VIRGINIA TECH

UNIVERSITY VETERINARIAN & ANIMAL RESOURCES

SOP: Swine 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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Version: 1
Original date: 12/12/17
Version date: 12/12/17

I. Procedure Summary and Goal

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

Considerations

a. Having a basic knowledge of the animal's behavior is important in safe and humane handling. Pigs by nature are curious, gregarious, and intelligent animals. Pigs can be accustomed to accept restraint and handling and will learn more quickly with positive reinforcement and reward than with punishment. When possible, a calm, crouching approach is less threatening than standing over the top of the pig. Pigs will typically turn to face a handler calmly entering their flight zone; if no threat perceived, they may stand and wait for approach, or even approach handler (Figure 1). If flight zone entered rapidly or deeply, pigs may panic and scatter.

Figure 1. Engage a pig's natural curiosity to manage handling.

b. Pigs do not sweat effectively and may overheat quickly in hot conditions.

c. Pigs are strong, loud, quick animals, and handlers should be coordinated and confident in their management and handling at all times so as to avoid injury to animals or themselves. Pigs may:

   i. Vocalize

   ii. Bite

   iii. Head-butt or push with their sides

Basic types of restraint

a. Manual restraint

b. Mechanical restraint (e.g., v-trough, snare, slings, crowd panel, restraining crate)

c. Chemical restraint

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, such as:

   i. Scrubs or coveralls

   ii. Steel-toed shoes or boots

   iii. Other PPE as required by protocol/facility

b. Pigs are extremely vocal and volume can well exceed 85 decibels; therefore, ear protection must be used when handling or working with pigs.

III. Supply List

a. Mechanical restraint equipment (e.g., v-trough, snares, crowd panel, cane)

b. Chemical restraint

IV. Detailed Procedure

NOTE: Always handle pigs firmly but gently and be prepared for vocalization. If animal should struggle while restrained, do not release animal until struggling ceases, so as to not reward resistance. Gentle stroking of the abdomen or back will assist with calming the pig.

a. Driving animals

i. Pigs have wide-angle vision (310°) with a small blind spot directly behind (55°).

ii. Basic understanding of an animal's flight zone facilitates safe individual and herd movement (Figure 2). Pigs will generally move in a direction opposite that of the handler's movement into their flight zone. Approaching from behind encourages the animal to move forward; stopping or increasing the distance from the animal will stop forward movement. To move animal backwards, the handler can move in front of the shoulder. Use of a cane can assist with directing pig movement, with gentle taps on the opposite side of direction you want pig to go in (i.e., tap right shoulder to move pig left; tap nose to back pig up).

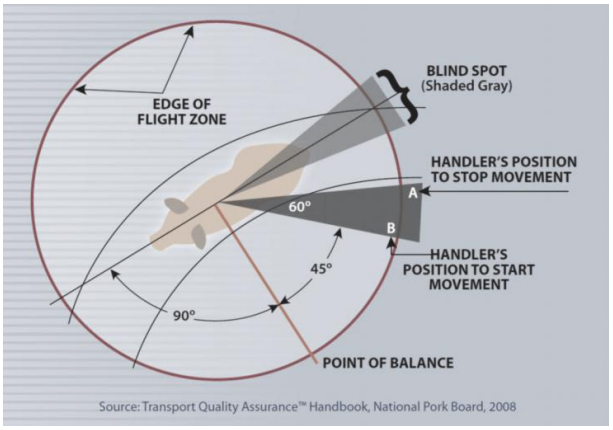

Figure 2. Understanding the Flight Zone

2. Pigs prefer lighted areas and can be herded more easily from dark to lighted areas (e.g., turn off lights from area being exited and turn on in areas being entered). Pigs also have a strong escape instinct – ensure that areas for capture are safe and secure, with no small gaps to go through or under.

3. A crowd panel ("hog board") can be used to guide the pigs. As pigs have a tendency to root, be prepared for animal to attempt to go under boards as well as around them if frightened.

b. Manual Restraint (Figure 3)

i. Capture

a. One legged grasp for small pigs (under 15 to 20 kg) - approach calmly, herding into a corner if possible, and firmly grasp leg (hind or fore) of piglet. Rapidly transfer to holding the pig with both hands supporting the body of the pig.

b. Two legged grasp for market-sized pigs – two strong handlers required; herding into a corner, both handlers grasp near hind leg, and lift hind end up so that animal is standing on its head against a wall.

ii. Holding small pigs (under 15 to 20 kg)

a. With the animal snug to your body, wrap one arm securely over the back and support the abdomen, and cradle the neck and head with the other arm. The handler can reposition hands in order to assist with body part presentation required by procedure.

b. Both hind legs can be grasped to transfer animal, such as to another pen or to place in v-trough. Animals should not be restrained in this manner for any length of time, however.

Figure 3. Various Restraint Techniques for Smaller Pigs

c. Mechanical Restraint

i. V-trough

a. A two-sided wooden or metal tray commonly used for procedures such as blood collection.

b. Pig is placed upside down in dorsal recumbency.

c. Requires two people to handle pig

d. Legs can be restrained by handler(s) for proper positioning, and again, stroking the animal's belly will assist with relaxing the animal.

ii. Snare

a. A rope or metal noose

iii. Slings

iv. Crowd panel ("hog board")

v. Restraining crate

d. Chemical Restraint

i. In addition to the previous methods of restraint, chemical restraint may be required for major

procedures under the direction of the Clinical Veterinarian.

V. Variations

None

VI. Potential Adverse Effects, Mitigation, or Treatment

a. Trauma
    i. Bruising, lacerations, fractures, neuropraxia, permanent nerve damage, other
        a. Contact veterinary staff

b. Distress
    i. Physiological changes
        a. Tachycardia, tachypnea, hypertension, hyperthermia, etc.
            i. Contact Veterinary Staff

c. Metabolic/hematologic disturbances
    i. Stress leukogram, other

VII. References

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