

Quick Reference Summary Sheet

TECH 09a -Oral Gavage in Adult Mice

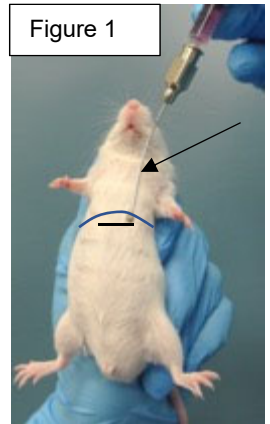
Procedure:

1. Weigh animal. Calculate volume that can be administered (maximum = 10 ml/kg).
2. Pre-measure length of gavage tube required (Figure 1).
 - a. Measure from oral cavity (or tip of nose) to xiphoid process (or last rib).
3. Pre-fill syringe and gavage tube.
 - a. Tube size: 20-24G (22 G is most common); 2.5 - 3.8 cm/1.0-1.5 inch length (3.8 cm/1.5 inch is most common).
 - b. Wipe away any substance coating the outside of the needle for accurate dosing.
 - c. Ensure plunger is moving freely; eject any air in the needle.
 - d. If study permits, dip end in a sweet substance (sugared water) to facilitate procedure.
4. Firmly restrain animal by scruffing and hold in an upright position facing handler (Figure 1).
 - a. Front legs extended to the sides
 - b. Head and neck immobilized
 - c. Ensure breathing normally
5. Insert gavage tube into the left side of the animal's mouth.
 - a. Insert in the gap between the front teeth and molars (diastema).
6. Gently advance gavage tube along roof of mouth, above tongue, to back of mouth.
7. With metal gavage tube, tilt head back towards animal's spine gently so esophagus aligns in straight line to stomach (Figure 2). Plastic tubes do not require tilting of the head back (Figure 3).
8. Gently advance gavage tube down esophagus the pre-determined distance – NEVER FORCE (Figure 4).
 - a. STOP and remove tube if there's resistance, respiratory distress, struggling
 - b. If tube is not passing easily, gently tilt head back more, or slightly twist tube clockwise (Metal tubes).
 - c. Confirm breathing normally before administering substance
9. Inject a small test dose (0.05 cc) and monitor breathing for 1-2 seconds.
10. Slowly inject substance over 2-3 seconds for aqueous solutions or over 5-10 seconds for viscous substances.
 - a. Stop and remove gavage tube if any difficulties arise (respiratory distress, struggling).
11. Withdraw needle/tube slowly (over 1-2 seconds) once finished administration and return animal to its cage.
12. Monitor animal for at least 10 minutes to observe for potential complications.
 - a. Monitor again at the end of the day and again the next day.
 - b. Do not leave animal for the day unless satisfied they are behaving normally.
13. Cleaning metal tubes.
 - a. Between animals, flush tube with water and wipe dry with gauze.
 - b. When finished, clean with soapy water, rinse well, allow to dry before storing.
 - c. Plastic tubes are single use only and should be discarded after each use.

Potential Complications:

- a. Aspiration of substance into the lungs
- b. Perforation of the esophagus, trachea or lungs
- c. Chewing off a piece of plastic gavage tube
- d. Damage to the oral cavity
- e. Esophagitis (inflammation of the esophagus)
- f. Other traumatic injuries: torn nails, bulging eyes, respiratory distress

Figure 1



Black arrow: metal gavage tube showing distance to be inserted
Blue curve: distal ribs
Black line: xiphoid process

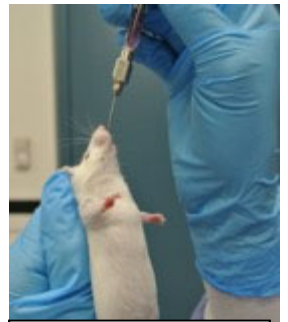


Figure 2, metal



Figure 3,
plastic

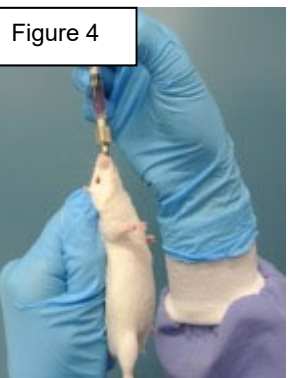


Figure 4