EUTHANASIA

The IACUC’s policy on methods of euthanasia considers the recommendations of the American Veterinary Medical Association Guidelines for the Euthanasia of Animals: 2013 Edition (https://www.avma.org/KB/Policies/Documents/euthanasia.pdf), as well as methods provided in guidelines developed by other professional societies (see https://researchintegrity.asu.edu/animals/procedures-library-and-guidelines for key guidelines). Alternative means of euthanasia for nontraditional laboratory animals may also be permitted if sufficiently justified and approved in an IACUC 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®, Euthanol®) (100-150 mg/kg based on the pentobarbital component, 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®, Euthanol®) (100-150 mg/kg based on the pentobarbital component, IP or IV); Prior sedation or anesthesia is preferred (see Anesthesia SIG for recommendations)
   - 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®, Euthanol®) (86-120 mg/kg based on the pentobarbital component, IV). Prior sedation or anesthesia is preferred (consult DACT veterinarians for recommendations)
   - Perfusion under deep anesthesia

4. **Cats**
   - Commercial euthanasia solution (sodium pentobarbital 390 mg/ml + sodium phenytoin 50 mg/ml) (e.g. Beuthanasia®, Euthanol®) (86-120 mg/kg based on the pentobarbital

Updated 4/26/2018
Updated 11/16/2017
Updated 12/18/2014
component, IV). Prior sedation or anesthesia is preferred (consult DACT veterinarians for recommendations)
- Perfusion under deep anesthesia

5. Swine
- Commercial euthanasia solution (sodium pentobarbital 390 mg/ml + sodium phenytoin 50 mg/ml) (e.g. Beuthanasia®, Euthasol®) (86-120 mg/kg based on the pentobarbital component, IV). Prior sedation or anesthesia is preferred (consult DACT veterinarians for recommendations)
- Exsanguination or harvesting of vital organs while under anesthesia
- Perfusion under deep anesthesia

6. Non-human primates
- Sedation or anesthesia (See Anesthesia SIG or consult DACT veterinarians for recommendations) followed by commercial euthanasia solution (sodium pentobarbital 390 mg/ml + sodium phenytoin 50 mg/ml) (e.g. Beuthanasia®, Euthasol®) (86-120 mg/kg based on the pentobarbital component, IV; intracardiac or IP routes acceptable if unconscious/anesthetized)
- Perfusion under deep anesthesia

7. Birds
- Commercial euthanasia solution (sodium pentobarbital 390 mg/ml + sodium phenytoin 50 mg/ml) (e.g. Beuthanasia®, Euthasol®) (100-150 mg/kg based on the pentobarbital component, IV; intracoelomic administration acceptable if unconscious/anesthetized; see Anesthesia SIG or consult DACT veterinarians for recommendations)
- 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®) (100-150 mg/kg based on the pentobarbital component, 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®) (100-150 mg/kg based on the pentobarbital component, intracoelomically or intracardiac
- Buffered tricaine methanesulfonate (MS-222) overdose (5-10 g/L water, immersion for up to 1 hr may be required)
- Buffered benzocaine overdose (250-500 mg/L water, immersion)
- Harvesting of vital organs while under anesthesia
- Perfusion under deep anesthesia

10. Fish
- Buffered tricaine methanesulfonate (MS-222) overdose (250-500 mg/L water, immersion)

Updated 4/26/2018
Updated 11/16/2017
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- Buffered benzocaine overdose (250-500 mg/L water, immersion)
- Commercial euthanasia solution (sodium pentobarbital 390 mg + sodium phenytoin 50 mg/ml) (e.g. Beuthanasia®, Euthasol®) (100-150 mg/kg based on the pentobarbital component, intracelomically)
- Harvesting of vital organs while under anesthesia