

METHODS PRESCRIBED OR APPROVED FOR ANIMAL EUTHANASIA AND COMPETENCY CERTIFICATION REQUIREMENTS

PURPOSE

This Directive sets forth methods that are currently prescribed or approved by the State Veterinarian for the euthanasia of animals by all persons acting under the provisions of the Virginia Comprehensive Animal Care laws (Title 3.2, Chapter 65).

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Section 1: AUTHORITY

Title 3.2, Chapter 65 of the Code of Virginia authorizes the **State Veterinarian** to prescribe or approve methods for the euthanasia of animals pursuant to the provisions of this chapter.

The **Virginia Department of Game and Inland Fisheries (DGIF)** has authority for the prescription and approval of wildlife euthanasia methods. Persons euthanizing wildlife should do so according to the Code of Virginia, regulations promulgated by the DGIF, and associated guidance documents.

The **Virginia Board of Pharmacy** and the **US Drug Enforcement Agency (DEA)** has authority over the distribution, handling, and dispensing of veterinary pharmaceuticals. Persons using controlled substances for the euthanasia of animals under this Directive should do so in accordance with pertinent rules and regulations promulgated by the Board of Pharmacy and DEA.

The **Virginia Board of Veterinary Medicine** has authority to regulate the practice of veterinary medicine. Persons euthanizing animals under this Directive should abide by all pertinent rules and regulations promulgated by the Board of Veterinary Medicine.

Section 2: ELIGIBILITY FOR EUTHANASIA OF COMPANION ANIMALS

Euthanasia of companion animals is considered a veterinary procedure, and under most circumstances can only be performed by or under the direct supervision of a licensed veterinarian. The Comprehensive Animal Care Laws allow prescribed circumstances under which euthanasia can be performed by other persons acting in accordance with this Directive.

These circumstances are:

- A companion animal in the custody of a local jurisdiction or animal shelter which has exceeded its mandated holding period;
- A companion animal which has been properly surrendered to a local jurisdiction or animal shelter by its lawful owner;
- A companion animal in the custody of a local jurisdiction or animal shelter which is critically injured, critically ill, or unweaned; and
- A dog or cat showing active signs of rabies or suspected of having rabies, for which confinement is impossible or impracticable.

The destruction of an animal posing a direct and immediate threat to public safety is not considered euthanasia. The use of a firearm in this circumstance should only be undertaken using careful professional judgment as to the immediacy of the public threat and the safety of such an action, and in accordance with all local, state, and federal laws and regulations concerning the discharge of a firearm.

The destruction of an animal posing a direct and immediate threat to public health, by showing active clinical signs of rabies or suspected of having rabies based on valid information that the animal has had contact with a known or suspected rabid animal, is not considered euthanasia. The use of a firearm in this circumstance should only be

undertaken using careful professional judgment and in accordance with all local, state, and federal laws and regulations concerning the discharge of a firearm.

The destruction of a dog in the act of killing livestock or poultry is not considered euthanasia, and should be undertaken using careful professional judgment and in accordance with all local, state, and federal laws and regulations concerning the discharge of a firearm.

Section 3: TRAINING, COMPETENCY CERTIFICATION, AND SUPERVISION

The Code of Virginia authorizes animal control officers and agents of animal pounds and shelters to euthanize eligible animals according to methods approved by the State Veterinarian. The State Veterinarian has prescribed that euthanasia must be performed by a person who is both **trained** and **certified** in accordance with this Directive. The State Veterinarian has also prescribed that each animal pound, shelter, or control agency that euthanizes companion animals in accordance with this directive must have a current relationship with a supervising veterinarian.

Training

An individual must complete a VDACS approved Humane Euthanasia course prior to becoming certified to perform euthanasia. **Form AC4**, the ***Animal Euthanasia Training Record***, must be completed and signed by the course instructor, and kept on file at the animal facility where the individual performs euthanasia as a matter of public record. The supervising veterinarian shall provide additional practical training until such time as competency can be certified.

Certification

Prior to performing euthanasia, an individual must be certified as having a level of competency conducive to the proficient and humane performance of euthanasia. Competency must be demonstrated to a veterinarian with a current Virginia license. The individual must demonstrate:

- Familiarity with the contents of this Directive;
- Ability to properly handle and restrain each species;
- Ability to correctly identify drug names and concentrations;
- Ability to calculate dosage amounts;
- Ability to locate proper injection sites; and
- Ability to competently perform each type of injection.

The veterinarian must assess a demonstration of competency, which must be certified using **Form AC5**, the ***Competency Certification for Animal Euthanasia***. This certification must be kept on file at the animal facility where the individual performs euthanasia as a matter of public record. **This demonstration of competency and certification on Form AC5 must be renewed every three years.**

Supervision

Individuals performing euthanasia must do so in accordance with the **Form AC6**, the ***Veterinary Supervision and Protocol Summary for Companion Animal Euthanasia***, for the facility with which they are affiliated. All other verbal or written guidance from the supervising veterinarian must also be followed. It is the responsibility of each facility

conducting euthanasia to ensure that they have a current and appropriate relationship with a supervising veterinarian. The responsibilities of the supervising veterinarian under this Directive are complimentary to but separate and distinct from those mandated by the Board of Pharmacy or other state or federal agencies.

Section 4: The Supervising Veterinarian

A veterinarian currently licensed in Virginia must be designated as the supervising veterinarian for each facility in which euthanasia is performed. The supervising veterinarian is expected to provide oversight of euthanasia through orientation, instruction, guidance, and periodic monitoring of euthanasia activities. The supervising veterinarian must establish a euthanasia protocol for the facility in compliance with this Directive and all pertinent state and federal laws and regulations.

The euthanasia protocol must identify the procedures to be followed in conducting euthanasia and the specific drugs and corresponding dosages authorized for use at that facility. **Form AC6**, the ***Veterinary Supervision and Protocol Summary for Companion Animal Euthanasia***, must be completed and kept on file at the animal facility as a matter of public record. In the event of a change of supervising veterinarian, the Form AC6 must be reevaluated and signed by the new supervising veterinarian.

Supervising veterinarians may suspend the **Form AC5, *Competency Certification for Animal Euthanasia***, for any individual conducting euthanasia under their protocol if the individual is not conducting euthanasia in a skillful, proficient, or humane manner or in accordance with the protocol. Such suspension shall be communicated in writing to the State Veterinarian's Office. This communication shall contain the rationale for suspension, and the supervising veterinarian's recommendation for further action.

Section 5: Method of Euthanasia

Sodium pentobarbital injection is the only approved method for routine and emergency companion animal euthanasia. It must be used in accordance with the following equipment and supplies, chemical sedation, and administration guidelines detailed below. *Oral administration of sodium pentobarbital is not approved under any circumstances.* Euthanasia must be performed in a manner that is humane, and minimizes animal suffering and distress.

Euthanasia of companion animals by carbon monoxide or other gas chambers is prohibited.

A veterinarian with a current Virginia license may perform euthanasia on animals utilizing any method recognized as humane by the American Veterinary Medical Association as published in the most current version of the *AVMA Guidelines on Euthanasia*.

Humane Handling

Euthanasia should be conducted in a calm and proficient manner. Routine euthanasia should only be performed in a designated portion of the facility that is both sufficiently equipped and

adequately separated from animal holding areas to ensure a humane euthanasia event. All animals must be manually or mechanically restrained for administration of chemical sedation in a manner that is comfortable and safe. Animals must be humanely restrained or placed in an environment that protects them from accident or injury until such time as the chemical sedation agent has taken effect.

Equipment and Supplies

Scale – Each facility conducting euthanasia is strongly recommended to have a scale in order to obtain an accurate weight on each animal prior to administration of sodium pentobarbital.

Needles and Syringes – The proper size of syringe and needle must be used for each animal. The syringe must be capable of accurately measuring and containing the volume of drug required for proper dosing. Needles must be sharp for minimizing pain of injection; therefore, a brand new needle must be used for each animal. The following is a guideline for needle selection:

Type of Animal	Needle Size, IV	Needle Size, IP or IC
Kittens	23g or smaller*	23g x ¾”*
Adult Cats	23 gauge*	22g x 1”
Puppies <20 lbs	23 gauge*	22g x 1”
Dogs, 20 – 40 lbs.	22 gauge	20g x 1”
Dogs, > 40 lbs.	20 gauge	18g x 1 ½”
Other	As directed by supervising veterinarian	

* Please note that it may not be possible to administer sodium pentobarbital through a 23g needle. In these cases, the supervising veterinarian should be consulted in order to determine an appropriate protocol.

Chemical Restraint

All dogs and cats must be sedated prior to administration of sodium pentobarbital. The supervising veterinarian may require the sedation of other companion animals prior to euthanasia. Sedation provided by the administration of one of the following sedatives, in accordance with label instructions and supervising veterinarian’s protocol, is approved for use as follows:

Prior to IV, IP, or IC Sodium Pentobarbital Injection		
Drug Name	Species*	Route of Administration
tiletamine-zolazepam (Telazol)	dog, cat	intramuscular
xylazine hydrochloride and ketamine hydrochloride	dog, cat	intramuscular (simultaneous administration of both drugs)
dexmedetomidine hydrochloride (Dexdomitor)	dog, cat	intramuscular

Prior to IV or IP Sodium Pentobarbital Injection		
Drug Name	Species*	Route of Administration
acepromazine maleate	dog, cat	intramuscular subcutaneous oral
xylazine hydrochloride	dog, cat	intramuscular
dexmedetomidine hydrochloride (Dexdomitor)	dog, cat	intramuscular
xylazine hydrochloride	dog less than 50 lbs.	intramuscular subcutaneous
ketamine hydrochloride	cat	intramuscular

* The supervising veterinarian may indicate additional species on the ***Veterinary Supervision and Protocol Summary for Companion Animal Euthanasia***

Administration of sodium pentobarbital shall not occur until such time as the chemical sedation agent has taken full effect.

The requirement to provide chemical sedation prior to administration of sodium pentobarbital may only be waived in emergency situations where an animal is so critically ill or injured as to be incapacitated and unresponsive and immediate euthanasia is required for humane reasons.

Injection of Sodium Pentobarbital

Immediately before euthanasia the animal custody record must be reviewed to verify identity of the animal and eligibility for euthanasia. Sodium pentobarbital must be obtained in a liquid form that is ready to use and has a concentration of at least 5 grains/cc (324 mg/ml). The formulation can be with or without lidocaine. Formulations containing phenytoin should not be given intraperitoneally (IP). The dosage must be determined in accordance with label instructions or as directed by the supervising veterinarian. The animal must be chemically restrained with an appropriate pre-euthanasia medication, and not subject to undue stress. The following routes of administration are approved:

Intravenous (IV) – The drug is humanely injected directly into a vein. A readily accessible and appropriate vein must be identified.

Intraperitoneal (IP) – The drug is humanely injected into the peritoneal cavity. The injection should be made behind the umbilicus and on the abdominal midline. This route results in gradual absorption of the drug, causing a progressive effect of sedation and anesthesia until death ultimately occurs. The animal must be placed in a safe, quiet, secure, comfortable area after initial administration of the drug, and monitored closely to prevent stress and possible injury due to stumbling or falling while the drug takes effect. Euthanasia by this method can take 30 minutes or more, and a follow-up administration of drug may be necessary to ensure

death. *Sodium pentobarbital formulations containing phenytoin should never be given intraperitoneally.*

Intracardiac (IC) – The drug is humanely injected with a single thrust into the heart of an **anesthetized or comatose** animal in an **emergency** situation where IV or IP injection is not possible, and there are urgent circumstances necessitating immediate euthanasia for humane reasons.

The animal must be monitored after injection until positive determination of death has occurred. Immediately following euthanasia the date and method of euthanasia must be recorded on the animal custody record. The name of the individual performing euthanasia must be recorded on the custody record or on a log that references the custody record number of the animal.

Section 6: POSITIVE DETERMINATION OF DEATH

After euthanasia is performed by any method, it is crucial to make a positive determination of death before carcass disposal. The determination of death should be made following a thorough examination of the animal, repeated at least twice at suitable intervals following the act of euthanasia. A stethoscope is required to make a positive determination of death. **All eight** of the following assessments must be made on each animal that has been euthanized in order to positively determine the death of an animal:

1. **Lack of Heartbeat—Stethoscope:** No audible heartbeat is heard through the stethoscope.
2. **Lack of Heartbeat—Palpation:** No heartbeat is felt through thoracic palpation; no pulses are felt on extremities.
3. **Lack of Respiration—Stethoscope:** No audible breathing is heard through the stethoscope.
4. **Lack of Respiration—Palpation:** No breathing is felt on palpation.
5. **Lack of Respiration—Visual:** No visible chest movements are observed.
6. **Lack of Corneal Reflex:** No blinking occurs when the eye is touched.
7. **Lack of Toe-Pinch Reflex:** No withdrawal reflex occurs when the skin between the toes is **forcibly** pinched.
8. **Lack of Capillary Refill:** Mucous membranes remain blanched after applying pressure.

All eight of these assessments **must** be repeated at five and thirty minutes post injection of sodium pentobarbital to ensure positive determination of death prior to carcass disposal.

Section 7: EUTHANASIA OF AGRICULTURAL ANIMALS

Limited euthanasia of livestock is authorized under this Directive. Supervising veterinarians may certify individuals to euthanize livestock on **Form AC5**, the **Competency Certification for Animal Euthanasia**. Individuals may euthanize livestock only if certified. The approved method for routine and emergency euthanasia of livestock is by firearm including captive bolt. Euthanasia by firearm should be by bullet or bolt delivery to the brain (if the animal is suspected of being rabid, a captive bolt may not be used and bullet delivery should be to the heart).

Other methods of euthanasia for livestock, including euthanasia by injection, may only be performed by, or under the direct supervision of, a licensed veterinarian. In cases of euthanasia by injection the carcass is not fit for human or animal consumption and must be disposed of in a manner that prohibits scavenging and is in accordance with all pertinent laws, regulations, and ordinances.

Poultry should be humanely destroyed in a manner prescribed by the supervising veterinarian.

Contact the State Veterinarian's Office before any mass euthanasia or humane destruction of livestock or poultry is initiated.

Section 8: DOCUMENT REQUIREMENTS

A copy of the current State Veterinarian's Directive 79-1 must be maintained in a conspicuous and accessible manner at each facility excepting veterinary establishments where euthanasia is performed in accordance with this Directive. All forms and associated documents are subject to public inspection, and should be readily accessible within the facility.

Euthanasia training, certification, and protocol forms do not need to be provided to the State Veterinarian's Office on a routine basis. Upon request, copies of documents should be mailed to the State Veterinarian's Office at the following address:

Office of Veterinary Services
Virginia Department of Agriculture and Consumer Services
PO Box 1163
Richmond, VA 23218

Section 9: SOURCES OF ADDITIONAL INFORMATION

Office of Animal Care and Health Policy Virginia Department of Agriculture and Consumer Services

The State Veterinarian has designated the Office of Animal Care and Health Policy to oversee this Directive. For questions about the information contained in this Directive, the Office of Veterinary Services can be contacted at:

Phone: (804) 786-2483
Fax: (804) 371-2380
Website: <http://www.vdacs.virginia.gov/animals/index.shtml>

Board of Pharmacy
Virginia Department of Health Professions

The Board of Pharmacy regulates the distribution and handling of veterinary drugs to facilities that use them to euthanize animals. Any questions relating to the registration process for receiving drugs, the procurement of drugs, or the handling of drugs should be directed to the Board of Pharmacy at:

Phone: (804) 367-4456
Fax: (804) 527-4472
Website: <http://www.dhp.virginia.gov/Pharmacy>

US Drug Enforcement Agency

Authorization to receive and handle controlled veterinary drugs must also be received from the Drug Enforcement Agency. Questions concerning this process should be directed to the DEA at:

Phone: (800) 882-9539
Website: <http://www.deadiversion.usdoj.gov>

Virginia Department of Game and Inland Fisheries

The State Veterinarian has designated the Virginia Department of Game and Inland Fisheries (DGIF) to authorize the euthanasia of wildlife and approve methods by which it is done. Questions concerning the euthanasia of wildlife should be directed to the DGIF at:

Phone: (804) 367-1000
Fax: (804) 367-9147
Website: <http://www.dgif.virginia.gov/wildlife>

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Richard L. Wilkes, DVM
State Veterinarian

AC4		Animal Euthanasia Training Record	
TRAINING COURSE TITLE	Humane Animal Euthanasia		
TRAINEE NAME			
TRAINEE TITLE			
TRAINEE EMPLOYER			
TRAINEE FACILITY (Name and Address)			
TRAINING PROVIDER (Name and Contact Information)			
TRAINING COURSE DATE			
TRAINING COURSE TIMES			
INSTRUCTOR (Printed Name)			
_____	_____		
Date	Instructor Signature		

Approval of training courses by must be obtained in writing from the State Veterinarian's Office using the designated format and/or forms applicable to Training Course Approval.

AC5	Competency Certification for Animal Euthanasia <i>Check each box for which competency has been demonstrated</i>	
Part 1 Must be completed for all individuals performing animal euthanasia		
Name and Title		
Facility		
Directive 79-1	<input type="checkbox"/> This individual has demonstrated competency in understanding and applying State Veterinarian's Directive 79-1, Methods Prescribed or Approved for Animal Euthanasia	
Positive Determination of Death	This individual has demonstrated competency in understanding and applying the following methods of determination of death: <input type="checkbox"/> Lack of Heartbeat, Stethoscope <input type="checkbox"/> Lack of Respiration, Visual <input type="checkbox"/> Lack of Heartbeat, Palpation <input type="checkbox"/> Lack of Corneal Reflex <input type="checkbox"/> Lack of Respiration, Stethoscope <input type="checkbox"/> Lack of Toe-Pinch Reflex <input type="checkbox"/> Lack of Respiration, Palpation <input type="checkbox"/> Lack of Capillary Refill	
Part 2 Must be completed for all individuals certified for companion animals		
Humane Handling and Restraint <i>At least one box must be checked</i>	<input type="checkbox"/> This individual has demonstrated competency in manual restraint <input type="checkbox"/> This individual has demonstrated competency in mechanical restraint <input type="checkbox"/> This individual has demonstrated competency in chemical restraint	
Drug Concentration, Dosing, and Handling	<input type="checkbox"/> This individual can determine drug concentrations <input type="checkbox"/> This individual can determine appropriate drug dosages <input type="checkbox"/> This individual can determine appropriate needle length and gauges <input type="checkbox"/> This individual can assemble and handle needles and syringes	
Routes of Administration <i>Check demonstrated routes</i>	<input type="checkbox"/> IV Jugular <input type="checkbox"/> Oral <input type="checkbox"/> Intracardiac <input type="checkbox"/> IV Cephalic <input type="checkbox"/> Intramuscular (limitations clearly understood) <input type="checkbox"/> IV Saphenous <input type="checkbox"/> Intraperitoneal <input type="checkbox"/> IV Femoral <input type="checkbox"/> Subcutaneous	
Species <i>All of the above marked skills can be competently applied in the euthanasia of:</i>	<input type="checkbox"/> Dogs <input type="checkbox"/> Other Companion Animal Species (list): <input type="checkbox"/> Cats	
Part 3 Must be completed for all individuals certified for euthanasia of livestock by firearm		
Species	<input type="checkbox"/> Cattle <input type="checkbox"/> Sheep and Goats <input type="checkbox"/> Horses <input type="checkbox"/> Other livestock (list): <input type="checkbox"/> Swine	
Projectile Placement	<input type="checkbox"/> This individual has demonstrated a clear understanding of bullet or bolt placement in the brain of livestock in order to instantly and humanely render them unconscious, and understands that further steps may be necessary to ensure euthanasia	
Name of Certifying Veterinarian:		
Signature and Date:	_____	_____
	Veterinarian's Signature	Date

Original must be on file at the animal facility with which the individual is currently affiliated.

AC6		Supervising Veterinarian's Protocol for Companion Animal Euthanasia	
FACILITY			
CATS			
Primary Sedative	Sedative Name: Concentration: ____mg/ml Dose: ____ mg/kg	Dosage: ____ ml/lb Route of Administration: Expected Duration of Effect:	
Secondary Sedative	<input type="checkbox"/> Not Authorized <input type="checkbox"/> Combined with Primary Sedative <input type="checkbox"/> Alternative Sedative		
	Sedative Name: Concentration: ____mg/ml Dose: ____ mg/kg	Dosage: ____ ml/lb Route of Administration: Expected Duration of Effect:	
Euthanasia by Sodium Pentobarbital	<i>All 8 positive determination of death assessments must be performed at 5 and 30 minutes post injection</i> IV Dosage: ____ml/10 lbs IP Dosage: ____ml/10 lbs IV Injection should be used: IP Injection should be used:		
Humane Handling Considerations	<i>Indicate where sedative is to be administered, where and when in relation to sedation euthanasia is to be performed, etc.; and if authorized when alternative sedative should be used:</i>		
DOGS			
Primary Sedative	Sedative Name: Concentration: ____mg/ml Dose: ____ mg/kg	Dosage: ____ ml/lb Route of Administration: Expected Duration of Effect:	
Secondary Sedative	<input type="checkbox"/> Not Authorized <input type="checkbox"/> Combined with Primary Sedative <input type="checkbox"/> Alternative Sedative		
	Sedative Name: Concentration: ____mg/ml Dose: ____ mg/kg	Dosage: ____ ml/lb Route of Administration: Expected Duration of Effect:	
Euthanasia by Sodium Pentobarbital	<i>All 8 positive determination of death assessments must be performed at 5 and 30 minutes post injection</i> IV Dosage: ____ml/10 lbs IP Dosage: ____ml/10 lbs IV Injection should be used: IP Injection should be used:		
Humane Handling Considerations	<i>Indicate where sedative is to be administered, where and when in relation to sedation euthanasia is to be performed, etc.; and if authorized when alternative sedative should be used:</i>		
SUPERVISING VETERINARIAN			
Name, Practice and Address			
Signature and Date	Date: _____		

Established protocols for the euthanasia of other companion animal species may be attached to this form. Original copy must be on file at the animal facility.