

**UNIVERSITY OF DELAWARE
OFFICE OF LABORATORY ANIMAL MEDICINE**

Intramuscular (IM) Injection* SOP #PRO-003

*Mouse: IM injections are not recommended and should be avoided whenever possible due to the lack of muscle mass in the mouse.

The sciatic nerve runs along the caudal (back) length of the femur and must be avoided. Hitting the sciatic nerve can cause pain, lameness, and possible paralysis.

Equipment required:

- 25-30 gauge needle
- Syringe to deliver material

Technique:

1. Restrain the animal. Assistance for restraint or use of anesthesia is helpful.
2. Secure the rear foot nearest you.
3. Injections can be made into the thigh muscles caudal to (behind) the femur (semitendinosus – semimembranosus) or those cranial to (in front of) the femur (quadriceps).
4. Isolate the muscle mass to be used, with your fingers.
5. Insert the needle to avoid the sciatic nerve. Direct the needle caudally (toward tail) if using the caudal thigh muscles or cranially (toward head) if using the quadriceps muscle.
6. Aspirate to ensure that you have not entered a blood vessel. If blood is aspirated, redirect the needle and aspirate again.
7. If no blood is aspirated, slowly inject the material.
8. Withdraw needle.
9. Observe injection site for any bleeding.
10. Control any bleeding by applying digital pressure to the site until bleeding stops (approximately 1 minute).
11. Return the animal to its cage.
12. Observe the animal for any signs of pain or distress.

Maximum Recommended IM injection Volumes:

- **Mouse:** 0.025 ml
- **Rat:** 0.2 ml

