

**IACUC Member Training Program Topics: AAALAC Areas of Special Emphasis
TAMU-S-006b**

Special Emphasis Training Topic – 1. Isoflurane Anesthesia

- 1) **AWO-P-045 IACUC Member CE d - AAALAC Areas of Special Emphasis Video – starts @ 7:31**
- 2) **The Guide:** Chapter 2 – Occupational Health and Safety, [Animal Experimentation Involving Hazards](#) (p. 21)
- 3) **AVMA Euthanasia Guidelines:** S2.2 Small Laboratory and Wild-Caught Rodents, Acceptable with Conditions Methods – S2.2.2.1 [Inhaled agents](#) (p. 61)
- 4) **IACUC Guidance:** see TAMU-G-003 (also see AWO-O-008, AWO-O-085 - available upon request from AWO)
- 5) **Learning Objectives AUP:** Found in **Drug/Agent Administration – table**
 - a) Route response must include method of administration (e.g.: vaporizer, open drop)
 - b) For open drop method:
 - i) PI must describe method of administration in Project Description and Procedure – Procedures section. Ensure description indicates animals do not come in contact with anesthetic. Description should include dispensing of agent and off gassing in chemical fume hood or indication EHS review for safety.
- 6) **Learning Objectives Inspections:**
 - a) Addressed in inspection checklists (PI)
 - b) Review method of gas scavenging, including dispensing and off gassing with open drop method
 - c) Encourage the development of a lab/facility SOP that addresses mitigation efforts to avoid employee exposure to waste gasses
 - d) Check charcoal cannister for proper placement/record of use (see AWO-O-085)
 - e) For open drop method, confirm animals are separated from anesthesia
 - f) Inspection findings: Note if open drop method is used, whether EHS has sampled the location to determine human health risk/the PI has an SOP describing mitigation efforts, and the AUP # if available.
 - i) AWO staff will review the AUP to help member determine if an amendment is needed for the open drop method along with notification to EHS.

Special Emphasis Training Topic – 2. Non-Pharmaceutical Grade Compound

- 1) **AWO-P-045 IACUC Member CE d - AAALAC Areas of Special Emphasis Video – starts @ 17:19**
- 2) AWO-P-021 IACUC Member CE d – NPGS (can be added to TrainTraQ pending trial period)
- 3) **The Guide:** Chapter 2 – Special Considerations for IACUC Review, [Use of Non-Pharmaceutical-Grade Chemicals and Other Substances](#) (pp. 31)
- 4) **IACUC Guidance:** see TAMU-G-010
- 5) **Learning Objectives AUP:** Found in **Drug/Agent Administration – all questions below table**
 - a) PI must include only non-pharmaceutical grade compounds in their responses for clarity, including diluents
 - b) PI must provide a **scientific justification** for the use of a non-pharmaceutical grade compound when pharmaceutical grade is available (human, animal), including alternative analgesics, anesthetics and euthanasia compounds
 - i) **Hint:** Section help text provides examples of scientific justification which the PI may copy/paste. Direct PI to review.
- 6) **Learning Objectives Inspections:**
 - a) Addressed in inspection checklists (drugs and medical materials)
 - b) Review all drugs and compounds administered to **live animals** only
 - i) **Hint:** It's not necessary to review drugs/compounds used in post-mortem or other laboratory activities
 - c) Inspection findings: Note if nonpharmaceutical grade analgesia, anesthesia or euthanasia is found in the location, and if time, note if it has been used in live animals (check surgical records/drug logs)
 - i) AWO staff will review the AUP to help the member determine if the non-pharmaceutical grade drug/compound is approved by the IACUC (no finding)/not approved (finding + potential noncompliance)/AUP needs amendment (use is inconsistent with IACUC Guidance/best practices)/AUP needs amendment (procedure while approved is inconsistent with IACUC Guidance/best practices)



Special Emphasis Training Topic – 3. Single Housing

- 1) AWO-P-045 IACUC Member Ced – AAALAC Areas of Special Emphasis Video – starts @ 25:43
- 2) **The Guide:** Chapter 3
 - a) Terrestrial Animals, Behavioral and Social Management, [Social Environment](#) (p. 64)
 - b) Aquatic Animals, [Environmental Enrichment and Social Housing](#) (pp. 82-83)
- 3) **The Ag Guide:** Chapter 3 – Social Environment (p. 21)
- 4) **IACUC Guidance:** see TAMU-G-027
- 5) **Learning Objectives – AUP:**
 - a) Single housing may be referenced in the **Project Description and Procedure – Procedures** section
 - i) Single housing does not need to be described as a standalone procedure
 - ii) Ensure exception (below) is selected and consistent with Procedures description
 - b) Exception found in **Animal Procurement, Maintenance Information – Husbandry Requirements**
 - i) **Checkbox:** Exception from Social Housing for Social Species for Experimental reasons
Must include:
 - (1) Scientific justification for single housing
 - (2) Groups impacted and number of animals (“all in X group” acceptable rather than count)
 - (3) Duration and plan to return to group housing
 - (4) Extra enrichment or scientific justification for withholding
- 6) **Learning Objectives Inspections:**
 - a) Addressed in inspection checklists (housing)
 - b) Actively observe for singly housed animals
Inspection findings: Note AUP # and cage card # (or other means of identification if no card) and if there is an indication of why the animal is singly housed (e.g.: surgery on X day, clinical treatment)
 - i) AWO staff will review the AUP to help the member determine if the activity is performed as approved by the IACUC (no finding)/not approved (finding + potential noncompliance)/AUP needs amendment (procedure while approved is inconsistent with IACUC Guidance/best practices)

Special Emphasis Training Topic – 4. Lack of Environmental Enrichment

- 1) AWO-P-045 IACUC Member Ced – AAALAC Areas of Special Emphasis Video – starts @ 35:38
- 2) **The Guide:** Chapter 3 –
 - a) Terrestrial Animals, [Environmental Enrichment](#) (pp. 52-54)
 - b) Aquatic Animals, [Environmental Enrichment and Social Housing](#) (pp. 82-83)
- 3) **The Ag Guide:** Chapter 4 – Environmental Enrichment (pp. 30-43)
- 4) **IACUC Guidance:** see TAMU-G-027
- 5) **Learning Objectives AUP:**
 - a) Withholding of enrichment may be referenced in the **Project Description and Procedure – Procedures** section
 - i) Lack of enrichment does not need to be described as a standalone procedure
 - ii) Ensure exception (below) is selected and consistent with Procedures description
 - b) Exception found in **Animal Procurement, Maintenance Information – Husbandry Requirements**
 - i) **Checkbox:** Exception from Standards of Environmental Enrichment (also see single housing above)
Must include:
 - (1) Scientific justification for withholding enrichment
 - (2) Number of impacted animals (“all undergoing X” acceptable rather than count)
 - (3) Duration
- 6) **Learning Objectives Inspections:**
 - a) Addressed in inspection checklists (housing)
 - b) Actively observe for lack of enrichment
Inspection findings: Note AUP # and cage card # (or other means of identification if no card) and if there is an indication of why enrichment is lacking (e.g.: signage on cage/in room indicating no enrichment)

- i) AWO staff will review the AUP to help the member determine if the activity is performed as approved by the IACUC (no finding)/not approved (finding + potential noncompliance)/AUP needs amendment (procedure while approved is inconsistent with IACUC Guidance/best practices)

Special Emphasis Training Topic – 5. Survival Surgery – Aseptic Technique/Site Preparation

- 1) **AWO-P-045 IACUC Member CEEd - AAALAC Areas of Special Emphasis Video – starts @ 42:52**
- 2) **The Guide:** Chapter 4 – Surgery, [Aseptic Technique](#) (pp. 118-119)
- 3) **The Ag Guide:** Chapter 2 – Surgery, Surgical Facilities and Aseptic Technique (p. 12)
- 4) **IACUC Guidance:** see TAMU-G-013, TAMU-G-018, TAMU-G-022, TAMU-G-035, TAMU-G-049
- 5) **Learning Objectives AUP: Surgery (Survival) page**
 - a) Found in **Assessments/Support/Aseptic Practices**
 - i) **Checkbox:** Surgical site – clipped free of hair and disinfected. Note: clipping/surgery/recovery are to be separated by time or location.
 - (1) **If unchecked:** Scientific justification must be provided in Exception section (section #.5)
 - b) Description of procedure can be found in **Survival Surgery Description and General Information – Survival Surgery Description**, and should include:
 - i) See applicable IACUC Guidance for site prep of fish, amphibians and reptiles
 - ii) Shaving/hair removal in hair/fur bearing species
 - iii) Surgical scrub for warm blooded species containing more than just saline/alcohol.
 - iv) Description of surgical scrub (regardless of species) should include multiple alternating scrubs or extended contact time (depending on species)
 - v) **Scientific justification** must be provided in Exception section (section #.5) if varying from above/requirements described in IACUC Guidance
 - 6) **Learning Objectives Inspections:**
 - a) Addressed generically in inspection checklists (“aseptic procedures”)
 - i) Request description of aseptic practices for survival surgery, including surgical site preparation (patient)
 - ii) Inspection findings: Note AUP # if available and describe surgical site preparation variances (patient).
 - (1) AWO staff will review the AUP to help the member determine if the activity is performed as approved by the IACUC (no finding)/not approved (finding + potential noncompliance)/AUP needs amendment (procedure while approved is inconsistent with IACUC Guidance/best practices)

Special Emphasis Training Topic – 6. Surgery – Thermoregulatory Support (warm blooded species; procedures under general anesthesia only)

- 1) **AWO-P-045 IACUC Member CEEd - AAALAC Areas of Special Emphasis Video – starts @ 51:00**
- 2) **The Guide:** Chapter 4 – Surgery, [Intraoperative Monitoring and Postoperative Care](#) (p. 119-120)
- 3) **The Ag Guide:** Chapter 4 – Surgery, Postsurgical Care (pp. 12-13)
- 4) **IACUC Guidance:** see TAMU-G-013, TAMU-G-018, TAMU-G-022, TAMU-G-035, TAMU-G-049
- 5) **Learning Objectives AUP:**
 - a) Found in **Surgery (Survival) – Assessments/Support/Aseptic Practices**
 - i) **Checkbox (with text field):** Supplemental warmth (Indicate type in text box below, such as circulating warm water pads, warm air blanket, insulated electrical pads, indirect heat from lamps)
 - ii) **Scientific justification** must be provided in the “Other” text box in same section **if withholding thermoregulatory support of warm blooded species**
 - b) Found in **Surgery (Non-Survival) – Assessments/Support/Aseptic Practices**
 - i) **Checkbox:** Supplemental warmth (circulating warm water pads, gel pads, warm air blanket, insulated electrical pads, indirect heat from lamps)
 - ii) **Scientific justification** must be provided in the text box in this section if withholding thermoregulatory support of warm blooded species
- 6) **Learning Objectives Inspections:**
 - a) Addressed in inspection checklists (housing)

- b) Ensure thermoregulatory support is appropriate method and provided for both surgery and recovery (for smaller species)
 - c) Inspection findings: Note if thermoregulatory support is not used (surgery and/or recovery) or is a method other than indicated in checklist.
- 7) AWO staff will review the AUP to help the member determine if the activity is performed as approved by the IACUC (no finding)/not approved (finding + potential noncompliance) /AUP needs amendment (device while approved is inconsistent with IACUC Guidance/best practices)

Special Emphasis Training Topic – 7. Survival Surgery – Preemptive Analgesia

- 1) AWO-P-045 IACUC Member CEEd - AAALAC Areas of Special Emphasis Video – starts @ 57:20
- 2) PHS Policy: [Sections C.1.a-c. and D.1.d.](#)
- 3) The **Guide**: Chapter 4 – [Pain and Distress](#) (pp. 120-122)
- 4) The **Ag Guide**: Chapter 2 – Signs of Pain and Distress (p. 13)
- 5) **IACUC Guidance**: see TAMU-G-002, TAMU-G-013, TAMU-G-018, TAMU-G-035, TAMU-G-049
- 6) **Learning Objectives AUP: Surgery (Survival) page**
 - a) Found in **Pre-Operative Assessment & Care**
 - i) **Checkbox**: Pre-emptive analgesia
 - ii) **Scientific justification** must be provided in the “Other” text box in same section **if withholding**
 - b) Found in **Monitoring/Support during Postoperative Clinical Recovery Period**
 - c) **Checkbox (with text field)**: Analgesics ****If not planned, justify withholding below****
 - i) **Scientific justification** must be provided in the “Other...” text box in same section **if withholding**
 - d) Description of analgesia administration can be found in **Survival Surgery Description and General Information – Survival Surgery Description**, and should include:
 - i) Indication of when in the timeline preemptive and post operative analgesia is provided
 - (1) **Hint**: Analgesia must be administered such that the animal does not experience pain. Watch for a narrative that indicates pain relief will be provided after the animal displays signs of pain (E category, PI must justify why pain relief cannot provided such that the animal does not experience pain)
- 7) **Learning Objectives Inspections**:
 - a) Addressed in inspection checklists (PI Lab Surgery & Drugs and Medical Materials)
 - b) Look for indication of preemptive and post-operative administration of analgesia in surgical records
 - c) Inspection findings: Note if records lacking:
 - i) Description of analgesia (name of drug, dose, route, timing/frequency)
 - ii) Indication of preemptive analgesia
 - iii) Post-op analgesia lasting less than 72 hours
- 8) AWO staff will review the AUP to help the member determine if the activity is performed as approved by the IACUC (no finding)/not approved (finding + potential noncompliance)/AUP needs amendment (procedure while approved is inconsistent with IACUC Guidance/best practices)

Special Emphasis Training Topic – 8. Euthanasia method

- 1) AWO-P-045 IACUC Member CEEd - AAALAC Areas of Special Emphasis Video – starts @ 1:10:05
- 2) AWO-P-048 AUP Basics [iRIS]-Euthanasia
- 3) PHS Policy: [Section C.1.g.](#)
- 4) The **Guide**: Chapter 4 – [Euthanasia](#) (pp. 123-124)
- 5) [AVMA Euthanasia Guidelines](#)
- 6) The **Ag Guide**: Chapter 2 – Humane Endpoints, Euthanasia (p. 15)
- 7) **IACUC Guidance**: see TAMU-G-025, TAMU-G-028, TAMU-G-047, TAMU-G-048; also AWO-O-014, AWO-O-026
- 8) **Learning Objectives AUP**:
 - a) Procedure description found in **Project Description and Procedure – Procedures** section
 - i) Help text for this section provides guidance to the PI on what is included in the description. Description must include drugs/compounds administered and method of ensuring death.



- ii) Procedure must be consistent with the AVMA euthanasia guidelines or exception scientifically justified by PI as described below
 - (1) **Note:** Euthanasia in USDA regulated species inconsistent with AVMA euthanasia guidelines, or that is not considered “humane”, must be reported as an approved exception on the annual report
 - b) Drugs/compounds found in **Drug/Agent Administration – table**
 - i) Ensure drugs/compounds listed are congruent with **Procedures** and **Euthanasia information** descriptions
 - ii) **Frequency** response should indicate when the drug/compound is used for euthanasia
 - c) Found in **Pain and Distress – Euthanasia Information – Planned Euthanasia**
 - i) Euthanasia Method must include a short description of the drugs/compounds administered plus secondary method used (AAALAC PD)
 - ii) Ensure method is consistent with **Procedures** and **Drug/Agent Administration table**
 - d) Exceptions from AVMA euthanasia guidelines are found in **Animal Procurement, Maintenance Information – Husbandry Requirements**
 - i) **Checkbox:** Any other exception or departure from regulatory or institutional standards not covered by another option.
 - (1) **Must include:**
 - (a) Scientific justification for exception from AVMA euthanasia guidelines
 - (b) Groups impacted and number of animals (“all in X group” acceptable rather than count)
- 9) **Learning Objectives Inspections:**
- a) Addressed in inspection checklists (euthanasia and carcass disposal)
 - b) Review method, including method for confirming death
 - c) Inspection findings: Note lack of secondary method and collect AUP # if available. If inspector has time, note euthanasia method used for comparison against AUP.
 - i) AWO staff will review the AUP to help the member determine if the activity is performed as approved by the IACUC (no finding)/not approved (finding + potential noncompliance)/AUP needs amendment (procedure while approved is inconsistent with IACUC Guidance/best practices)

Special Emphasis Training Topic – 9. Prolonged Restraint

- 1) **AWO-P-020 IACUC Member CEed - Prolonged Restraint** (PowerPoint – no video; to be moved into TrainTraq to evaluate platform for hosting and tracking IACUC member training)
- 2) **The Guide:** Chapter 2 – [Prolonged Restraint](#) (pp. 29-30)
- 3) **The Ag Guide:** Chapter 3 – Special Considerations (p. 24); Chapter 5 - Animal Handling and Transport (p. 59); Chapter 10 - Domestic Sheep and Goats (p.150)
- 4) **IACUC Guidance:** see TAMU-G-051
- 5) **Learning Objectives AUP:**
 - a) Procedure description found in **Project Description and Procedure – Procedures section**
 - i) Help text for this section provides guidance to the PI on what is included in the description.
 - ii) Animals to be placed in restraint devices should be given training. Include description of acclimation procedures or justification for withholding.
 - iii) **Checkbox:** Will prolonged restraint be used? (choose yes)
 - iv) **Must include:** rationale, frequency, duration, anticipated clinical signs, monitoring, removal criteria
 - (1) **Hint:** remember to describe the device
 - v) When restraint requires single housing of social species, a description of the environmental enrichment planned to compensate for the lack of social experience is also required
- 6) **Learning Objectives Inspections:**
 - a) Addressed in inspection checklists (Devices: Behavioral/Other Testing/Restraint)
 - b) Inspection findings: restraint equipment does not allow for surface disinfection and/or is not regularly sanitized
- 7) AWO staff will review the AUP to help the member determine if the activity is performed as approved by the IACUC (no finding)/not approved (finding + potential noncompliance)/AUP needs amendment (procedure while approved is inconsistent with IACUC Guidance/best practices)

- 1) **No video (additional training may be developed in the future on this topic)**
- 2) AAALAC Council on Accreditation (2024) : “The IACUC is responsible for review of clear and concise sequential descriptions of procedures, descriptions of non-standard housing, impacts of the proposed procedures on the animals' well-being, appropriate sedation, analgesia, and anesthesia, and effective methods for euthanasia.”
- 3) **The Guide:** Chapter 2 – [Protocol Review](#) (pp. 25-26)
- 4) The **Animal Welfare Act Regulations:** Part 2, Subpart C, § 2.31.d.1. IACUC review of activities involving animals (pp. 68-69) and 2.31.e. A proposal... must contain (pp. 70-71)
- 5) **The Ag Guide:** Chapter 1 – Protocol Review (pp. 2-3)
- 6) **IACUC Guidance:** see TAMU-S-009
- 7) **Learning Objectives AUP:**
 - a) **“...clear and concise sequential descriptions of procedures...”**
 - i) Timeline of animal activities found in **Procedures Description and Procedures – Experimental Design Section**
 - (1) The field instructions and Help text for this section provides guidance to the PI on what is included in the timeline of activities, along with a sample experiment.
 - (2) AWO-O-069 AUP Tool – Experimental Design and Timeline may be helpful in developing this section
 - ii) Procedure descriptions found in **Project Description and Procedure – Procedures section**
 - (1) Help text for this section provides guidance to the PI on what is included in the description for various types of procedures.
 - iii) Description of surgical procedures is found in **Surgery (Non-Survival) and Surgery (Survival) – Surgery Description sections**
 - b) **“...descriptions of non-standard housing...”**
 - i) May be found in **Animal Procurement, Maintenance Information, and Additional Exceptions – Husbandry Requirements Section**
 - (1) **General:** All exceptions selected **must include** the following
 - (a) Description of exception and scientific justification
 - (b) Groups impacted and number of animals (“all in X group” acceptable rather than count)
 - (c) Duration of exception
 - (2) **Checkbox:** *any of the following*
 - (a) Exception from Standard Environmental Conditions not related to hazard exposure.
 - (b) Exception from Standard Housing due to Hazard Exposure.
 - (c) Exception from Standards of Sanitation of Primary Enclosure.
 - (d) Exception from Standards of Sanitation and Sanitation Evaluation for all other items.

Must include:

 - (i) (standard questions above)
 - (3) **Checkbox:** Exception from Social Housing for Social Species for Experimental reasons

Must include in addition to above:

 - (a) Plan to return to group housing
 - (b) Extra enrichment or scientific justification for withholding (if single housing selected)
 - (4) **Checkbox:** Exception from Ad Libitum Food/Water.

Must include in addition to above:

 - (a) Possible side effects that can be expected
 - (b) Methods and frequency used to assess the health and well-being of the animals
 - (c) Methods of ensuring adequate nutrition and hydration
 - (d) Criteria for returning an animal to ad libitum feed or water
 - (5) **Checkbox:** Exception from Standard Diets **OR** Standard Water.

Must include in addition to above:

 - (a) Indication if diet is not nutritionally balanced (diet only)

- (b) Plan to return animals to standard diet/water
- (6) **Checkbox:** Exception from Standard Animal Housing Density (increased density).
Must include in addition to above:
 - (a) How increase in density affects floor space
- (7) **Checkbox:** Exception from Standards of Environmental Enrichment.
Must include in addition to above:
 - (a) Description of increasing/decreasing enrichment
- c) ***“...impacts of the proposed procedures on the animals' well-being...”***
 - i) May be found in:
 - (1) **Procedures Description and Procedures – Clinical Signs on Experimental Animals Section**
 - (a) PI should address any/all clinical signs that are expected/reasonably anticipated, including negative phenotypes for genetically modified animals
 - (b) Help text for this section provides guidance and examples for the PI
 - (2) **Pain and Distress – Category E Details & Relief Measures Section**
 - (a) PI should address all unrelieved pain and distress anticipated
 - (b) Help text for this section provides guidance and examples for the PI
- d) ***“...appropriate sedation, analgesia, and anesthesia...”***
 - i) May be found in:
 - (1) **Procedures Description and Procedures – Procedures Section**
 - (a) Primarily found in description of non-surgical procedures when animals are sedated or anesthetized for the procedure, or receive pain relief
 - (i) Hint: The requirement for preemptive analgesia also applies to non-survival procedures that are reasonably anticipated to cause more than momentary pain
 - (b) Route, volume, dose and frequency should be reserved for the **Drug/Agent Administration – Administration of agents/substances Section**
 - (c) Help text for this section provides guidance and examples for the PI
 - (2) **Drug/Agent Administration – Administration of agents/substances Section**
 - (a) Drug selection should be appropriate to the species, activity and scientific need
 - (b) Should indicate differences in route, volume, dose and frequency when variation exists (e.g.: light sedation for imaging versus surgical anesthesia utilizing same drug)
 - (3) **Surgery (Non-Survival) Section and Surgery (Survival) Section**
 - (a) Primarily found in the **Non-survival** or **Survival Surgery Description**
 - (b) Also see **Special Emphasis Training Topic – 7. Survival Surgery – Preemptive Analgesia**
- e) ***“...effective methods for euthanasia...”***
 - i) See **Special Emphasis Training Topic – 8. Euthanasia method**