

GUIDELINES REGARDING BLOOD SAMPLE WITHDRAWAL

PURPOSE:

The Liberty University IACUC has developed the following guidelines regarding the use of phlebotomy for common laboratory animal species and will provide guidance on recommended collection volumes and frequency. Animal wellness is a primary consideration when blood sampling is conducted, and the animal's physiological response and impact must be monitored.

GUIDELINES:

When submitting a protocol involving blood collection, keep the following in mind:

- When submitting a protocol to the IACUC, indicate that personnel will remain in compliance with this document if blood collection will be performed.
- Any deviation from these standards must be documented, justified, and approved.
- Literature on the history or necessity of the procedure must be provided.
- Provisions must be made for appropriate fluid replacement.
- The PI must ensure that all laboratory personnel are adequately trained and have demonstrated competency in blood collection.
- Ensure that appropriately sized needles are being used for the species listed on the protocol.

All blood collection procedures must be consistent with current best practices. Proper methods of blood collection for all species can be requested from the University Veterinarian (Davis McGuirt, DVM, dmcguirt@liberty.edu).

USE OF RESTRAINT

- For the purposes of blood collection, larger animals such as dogs, cats, cows, horses, and sheep only require physical restraint.
- Small animals, such as rabbits, mice, rats, and other rodents may be placed in appropriate restraint devices.

PHLEBOTOMY

Circulating blood volume (CBV) shall be determined from known species specific volume to weight values and not calculated on flat percentage of body weight.

TABLE I. CBV LIMITS AND RECOVERY PERIODS

<i>Single Sampling</i>		<i>Multiple Sampling</i>	
% circulatory blood volume removed	Approximate recovery period	% circulatory blood volume removed	Approximate recovery period
7.5%	1 week	7.5%	1 week
10%	2 weeks	10-15%	2 weeks
15%	4 weeks	20%	4 weeks

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TABLE II. ESTIMATED CBV IN COMMON LAB ANIMAL SPECIES

Species	Estimated CBV
Dog	85ml/kg
Cat	55ml/kg
Rat	65ml/kg
Mouse	75ml/kg
Guinea Pig	70ml/kg
Hamster	80ml/kg
Rabbit	55ml/kg