

	Flinders University Safe Work Method Statement Sheep – Blood Collection 21/05/19		
			College of Medicine and Public Health Animal Facility
SWMS Number	RA Number	RA Score	
SWMS- 5.2	RA – 5.2	Medium	
Contact Person	SWMS prepared by	AWC Approval Date	Review Date
Roxanne Collingwood	Roxanne Collingwood	21/05/2019	May 2021

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Legislation

- *Australian Code for the Care and Use of Animals for Scientific Purposes 8th Ed.*
- *Animal Welfare Act 1985*
- *Animal Welfare Regulations 2012*
- [Gene Technology Act 2000](#) (the Act)
- [Gene Technology Regulations 2001](#)
- *Work Health and Safety Regulations 2012*

University Policy

- Work Health and Safety Policy 2013
- Responsible Conduct of Research Policy 2016
- NHMRC Guidelines

Local Policy

Use of the College of Medicine and Public Health Animal Facilities by all staff and researchers of the College of Medicine and Public Health, Flinders University, is subject to awareness of, and adherence to the following:

Research Involving Animals:

- The University holds a permit for the use of animals for teaching and research purposes. To satisfy the requirements of the permit, anyone wishing to undertake teaching and research using animals must submit a proposal to the Animal Ethics Review Sub-Committee. No work with animals may commence until written approval has been received from the Animal Welfare Committee. Standardised application forms for Research and Teaching can be found on the Flinders University website listed below. It is your responsibility to regularly check this site for updates to guidelines, forms etc http://www.flinders.edu.au/research/researcher-support/ebi/animal-ethics/animal-ethics_home.cfm

- **All staff and students involved in animal research must complete Animal Ethics Online Training (AEOT) and must also regularly attend Animal Researcher Information Sessions (ARIS).**

Safe Work Method Statements

Refer to Risk assessments, Safe Work Method Statements for chemicals, processes and plant equipment where appropriate. All projects must have an accompanying Risk Assessment signed by the Animal Facility Manager

SWMS 5.0-Sheep Catching, Handling and Restraint
RA 5.0-Sheep Catching, Handling and Restraint

Personal Protective Equipment Required

- Protective clothing
- Closed toe shoes

Hazards and Controls

- **Animal kicks- training, demonstrate competency, adhere to SWMS**
- **Animal Scratches- training, demonstrate competency, adhere to SWMS**
- **Needle Stick- DO NOT recap needles, dispose of in sharps containers**

Before Work Commences

Ensure that you are aware of the locations of the following:

- **Spill Kit**
- **Fire Extinguisher**
- **Eye Wash**
- **Exits**

Risk Assessment and SDS (Safety Data Sheet) - Ensure that you have read and understood for all the substances being used.

Equipment

- Check for safety and electrical compliance
- Ensure that you have read and understood the Risk Assessment and Safe Work Method Statement
- Obtain training before using any equipment

General Information

- *****IMPORTANT – Ensure all doors in the facility MUST be closed to prevent escape*****
- **All procedures are to be performed by trained competent staff.**
- **Training is available from senior animal house staff or Animal Welfare Officer.**
- **Evidence of training is available in the “Staff Training Needs Analysis”.**

NHMRC Blood Collection Guidelines

- The approximate blood volume can be calculated using the assumption that the animals total blood volume is 5.5 - 7% of animal's bodyweight. Blood volume limits can be expressed as a percentage of blood volume, assuming that an animal's total blood volume can be estimated at 70mL/kg.
- Up to 10% of the circulating blood volume can be taken on a single occasion from normal healthy animals with minimal adverse effect. This volume may be repeated after 3-4 weeks.
- For repeat bleeds at shorter intervals, a maximum of 1.0% of an animal's circulating blood volume can be removed every 24hrs (0.01% x circulating blood volume (ml/day)).

Maximum volumes and recovery periods for blood collection

Period of collection	% of blood volume collected	Approximate recovery period in weeks
Single bleed	Up to 7% (minor bleed)	1
	10% (moderate bleed)	2
	15% (severe bleed)	3
Over a 24-hour period	Up to 7%	1-2
	10%	2-3
	15%	4-6

Recommended site and volume of blood collection using calculated blood volume

Species	Total blood volume (using vol. of 7% body weight[mL])	Recommended site for blood collection	<7.5% Minor bleed (mL)	7.5-10% Moderate bleed (mL)	10-15% Major bleed (mL)
Sheep (50kg)	3500 (50 x 70mL/kg)	Jugular vein	<262.5	262.5-350	350-525

Jugular Intravenous Blood Collection

- Anesthesia or sedation is not required. This technique requires two technicians; one to restrain the sheep, the other performs the injection.
 1. Restrain the sheep using the method in *SWMS 5.0*.
 2. Clip fleece from the side of the sheep's neck, place an open hand around the front of the animal's neck above the chest, with the thumb pressure holding the vessel up.
 3. Use an appropriate size syringe and an 18 gauge needle, or catheter, for blood collection.
 4. Once the jugular is identified, insert the needle or catheter at approximately a 10°-20° angle to the animal's neck. Blood will be seen in the hub of the needle.
 5. Gently draw back on the plunger, blood should flow freely into the syringe, collect the desired amount of blood. Withdraw needle, apply pressure to the puncture site until bleeding ceases.



SWMS Review

This SWMS currently applies to the animals housed in the College of Medicine and Public Health Animal Facility. This SWMS will be reviewed 3 yearly, but also updated more frequently as policies, techniques and animal care requirements change.

Position	Name	Contact Details
Manager Animal Facility	Roxanne Collingwood	8204 4380 roxanne.collingwood@flinders.edu.au
Animal Welfare Officer	Lewis Vaughan	0450 424 143 awo@flinders.edu.au

Useful References

<http://www.nhmrc.gov.au>

<http://www.adelaide.edu.au/ANZCCART/>

http://www.flinders.edu.au/research/researcher-support/ebi/animal-ethics/animal-ethics_home.cfm

Any questions regarding the above guidelines and any technical advice/ assistance required can be directed to Animal Facility Manager.