



Standard Operating Procedure: Canine Restraint

These SOPs were developed by the Office of the University Veterinarian and reviewed by Virginia Tech IACUC to provide a reference and guidance to investigators during protocol preparation and IACUC reviewers during protocol review. They can be used as referenced descriptions for procedures on IACUC protocols.

However, it is the sole responsibility of the Principal Investigator to ensure that the referenced SOPs adequately cover and accurately represent procedures to be undertaken in any research project. Any modification to procedure as described in the SOP must be outlined in each IACUC protocol application (e.g. if the Principal Investigator plans to use a needle size that is not referenced in the SOP, simply state that alteration in the IACUC protocol itself).

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I. Procedure Summary and Goal

Describes procedures for the safe and humane restraint of dogs for routine handling and treatments.

Considerations:

Having a basic knowledge of the animal's behavior is important in safe and humane handling. When approaching a dog, assess the dog's reaction and adjust accordingly. Avoid loud noises or quick movements; use minimal restraint necessary.

The more frequently dogs are handled in a calm, non-stressful manner, the more easily they will become accustomed and accepting of handling and restraint methods. Dogs are social animals and adapt well to training and conditioning.

Dogs may resist being restrained and struggle harder the more the pressure is exerted. With manual restraint, handler may have to apply more pressure when animal struggles, but reduce pressure when animal relaxes or stops struggling. Dogs will learn to lie still when rewarded with minimal restraint.

Do not lift a dog by its scruff or ears.

Dogs can be restrained on the floor or on a table; using exam tables will allow for more secure control and leverage by most handlers.

Handlers should be vigilant at all times so as to avoid injury to animals or themselves. Dogs may bite or scratch, and resist if fearful. Never corner a frightened dog.

II. Personal Protective Equipment (PPE) and Hygiene

- a. Ensure appropriate PPE is used to protect handler from accidental injury or exposure to blood and other body fluids.
- b. Hearing protection (optional)
- c. Always wash your hands after handling an animal.

III. Supply List

- a. Leashes and collars
- b. Muzzles (cloth or basket style)
- c. Chemical restraint

IV. Detailed Procedure

- a. Leash (and collar)
 - i. Leash training is an important part of conditioning so as to allow for stress free manipulation of dogs.
 - ii. Slip leads are used frequently so that collars do not need to remain on the dog. Make a shape like the letter "P" out of the lead. Standing on the left side of the dog, place over dog's head such that the loose part of the lead is on top, and the end with the ring is under the dog's neck.

When walking the dog, the slip lead will tighten when dog (or handler) pulls, and loosen when dog (or handler) stops pulling.

- iii. This type of lead can be used to assist with restraint when holding the dog, and can be used as a temporary muzzle.

b. Mechanical Restraints

i. Muzzles

1. Commercially designed in cloth or basket style, with either tie or quick-release snaps. Proper fit is important to maintain control without injury to the animal. For fractious animals, muzzles are a good tool for both safe restraint and calming the dog, as dogs often become subdued when muzzled.
 2. "On the fly" muzzles can be fashioned using a long piece of roll gauze or soft rope. Create a loop with a half-hitch and place this over the dog's muzzle. Cross ends underneath the muzzle with another half-hitch. The two ends are then tied snugly behind the ears.
 3. A slip lead can also be used to fashion a temporary muzzle. Adjust the slip lead snugly around neck behind ears. While securing the dog's head, wrap the loose part of lead two or three times over the dog's muzzle and secure the loose end, either by tying to the leash around the neck, or holding in hand securing dog's head and neck.
- ii. A leash or slip noose may be tethered with a quick-release knot or snap to an examination table arm or ring, but animals should never be left unattended.
 - iii. Slings can be used for restraint during longer procedures, but dogs must be acclimatized to their use.

c. Standing or Sitting Restraint

- i. Dog should be held close to the body of the handler. Allow the dog to sit or stand comfortably and securely.
- ii. Place one arm under the dog's neck so that your forearm holds the dog's head securely, cuffing ear to maintain control of the head. A slip lead or collar can also be grasped with that hand for better control and leverage.
- iii. Place your other arm over the dog's chest (or hindquarters if sitting) and grasp the elbow or forearm of the leg on the opposite side.
- iv. Alternatively, larger dogs can be restrained in a sitting position on the floor. The handler should stand with their back against a wall and have dog sit facing forward between their legs. From this position, the handler can manipulate the head (e.g., for jugular presentation) and well as control side to side movement with knees.

d. Restraining in Sternal Recumbency

- i. With dog lying on its belly, drape your arm and upper body over the dog's shoulder. Use the opposite hand to present the body part (e.g., neck for jugular access, leg for cephalic venipuncture).
- ii. The handler should restraint dog on the side opposite from the body part being treated.
- iii. If the dog attempts to raise up, you can reposition your body to keep dog on table. If necessary, drape one arm over the rear and one arm over the shoulders, positioning your body over the center of the dog.

- e. Lateral Recumbency
 - i. With dog in standing position, reach across the dog's body with both hands and grasp both forelegs in one hand (near elbow) and both hind legs (near hock) in the other. When grasping legs, place index finger between legs, and wrap hand around outside of legs for best control.
 - ii. For larger or more fractious dogs, positioning may require two handlers.
 - iii. Leaning dog against your body, gradually lift legs and allow dog to slide down onto its side. Do not slam the dog against the table.
 - iv. Apply firm pressure on the dog's neck with your forearm/elbow, as well as similar pressure over the loin, and maintain hold of legs so that the dog cannot flip up while you are restraining. Hold either all four legs, or the two down legs for maximum leverage, depending upon size of the dog.
- f. Chemical restraint
 - i. Under the direct supervision of a veterinarian, chemical restraint can be used.

V. Variations

None

VI. Potential Adverse Effects, Mitigation, or Treatment

- a. Trauma
 - i. Bruising, lacerations, fractures, neuropraxia, permanent nerve damage
 - 1. Contact veterinary staff
- b. Distress
 - i. Hypoxia due to excessive pressure on thorax or trachea
 - 1. Release restraint, provide supplemental oxygen
 - 2. Contact veterinary staff
 - ii. Physiological changes
 - 1. Tachycardia, tachypnea, hypertension, hyperthermia, etc
 - 2. Hyperthermia
 - a. Release restraint, provide supportive care (oxygen, circulate air, cool paws, dampen fur)
 - b. Contact veterinary staff
- c. Metabolic/hematologic disturbances
 - i. Stress leukogram, other

VII. References

American Association of Laboratory Animal Science. Assistant Laboratory Animal Technician Training Manual. (Drumwright and Co, Memphis, TN 2012)

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