

INJECTION OF DRUGS AND EXPERIMENTAL COMPOUNDS (SOP-1)

INTRODUCTION AND BACKGROUND INFORMATION

- Precautions must be taken not to spill the compound(s) to be injected. All injectable solutions should be kept in vials or well-sealed containers.
- Handle injection vials, and disposable sterile syringes and needles appropriately to avoid contamination. Discard them only in the designated red plastic 'sharps' container. Do not let containers overflow.
- Choice of syringe and needle will depend on the volume to be injected, route of administration, the viscosity of the injectable and the size of the animal. For example, a 25 g needle is usually appropriate for administering aqueous solutions SC or IP in adult rats; but a 27 g needle may be preferred when injecting mice or other small or immature animals.
- To assure accuracy of the volume delivered, the total capacity of the syringe should not exceed the volume to be injected by more than 10-fold.

PROCEDURES

A. Syringe Filling

- Examine the label of the vial to ensure that you have the proper solution for injection.
- Confirm the animal identification number by comparing: cage card, animal's ear notches, and the dosage record.
- With needle attached to syringe, pierce the septum of solution vial. Inject the vial with air in the approximate volume to be withdrawn. Invert vial and withdraw sample.
- Alternately, a filling needle (16-20 g) may be kept in the septum for syringe attachment. If a filling needle is used, remove the syringe from the filling needle and attach the needle for injection.
- To dislodge any air bubbles in the syringe, hold the syringe upright and gently tap the syringe in order to displace air towards the hub of the needle. Continue to hold the syringe upright, slowly expelling the air until fluid appears at needle end.

B. General Suggestions

- Sharp needles must be used to minimize trauma. A new needle should be used for each animal
- Accurate dosing is important.
- Refer to experimental protocol for specific safety instructions for injectable being used; this is especially critical for viruses or toxins.
- Proper restraint of the animal is necessary for the safety of the animal and the handler.
- Check for solution color, solubility changes, and expiration date to ensure consistent dosing.
- Observe the animal(s) post-injection for adverse reactions. Notify the vivarium manager immediately if adverse or toxic reactions are suspected.