

DREXEL UNIVERSITY ANIMAL CARE AND USE COMMITTEE POLICY FOR ANIMAL BLOOD VOLUME SAMPLING

OBJECTIVE: The Drexel University Animal Care and Use Committee has established this policy to specify blood sampling volumes which can be obtained without having an adverse effect on research animals.

RESPONSIBILITY: The Investigator is responsible for ensuring that each individual obtaining blood from animals follows this policy. ULAR is responsible for providing training on the appropriate methods for obtaining blood samples from various species of animals.

BACKGROUND: Moderate (10-20%), and even small (less than 10%) blood loss can have profound physiologic effects on research animals. Effects may be species, age and sex dependent and, if not taken into account, may affect the outcome of experiments. The sample volume selected should always be the minimum necessary for the experimental need. Appropriate restraint must be employed to prevent injury to the animal and staff.

SINGLE BLOOD SAMPLE

A single blood sample within a 28 day period must not exceed 10% of blood volume. This 10% blood volume may be estimated as 1% of body weight (in grams) expressed in ml.

Examples

- 1% x 200 gm rat = 2.0 ml/28 days
- 1% x 2.5 kg rabbit = 25 ml/28 days

Recognize that older animals have less blood per 100 gm and that the "1% rule" would result in blood loss of 18% in a 400 gm rat.

MULTIPLE BLOOD SAMPLINGS:

If it is necessary to take multiple samples, smaller blood volumes should be drawn. The maximum blood volume that may be drawn per week is no more than 7.5% of the total blood volume. For a 25 g mouse, this is equivalent to 145-150 μ l per week. If sampling will occur every 2 weeks, up to 10% of the total blood volume may be drawn. For a 25g mouse, this is equivalent to 250 μ l every 2 weeks

TERMINAL SAMPLES: Blood samples taken from animals that will not recover from anesthesia are not covered by this policy.

There are other combinations of blood volumes over various amounts of time which may be acceptable, pending IACUC review.

Approval date: December 2003

Review date: February 8, 2012

Last review date: May 2018