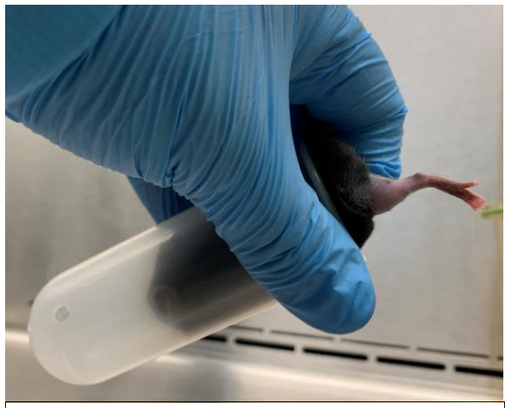
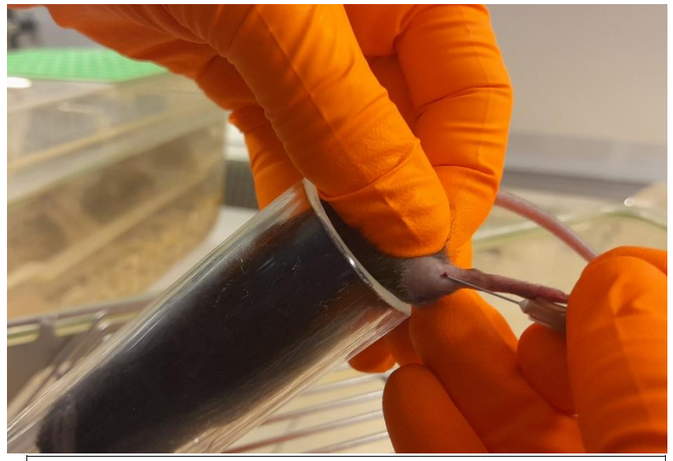
Blood Sampling via the Saphenous Vein

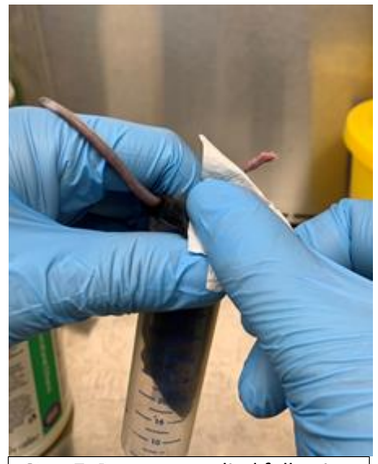


Step 2: During procedure mouse still comfortable in the handling tube

Step 4: Saphenous Vein can be easily visualised (Blue Arrow)



Step 5: Appropriate site to prick the saphenous vein



Step 7: Pressure applied following the procedure

Step by Step:

1. Place mouse in handling tube
2. Hold hind leg between fingers to prepare for procedure
3. Shave the hind leg from which blood is being taken if required
4. Clean the leg, to ensure no loose hair is collected in sample tube
5. Using ~30G needle prick Saphenous Vein at appropriate site
6. Collect sample in appropriate sample tube
7. Apply pressure for short period of time to stem blood flow
8. Return animal to home cage

Blood sample collected

Calculating Total blood Volume (TBV)

On average mice have approx. 58.5ml blood per kg of bodyweight

A mouse weighing 25g would therefore have TBV of approx. 1.46ml

58.5ml/kg x 0.025kg = 1.46ml

Refer to PPL for maximum volumes permitted *(NC3R's blood sampling 2013)*

Blood sampling via Saphenous vein has many benefits:

- Heating the mice in heat Box not required
- Standard restrainer not used, Handling tube used instead
- Procedure overall is more efficient and less stressful for the mouse compared to other methods
- Bleeding stops quickly once sample is taken by applying pressure for a short period of time
- Vein easily seen
- Repeat blood samples can be taken from alternating legs
- A number of UBS staff already competent in the procedure so can provide training
- Can be carried out on a number of species; rat, mouse, hamster, gerbil, guinea pig and ferret

Any questions or requests for further information don't hesitate to get in contact with your facility NACWO

Please Note: this poster is to be used for information only and does NOT allow the procedure to be undertaken without further training.

Written By Holly Bloy, NACWO

Sources:
Journal of the American association for Laboratory Animal Science, Vol 58 No 2, May 2019
J Hoff. Methods of Blood Collection in the mouse. Lab animal, 2000, 29(10)
NC3R's, blood sampling, published Dec 2013, Updated August 2021