8th Edition, November 2013. *Veterinary Care*, pp. 115, 119.

9 C.F.R. §2.35 Recordkeeping Requirements

AAALAC, International, FAQ Veterinary Medical Care #4

III. Scope

This policy applies to all laboratory rodents at UCSF which undergo surgery or anesthesia as part of an experimental protocol.

IV. Policy

A. Survival Surgery and Anesthesia Record content

Complete recordkeeping demonstrates both protocol compliance and animal welfare and can help detect surgical or anesthetic trends. The *Guide for the Care and Use of Laboratory Animals* states “Medical records are a key element of the veterinary care program and are considered critical for documenting animal well-being as well as tracking animal care and use at a facility.” (p. 115)

Records documenting any anesthetic procedure lasting longer than 15 minutes and survival surgery of any duration must be retained by the lab. The following information must be included:

1. Principle Investigator (PI) name and IACUC protocol number
2. Title of procedure (e.g., craniotomy, MRI scan)
3. Date of surgery (= Day 0)
4. Names or initials of personnel performing the procedure and providing post-operative care, written legibly so that the individual can be identified
5. Animal IDs, species, and bodyweight(s)
6. Names and dosages of all agents administered before, during, and after anesthesia and/or surgery.
7. Times of all agent administrations
8. Anesthesia end time, meaning full recovery (i.e., animals are awake, ambulating normally)

9. Any complications (e.g., respiratory distress, bleeding, prolonged recovery, or unanticipated mortality) that occurred
10. Names of all post-operative analgesia agents and dates/times of administration

Labs may use the IACUC rodent anesthesia or surgery record templates (see below) or create their own so long as the above information is included. Formats should be easy to follow, and templates should be tailored based on protocol commitments and researcher needs.

Well-known medical abbreviations (see chart below) and common abbreviations for anesthetics and analgesics may be used. If using abbreviated experimental drug names, provide keys or guides with records.

Checkboxes, highlighted text, and similar reminders (see example below) may be included in various sections of the record templates to help streamline documentation requirements.

The day surgery is performed is Day 0. On Day 0, perform an initial post-operative monitoring upon animal's recovery from anesthesia. Monitor animal again, later in Day 0 (at the interval described in the approved protocol). Monitor animal post-operatively at least once daily for a minimum of 2 days post Day 0 (surgery), including weekends and holidays.

B. Post-operative green tag system

The green surgery cards are a system for labs to communicate at cage side to LARC, IACUC, and others that the required daily post-surgical monitoring is performed. The green cards **do not replace** the surgical record. Continue to document all post-operative treatments and abnormal observations on the surgical record as per your protocol.

Use one green card for each surgery day (a cage could have more than one card with different dates) Do not pre-fill green tags. Fill out the surgery date (Day 0) and affix the green tag to the cage (can be taped or placed in a card holder). On postoperative Day 1, assess animals and enter date and your initial on green card, repeat assessment on Day 2 and enter date on green card.

If the emergency contact is different than the name and number listed on the cage card, the surgeon can list the emergency contact info on the back of the green card, or alternatively, post the emergency contact's info at the room or rack level.

C. Protocol congruency

Records must be congruent with approved procedures, agents, frequencies & total durations described in the IACUC protocols. Unapproved procedures, agents, and deviations from frequencies & total durations are non-compliances. Secure IACUC approval on protocol modifications prior to any changes in procedures, agent administrations, and/or personnel who perform anesthesia or surgery.

Provide flexibility when choosing anesthetics and analgesics whenever possible. List all drugs that may be used. Inclusion of alternatives can prevent non-compliance when drugs become unavailable.

Provide flexibility in drug administration time intervals and use time ranges instead of defined time points (e.g., 4-8 hours post-surgery vs. at 6 hours post-surgery).

D. Storage and retention

Records may be stored in paper or digital form. Paper records should be stored in binders in readily accessible areas, such as surgery suites, housing room drawers, and similar non-locked locations for ease of access. Electronic records should be backed up in the event of hardware failure or similar losses.

Records should be neat, organized, legible, and made available for review by IACUC and LARC staff upon request. All non-USDA rodent anesthesia and surgery records must be retained for a minimum of one year. USDA-species records must be retained for at least three years.

Green surgery tags can be removed from the cage after 7 days.

Mouse Survival Surgery/Anesthesia Record

PI:	Protocol:	Date of surgery (Day 0):			
Personnel:		Procedure:			
Required actions:					
<ul style="list-style-type: none"> • Administer ophthalmic ointment in eyes of all anesthetized animals. • Provide heat during surgery and recovery. • Check pedal reflex prior to surgical incision to evaluate depth of anesthesia. • Affix green surgery tag to cage card or onto cage. • Complete post-operative monitoring and fill checkboxes on green surgery tag. 					
Animal ID					
Body weight (grams)					
Anesthetics	Time of administration				
Isoflurane (Inhalation) 1-5% to effect					
Ketamine + Xylazine (IP) 80-100 (K) + 5-10 mg/kg (X)					
Analgesics (All must be used)	Time of administration				
Lidocaine/Bupivacaine (Local) < 7 - 8 mg/kg					
Buprenorphine (SC/IP) 0.05 - 0.1 mg/kg					
Meloxicam/Carprofen (SC/IP) 5 - 10 mg/kg					
Other Agents	Time of administration				
Anesthesia end time (when animal is fully recovered, i.e., awake, walking normally)					
Complications? Y/N If Y, explain on back of page.					

POST-OPERATIVE

- Administer analgesics per **Section I.4** of your approved IACUC protocol.
- **Record dates and times** of post-op analgesic administrations. **Include researcher initials.**
- If additional pain is observed, administer and record analgesic(s) below and continue to evaluate animals per Section I and J.

Animal ID					
Date and Time (Day 0)					
Analgesic details _____ Initials					
Date and Time (Day 1) - AM					
Analgesic details _____ Initials					
Date and Time (Day 1) - PM					
Analgesic details _____ Initials					

Rat Survival Surgery/Anesthesia Record

PI:	Protocol:	Date of surgery (Day 0):			
Personnel:		Procedure:			
Required actions:					
<ul style="list-style-type: none"> • Administer ophthalmic ointment in eyes of all anesthetized animals. • Provide heat during surgery and recovery. • Check pedal reflex prior to surgical incision to evaluate depth of anesthesia. • Affix green surgery tag to cage card or onto cage. • Complete post-operative monitoring and fill checkboxes on green surgery tag. 					
Animal ID					
Body weight (grams)					
Anesthetics	Time of administration				
Isoflurane (Inhalation) 1-5% to effect					
Ketamine + Xylazine (IP) 75-100 (K) + 5-10 mg/kg (X)					
Analgesics (All must be used)	Time of administration				
Lidocaine/Bupivacaine (Local) < 7 - 8 mg/kg					
Buprenorphine (SC/IP) 0.01 - 0.05 mg/kg					
Meloxicam/Carprofen (SC/IP) ~2 (M) or ~5 mg/kg (C)					
Other Agents	Time of administration				
Anesthesia end time (when animal is fully recovered, i.e., awake, walking normally)					
Complications? Y/N If Y, explain on back of page.					

POST-OPERATIVE

- Administer analgesics per **Section I.4** of your approved IACUC protocol.
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- If additional pain is observed, administer and record analgesic(s) below and continue to evaluate animals per Section I and J.

Animal ID					
Date and Time (Day 0)					
Analgesic details _____ Initials					
Date and Time (Day 1) - AM					
Analgesic details _____ Initials					
Date and Time (Day 1) - PM					
Analgesic details _____ Initials					

Mouse Survival Surgery/Anesthesia Record

PI: Jane Doe	Protocol: 1234567-01A	Date of surgery (Day 0): 7-1-21			
Personnel: JD	Procedure: XYZ Implant				
Required actions:					
<ul style="list-style-type: none"> Administer ophthalmic ointment in eyes of all anesthetized animals. Provide heat during surgery and recovery. Check pedal reflex prior to surgical incision to evaluate depth of anesthesia. Affix green surgery tag to cage card or onto cage. Complete post-operative monitoring and fill checkboxes on green surgery tag. 					
Animal ID	A1	A2	A3	A4	A5
Body weight (grams)	25	30	27	29	27
Anesthetics	Time of administration				
Isoflurane (Inhalation) 1-5% to effect	910	935	1030	1135	1225
Ketamine + Xylazine (IP) 80-100 (K) + 5 - 10 mg/kg (X)	905	930	1025	1130	1220
Analgesics (All must be used)	Time of administration				
Bupivacaine (Local) < 7 - 8 mg/kg	905	940	1030	1140	1225
Buprenorphine (SC) 0.05 - 0.1 mg/kg	905	940	1030	1140	1225
Meloxicam (SC) 5 - 10 mg/kg	905	940	1030	1140	1225
Other Agents	Time of administration				
0.9% NaCl Anti-Sedan	905	940	1030	1140	1225
Anesthesia end time	940	1020	1115	1220	1310
Complications? Y/N If Y, explain on back of page.	N	N	N	N	N

POST-OPERATIVE

- Administer analgesics per Section I.4 of your approved IACUC protocol.
- Record dates and times of post-op analgesic administrations. Include researcher initials.
- If additional pain is observed, administer and record analgesic(s) below and continue to evaluate animals per Section I and J.

Animal ID	A1	A2	A3	A4	A5
Date and Time	7-1 1530	1530	1730	1730	1730
Analgesic details Day 0: 4-8 hrs. later	<input checked="" type="checkbox"/> BUPX	<input checked="" type="checkbox"/> BUPX	<input checked="" type="checkbox"/> BUPX	<input checked="" type="checkbox"/> BUPX	<input checked="" type="checkbox"/> BUPX
JD Initials					
Date and Time	7-2 900	→			
Analgesic details Day 1: Next morning	<input checked="" type="checkbox"/> BUPX <input checked="" type="checkbox"/> Meloxicam	<input checked="" type="checkbox"/> BUPX <input checked="" type="checkbox"/> Meloxicam	<input checked="" type="checkbox"/> BUPX <input checked="" type="checkbox"/> Meloxicam	<input checked="" type="checkbox"/> BUPX <input checked="" type="checkbox"/> Meloxicam	<input checked="" type="checkbox"/> BUPX <input checked="" type="checkbox"/> Meloxicam
JD Initials					
Date and Time	7-2 1500	→			
Analgesic details Day 1: Next afternoon	NSOP	NSOP	+ BUPX	NSOP	NSOP
JD Initials					

A3 given more BUPX - slow to move and hunched.
OK, NSOP in afternoon.

Modified Green Surgery Cage Tags

Use one green card for each surgery day (a cage could have more than one card with different dates). LARC will scan and an email notice will be sent to protocol contacts if observations are not recorded. Green cards can be removed from the cage after 7 days.

The green cards do not replace the surgical record. Continue to document all post-operative treatments and abnormal observations on the surgical record as per your protocol.

Fill out the card in this order:

- Where **1** is noted in the image below: enter the surgery date and affix the card to cage as usual (can be taped or placed in card holder)
- Check your animals the day after surgery (post-op Day 1), then, where **2** is noted below: enter your initials and the date
- Check your animals the following day (post-op Day 2), then, where **3** is noted below: enter your initials and date for post-op Day 2

SURGERY

Handle gently!

SX date (Day 0): _____

Remove this tag after 7-14 days

LARC scan Day 0

Post-OP Monitoring:
Write in date and initials below after you monitor post-surgical animals.

Date Initials

2 Day 1: _____

3 Day 2: _____

LARC scan if blank

- If the emergency contact is someone other than the cage card contact, indicate on the back of the card (pictured below) or post at the room or rack level.

Postoperative Care Contact:
(If different than cage card contact)

Name _____

Cell _____

Medical Abbreviations

General		Body Parts/Routes of Administration	
WNL	Within Normal Limits	IV	Intravenous
NSF	No significant Findings	IP	Intraperitoneal
Δ	Change	IM	Intramuscular
NSOP	No Signs of Pain	SC/SQ	Subcutaneous
TPR	Temperature, Pulse, Respiration	ID	Intradermal
s.i.d.	Once a day	IC	Intracardiac (Not intracranial)
b.i.d.	Twice a day	IN	Intranasal
t.i.d.	Three times a day	PO	<i>per os</i> , orally
q	Every	AD	Right Ear
q4h	Every four hours	AS	Left Ear
PRN	As needed	AU	Both Ears
<i>ad lib</i>	as much as desired	OD	Right Eye
PE	Physical Exam	OS	Left Eye
BW/wt	Body weight	OU	Both Eyes
cc	cubic centimeter or mL	G	Gauge (needles)
tx	Treatment	gtt	drop
sx	Surgery		
fx	Fracture		
dx	Diagnosis		
bx	biopsy		
NSAID	Non-Steroidal Anti-inflammatory Drug		
V	Vomit		
D	Diarrhea		

Mentation		Monitoring	
BAR	Bright, Alert, Responsive	BP	Blood pressure
QAR	Quiet, Alert, Responsive	HR	Heart Rate
QDR	Quiet, Dull, Responsive	SpO ₂	Blood Oxygen Saturation
EDUD	Eating, Drinking, Urinating, Defecating, (If "H" after it, Hydrated)	MM	Mucous Membranes
		CRT	Capillary refill time