Arizona State University
Institutional Animal Care and Use Committee
STANDARD INSTITUTIONAL GUIDELINE

EUTHANASIA

The IACUC’s policy on methods of euthanasia adheres to the recommendations of the American Veterinary Medical Association Guidelines for the Euthanasia of Animals: 2013 Edition
https://researchintegrity.asu.edu/sites/default/files/archive/AVMA%20euthanasia%20guidelines%202013.pdf. However, alternate means of euthanasia for nontraditional laboratory animals, especially methods provided in guidelines developed by other professional societies (see https://researchintegrity.asu.edu/animals/psg for key guidelines) may be permitted if effectively justified and approved in a protocol.

The recommended method of euthanasia is by chemical means, which then **MUST** be followed by a secondary physical method to ensure death. The use of a physical method (e.g., decapitation, pithing, cervical dislocation, thoracotomy) as the primary means of euthanasia is permissible **only** by skilled individuals, when scientifically or clinically justified, and after other acceptable methods have been excluded. When permissible, physical methods should be used in sedated or unconscious animals. The following euthanasia methods are routinely accepted for the species indicated. Other methods of euthanasia should be discussed with an ASU veterinarian prior to including in a protocol.

1. **Rodents**
   - Commercial euthanasia solution (sodium pentobarbital 390 mg/ml + sodium phenytoin 50 mg/ml) (e.g. Beuthanasia®, Euthasol®) (86 mg/kg based on the pentobarbital component, which equals 0.22 ml/kg, IP)
   - Inhalant anesthesia overdose (5%, inhalation)
   - Carbon dioxide (100%, inhalation)
   - Exsanguination or harvesting of vital organs while under anesthesia
   - Perfusion under deep anesthesia

2. **Rabbits**
   - Commercial euthanasia solution (sodium pentobarbital 390 mg/ml + sodium phenytoin 50 mg/ml) (e.g. Beuthanasia®, Euthasol®) (86 mg/kg based on the pentobarbital component, which equals 0.22 ml/kg, IP or IV)
   - Exsanguination (or harvesting of vital organs) while under anesthesia
   - Perfusion under deep anesthesia

3. **Dogs**
   - Commercial euthanasia solution (sodium pentobarbital 390 mg/ml + sodium phenytoin 50 mg/ml) (e.g. Beuthanasia®, Euthasol®) (86 mg/kg based on the pentobarbital component, which equals 0.22 ml/kg, IV)
   - Perfusion under deep anesthesia

4. **Cats**
   - Commercial euthanasia solution (sodium pentobarbital 390 mg/ml + sodium phenytoin 50 mg/ml) (e.g. Beuthanasia®, Euthasol®) (86 mg/kg based on the pentobarbital component, which equals 0.22 ml/kg, IV)
   - Perfusion under deep anesthesia
5. **Swine**
- Commercial euthanasia solution (sodium pentobarbital 390 mg/ml + sodium phenytoin 50 mg/ml) (e.g. Beuthanasia®, Euthasol®) (86 mg/kg based on the pentobarbital component, which equals 0.22 ml/kg, IV)
- Exsanguination or harvesting of vital organs while under anesthesia
- Perfusion under deep anesthesia

6. **Non-human primates**
- Commercial euthanasia solution (sodium pentobarbital 390 mg/ml + sodium phenytoin 50 mg/ml) (e.g. Beuthanasia®, Euthasol®) (86 mg/kg based on the pentobarbital component, which equals 0.22 ml/kg, IV)
- Perfusion under deep anesthesia

7. **Birds**
- Commercial euthanasia solution (sodium pentobarbital 390 mg/ml + sodium phenytoin 50 mg/ml) (e.g. Beuthanasia®, Euthasol®) (86 mg/kg based on the pentobarbital component, which equals 0.22 ml/kg, intracoelomically or IV)
- Inhalant anesthesia overdose (5%, inhalation)
- Carbon dioxide inhalation (100%, inhalation)
- Exsanguination or harvesting of vital organs while under anesthesia

8. **Reptiles**
- Commercial euthanasia solution (sodium pentobarbital 390 mg/ml + sodium phenytoin 50 mg/ml) (e.g. Beuthanasia®, Euthasol®) (86 mg/kg based on the pentobarbital component, which equals 0.22 ml/kg, intracoelomically or intracardiac)
- Buffered tricaine methanesulfonate (MS-222, 1% solution) overdose (250-500 mg/kg, intracoelomically)
- Harvesting of vital organs while under anesthesia
- Perfusion under deep anesthesia

9. **Amphibians**
- Commercial euthanasia solution (sodium pentobarbital 390 mg/ml + sodium phenytoin 50 mg/ml) (e.g. Beuthanasia®, Euthasol®) (86 mg/kg based on the pentobarbital component, which equals 0.22 ml/kg, intracoelomically or intracardiac)
- Buffered tricaine methanesulfonate (MS-222) overdose (10g/L water, immersion)
- Buffered benzocaine overdose (250mg/L water, immersion)
- Harvesting of vital organs while under anesthesia
- Perfusion under deep anesthesia

10. **Fish**
- Buffered tricaine methanesulfonate (MS-222) overdose (10g/L water, immersion)
- Buffered benzocaine overdose (250mg/L water, immersion)
- Commercial euthanasia solution (sodium pentobarbital 390 mg + sodium phenytoin 50 mg/ml) (e.g. Beuthanasia®, Euthasol®) (86 mg/kg based on the pentobarbital component, which equals 0.22 ml/kg, intracoelomically)
- Harvesting of vital organs while under anesthesia

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