

PCA_051 Injections – Intramuscular (IM) in pigs

I. OBJECTIVE

To describe a standardised procedure for performing intramuscular (IM) injections in pigs for scientific purposes.

II. DEFINITIONS

Competent - “the consistent application of knowledge and skill to the standard of performance required regarding the care and use of animals. It embodies the ability to transfer and apply knowledge and skill to new situations and environments.” (as per, *Australian code for the care and use of animals for scientific purposes*, 2013)

III. COMMENTS / RECOMMENDATIONS

- Relative to animal ethics applications, when using this SOP, the following must be described in the individual ethics application: intended frequency/timeline of this animal use, any intended variation to this procedure.
- Pigs vocalise when they are handled: although this behaviour should not be ignored, be aware this does not necessarily indicate that they are experiencing pain or distress. Competency requires that you can distinguish between normal and abnormal behaviour. Ask your supervisor for advice if you are uncertain.
- Unless otherwise directed by a veterinarian for therapeutic treatment, a pig should not receive more than two IM injections in any one 24-hour period.
- As per routine conditions (see document footer) this procedure must be performed by, or under the direct supervision of, personnel who are competent to perform the procedure.

IV. PREPARATION

- General hygiene considerations: operators must use gloves and disinfect them between animals to prevent the transmission of blood-borne diseases; equipment must be cleaned between animals, including reusable needles, which must be sterile and changed between animals to prevent transmission of disease between pigs; ensure basic good hygiene practices (washing hands etc); do not enter a piggery if you are unwell.
- Ensure substances have been stored and prepared for administration according to manufacturer’s instructions, and note the product’s expiry date and batch number.

V. EQUIPMENT

- 16-19G needle for large, adult pigs
- 20-23G needle for medium and small pigs
- Appropriate animal restraint equipment
- PPE, as appropriate relative to the location and procedure (Overalls, steel-capped rubber boots, ear-muffs or ear plugs, are all recommended. As required, seek advice from biosecurity personnel).
- Sharp’s disposal container
- Gauze cloth

VI. PROCEDURE

1. The person performing the injection (the operator) ensures all required equipment is prepared and appropriate for use (e.g. substance to be injected is not expired, needle gauges are appropriate sizes etc).
2. The pig is restrained as appropriate for the procedure.
3. Only if the skin is visibly dirty/contaminated at the site of injection does it need to be cleaned before injection.
4. Insert the needle through the skin and into the muscle body. The needle should be inserted slightly off-set from perpendicular, with the bevel of the needle “facing up”.

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Generally, the most common appropriate site for injection is the lateral cervical region, caudal to the base of the ear (see image 1). Small piglets are sometimes injected into the “ham” of the hind leg (gluteus maximus or biceps femoris) if they have little cervical musculature to inject (see image 2). Often this is not recommended in growers/finishers due to the risk associated with subsequent abscessation.

5. Withdraw the syringe plunger slightly to ensure that inadvertent venepuncture has not occurred. If blood flashes back into the syringe, redirect the needle within the muscle body, and repeat this step.
6. Inject the substance at a slow and steady rate.
7. Remove needle and place it into the sharp’s disposal container at the earliest appropriate time.
8. If a bead of blood or discharge of the injected solution is present on the skin upon removal of the needle gently apply pressure to the site of injection with a piece of gauze.
9. Observe animals for signs adverse reactions to the injection (e.g. acute swelling at the site or injection or otherwise, hives, increased respiratory rate, depression, or agitation). If unexpected adverse reactions occur immediately seek veterinary advise, and follow the appropriate institutional procedures (for general reference, see the [animal ethics webpage](#)).

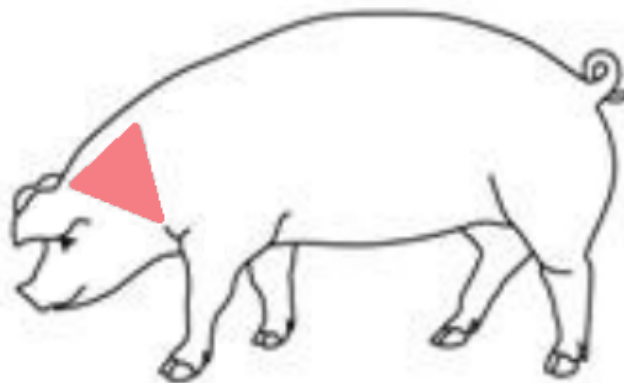


Image 1. Graphical representation of IM injection site: lateral cervical region. This is the most common location for IM injection in pigs (image modified from: Intramuscular Injections in Swine, Virginia Tech, 2017 https://ouv.vt.edu/content/dam/ouv_vt_edu/sops/large-animal/sop-swine-intramuscular-injection.pdf).

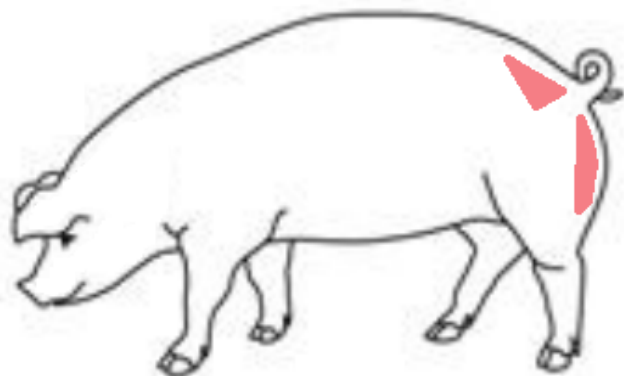


Image 2. Graphical representation of IM injection site: “ham”, (gluteus maximus or biceps femoris). These sites are uncommonly used due to the risk associated with abscessation (image modified from: Intramuscular Injections in Swine, Virginia Tech, 2017 https://ouv.vt.edu/content/dam/ouv_vt_edu/sops/large-animal/sop-swine-intramuscular-injection.pdf).

Version #	Reviewing AEC (note: all other relevant AECs ratify the approval)	AEC Review Date	Approval To Date
2	PCA	15/06/2022	15/06/2025

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