

INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE (IACUC)

INJECTION SITES, VOLUMES AND NEEDLES: THE SHEEP

This table shows common injection sites, maximum volumes per site and appropriate sized needles:

	IV	IP	IM	SC	Oral
SITE	Cephalic jugular or saphenous veins	NR	Quadriceps, Posterior thigh, lumbar	In front of shoulder blade	
VOLUME	10 ml/kg		2-5 ml	100-400 ml	5 – 10 ml/kg
NEEDLE SIZE	≤ 20 gauge		≤ 20 gauge	≤ 16 gauge*	Via syringe or drenching device

BLOOD COLLECTION: THE SHEEP

General laboratory animal guidelines include:

- Too much blood collected at any one time may cause hypovolaemic shock, physiological stress and even death. If smaller volumes are collected too frequently, anemia may result.
- As a general rule, 10% of the total blood volume can be collected at one time every 2-4 weeks. Or 1% at intervals of 24 hours or more. Total blood volume can be calculated as approximately 7.5% of body weight.

EXAMPLE

Average Adult Weight	Total Blood Volume	Maximum Sample in mls q 2-4 weeks	Estimated Exsanguination Volume
50 kg	3750 ml	375 ml	1870 ml

- Use aseptic technique
- If you are not experienced in blood collection techniques, training is available.

Collection Site	Advantages	Disadvantages
Jugular Vein	<ul style="list-style-type: none"> • Maximum quantities of blood can be collected • Anaesthesia not required 	<ul style="list-style-type: none"> • Requires specialised training • Requires two people
Cephalic Vein	<ul style="list-style-type: none"> • Collection of small to moderate volumes of blood • Anaesthesia not required 	<ul style="list-style-type: none"> • Requires two people • Training recommended
Lateral Saphenous Vein	<ul style="list-style-type: none"> • Collection of small to moderate volumes of blood • Anaesthesia not required 	<ul style="list-style-type: none"> • Requires two people • Training recommended

* For heavier sheep (> 75 kg) [M. Driscoll, 2016]