

# Rabbit Handling Training (2021)

Laboratory Animal Facility, HKUST (CWB)

Note: This material serves as part of the training program for animal users of Laboratory Animal Facility, HKUST (CWB). The rest of the training program includes

- General Animal Use Training
- LAF User Manual
- Hands-on training and orientation in the facility, and
- Biosafety course (provided by HSEO)

# General Considerations of the NZW Rabbit

Life Span	5-8 years
Adult Weight	M 2-6kg F 2-6kg
Birth Weight	30g-100g
Heart Rate	130-323bpm
Resp Rate	30-60bpm
Body Temp	38-40C
Gestational period	29-35 days
Weaning age	5-8 weeks

# Handling and Transfer

- Avoid hectic and jerky, loud movements
- Give time for animals to investigate handler's hand and become adapted to the smell of gloves
- Rabbits are prone to stress – approach in a calm and confident manner
  - Scruff back of neck with one hand and place other hand on hindquarters
  - Covering the rabbit's eyes is the best way to calm them



# Chemical Restraint

- Recommended if the injectable will cause great distress or discomfort to the animal
- Either by isoflurane or injectable drugs (ketamine/medetomidine, acepromazine, etc)



# Blood Drawing in Laboratory Animals

- **Training and experience of the individual in the blood drawing are of critical importance.**
- The method of blood collection to be used, the intervals between blood collection procedures, and the volume of blood to be removed, should be listed in the approved protocol specific to each stud
- Recommended volumes for blood collection are intended to preserve the health status of the animal and maintain the validity of experimental results. The guidelines provided are for healthy, normal adult animals.

# Blood Drawing Volume and Frequency

Max Blood Draw (Total Blood Volume)	Recovery Time
15%	3 weeks
10%	2 weeks
7.5%	1 week
0.75%	Daily

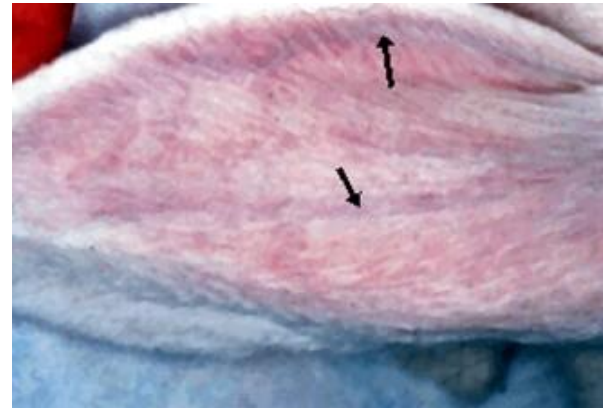
Max Blood Draw (Body Weight)	Recovery Time
1%	3 weeks
0.75%	2 weeks
0.5%	1 week
0.05%	Daily

i.e. 3 kg rabbit, max amount of blood 1.5ml (0.05% x 3 x 1000) every 24 hours

If need blood collection q 8 hr –  $(1.5/3) = 0.5$  ml each time

# Blood Collection in Rabbits

- Marginal Ear Vein
- Central Ear Artery
- Can sedate with Acepromazine
- Shave and clean with alcohol
- Butterfly set to avoid damage of vessel in case animal moves
- Occlude vein and insert needle slowly
- Apply gentle pressure using gauze over venepuncture for a few minutes



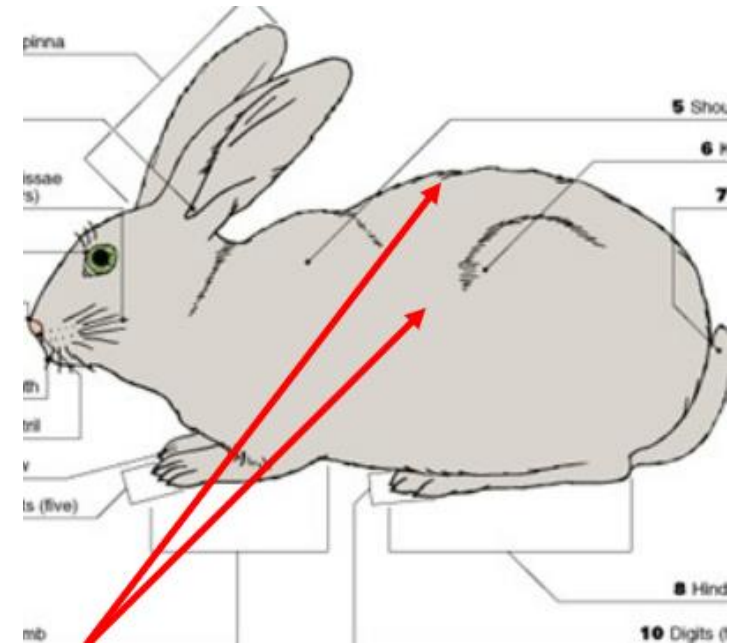
# Injection Techniques

- **Sub-cutaneous (SQ)**
- **Intravenous** marginal ear veins
- **Intramuscular (IM)**
- Material that is irritant or with a high or low pH can cause pain both during and following injection.
- As with all injection sites, using a new needle for each animal, and injecting fluid that is at body temperature will reduce any discomfort caused by the procedure.



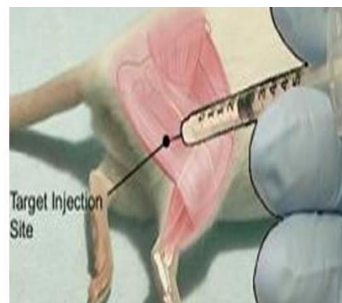
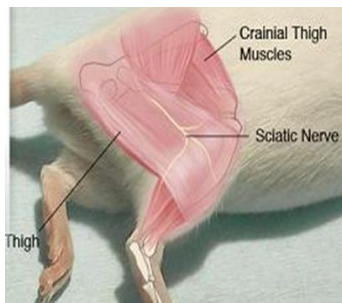
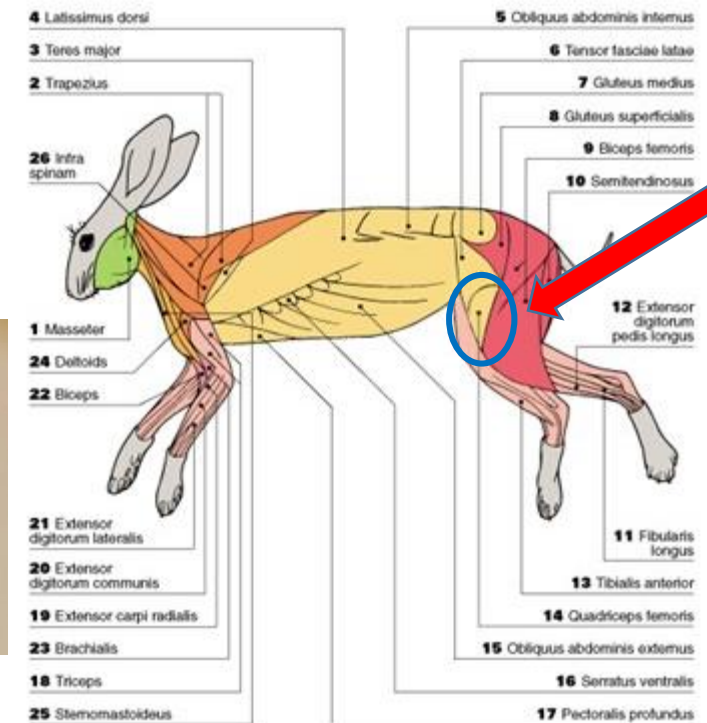
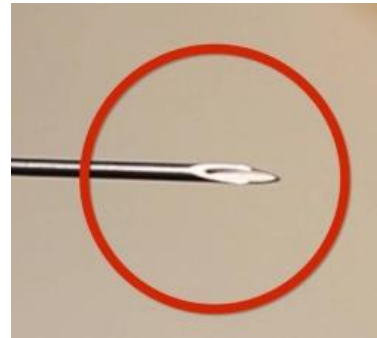
## Subcutaneous (SQ)

- Tent skin into a triangular shape
- Back or side in rabbits – avoid between shoulder blades as this is where you grasp the animal
- Needle entry angle should be parallel (or slightly downwards) to the muscle layer
- After entering skin, aspirate to confirm entry into dead space (should see air drawn back only) before injecting substance. If difficulty drawing back (in muscle) or drawing back blood (in capillary/vein), take entire needle out and reposition
- Max volume 30-50ml
- 20-23G



# IM Injections

- Quadriceps muscles of hind limb – avoid sciatic nerves which runs along the femur
- 1 inch 22 or 23 G needle
- Max volume 0.5ml
- Bevel up at 45 degree angle
- Aspirate to ensure you're not in a vessel



## IV Injections in Marginal Ear Veins

- 20-25 Gauge
- Max volume 1% of body weight (usually 5ml)
- Warm fluid
- Bolus slowly
- Light sedation recommended (0.1mg/kg SC of Acepromazine)
- Clip hair off carefully and apply topical lignocaine
- Dilate ear vein by
  - Occluding vessel with thumb + forefinger
  - Place ear under heat lamp for 3-5 mins
- Inject slowly, if incorrect position you will see a bulge – remove needle and reposition
- When completed, remove needle and apply gentle pressure on injection site

