

1. PURPOSE

This Standard Operating Procedure (SOP) describes acceptable procedures for euthanasia of large animal species such as swine, dogs, rabbits, cats, non-human primates (NHP), sheep, goats and cattle. It ensures that animals are euthanized in the most humane way possible.

2. RESPONSIBILITY

Principal investigator (PI) and their staff, veterinary care staff.

3. ACCEPTABLE METHODS BY SPECIES

- 3.1. Rabbit, cat, dog, non-human primate:
 - 3.1.1. Barbiturate overdose
 - 3.1.2. Overdose of inhalant anesthetic
 - 3.1.3. Exsanguination under general anesthesia
- 3.2. Sheep, pig, goat, cattle:
 - 3.2.1. Barbiturate overdose
 - 3.2.2. Exsanguination under general anesthesia
 - 3.2.3. Physical methods

4. PROCEDURES

- 4.1. Barbiturate overdose:
 - 4.1.1. If necessary, tranquilize animals in pain or agitated prior to barbiturate overdose.
 - 4.1.2. Pentobarbital sodium is the main agent of injectable commercial euthanasia solutions.
 - 4.1.3. Inject pentobarbital at a dose of 100 to 120mg/kg.
 - 4.1.4. Confirm euthanasia before disposing of the carcass by observing that there is no respiratory movement for at least 3 minutes, and that the heartbeat has ceased.
- 4.2. Overdose of inhalant anesthetic:
 - 4.2.1. The following gases can be used: halothane, isoflurane, methoxyflurane, other halogenated inhalants.
 - 4.2.2. Expose the animal to a high gas concentration using an anesthetic vaporizer.
 - 4.2.3. Vapors are inhaled until respiration ceases and death ensues.
 - 4.2.4. Confirm euthanasia before disposing of the carcass by observing that there is no respiratory movement for at least 3 minutes, and that the heartbeat has ceased.
 - 4.2.5. If the animal is not dead (or for additional security), follow inhalant anesthesia overdose by another method of euthanasia, such as exsanguination.
- 4.3. Exsanguination:
 - 4.3.1. Deeply anesthetize the animal as per SOP.
 - 4.3.2. Verify that withdrawal reflex is absent by pinching the toes with hemostats of non-hooved animals and pinching leg tendon of a hooved animal.

- 4.3.3. Withdraw the maximum volume of blood.
 - 4.3.4. Confirm euthanasia before disposing of the carcass by observing that there is no respiratory movement for at least 3 minutes, and that the heartbeat has ceased.
 - 4.3.5. If the animal is not dead (or for additional security), follow exsanguination by another method of euthanasia, such as overdose of barbiturates
- 4.4. Physical methods:
- 4.4.1. Licensed slaughter house:
 - 4.4.1.1. Use physical methods only on food animals for agricultural use.
 - 4.4.1.2. Animal transportation and slaughter must comply with federal and provincial laws and regulations.