

STANDARD OPERATING PROCEDURE #106

SWINE ANALGESIA

Title: Standard Operating Procedure (SOP) for Swine Analgesia
Department: [Redacted]

2. RESPONSIBILITY

Responsible Person: [Redacted]

3. GENERAL CONSIDERATIONS

- 3.1. All procedures must be performed in accordance with the SOP.
- 3.2. The welfare of the animal is the primary concern.
- 3.3. All personnel must be trained and certified.
- 3.4. All procedures must be performed in accordance with the Animal Care Committee (ACC) and the Institutional Animal Care and Use Committee (IACUC).

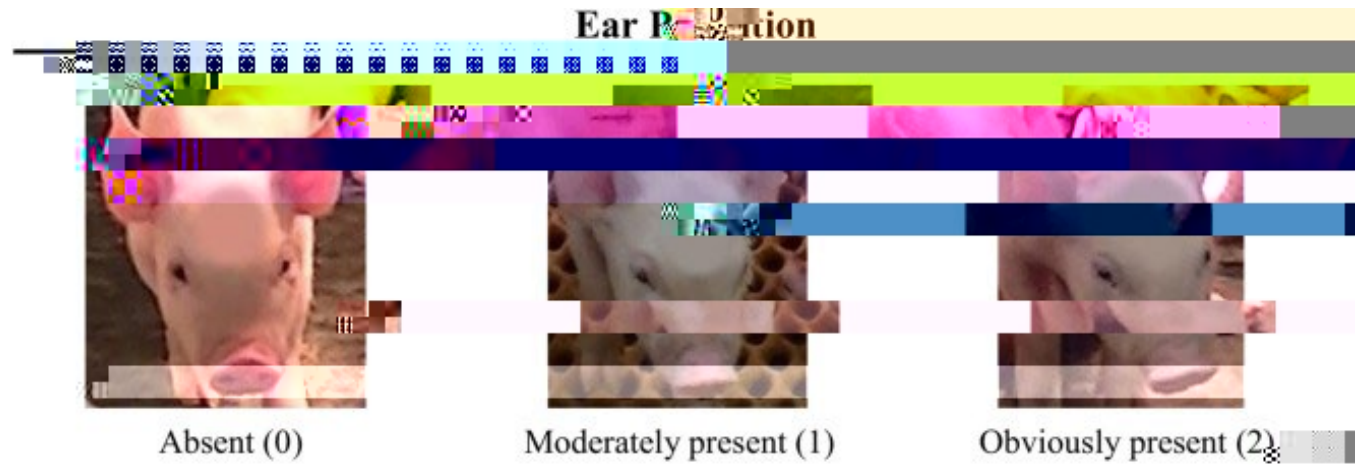
4. PAIN RECOGNITION AND ASSESSMENT

- 4.1. Adapt the frequency of observation to the invasiveness of the procedure (minimum once a day).
- 4.2. Start by observing the animal from a distance so the animal's behavior is not altered by the presence of the observer. Then proceed to observe the animal more closely.
- 4.3. Look for any changes in behavior. Report animals which appear to be in pain to the veterinary care staff.
- 4.4. Common clinical signs indicative of pain or distress include:
 - 4.4.1. Social isolation
 - 4.4.2. Lying down more frequently, immobile
 - 4.4.3. Aggressive vocalization
 - 4.4.4. Altered gait
 - 4.4.5. Hunched posture
 - 4.4.6. Head down
 - 4.4.7. Arched back or abdomen, appears tucked in upward
 - 4.4.8. Increased muscle tension around the eye (orbital tightening)
 - 4.4.9. Eyes partially closed
 - 4.4.10. Cheek tightening/nose bulge
 - 4.4.11. Ear positioning
 - 4.4.12. Less reactive to external stimuli
 - 4.4.13. Reduced appetite (sometimes)

Note: The most reliable signs of pain and distress are the changes in behavior. This implies a good knowledge of species and individual normal behavior by the observer.

4.5. The Piglet Grimace Scale (Turner et al. 2017):

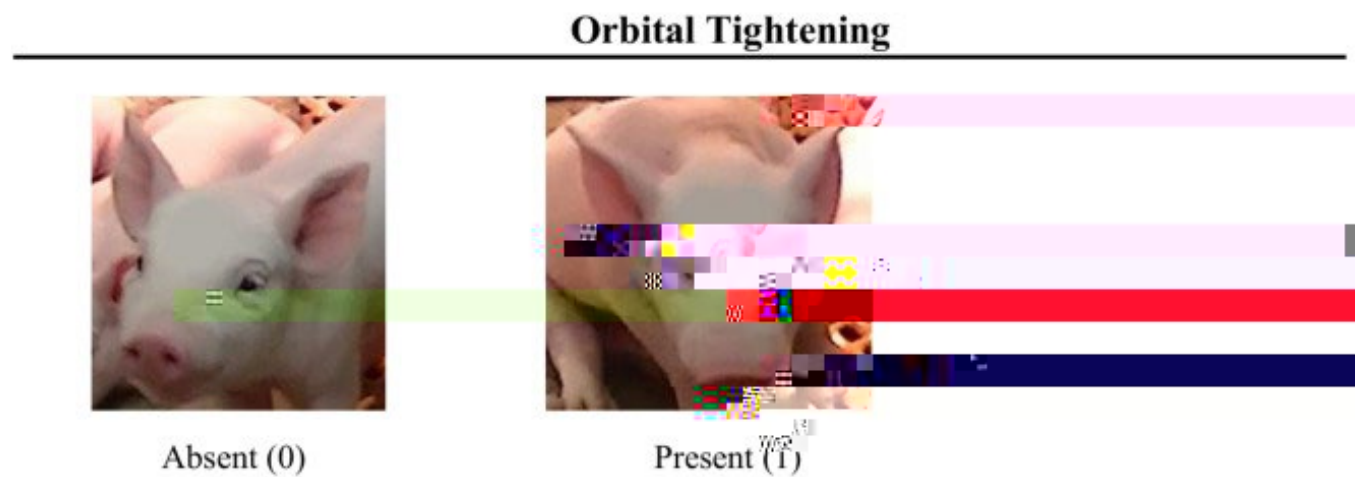
The piglet grimace scale is a standardized behavioral coding system that demonstrates facial expressions which can be used to assess pain in the pig.



When the animal is in pain,



When the animal is in pain, a bulge of skin is apparent on the snout in response to cheek tightening



When the animal is in pain, the orbital area is narrowed and the eyelids

5. ANALGESIA PLAN

- 5.1. When possible, provide analgesia before the painful stimulus, as it is more effective in preventing pain (e.g. give analgesic before surgery).
- 5.2. Use a combination of analgesics, which is often more effective than using a single agent. For example, a combination of opioid, non-steroidal anti-inflammatory drug (NSAID), and infiltration of a local analgesic.
- 5.3. For surgical procedures, extend analgesia from pre-op to 72 hours post-op, unless specified otherwise in the Animal Use Protocol (AUP) and approved by the FACC.

6. LOCAL ANALGESIA

- 6.1. Infiltrate or apply local analgesic to areas where a painful stimulus may be induced. Repeat application of local agent at specified intervals to maintain analgesia. In some cases, a sedative is recommended when using local analgesia (when not using anesthesia).

Analgesic	Dose	Route	Duration	Note
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7.

