

## **Guidelines for Blood Collection**

### The University of Texas at Austin Institutional Animal Care and Use Committee (IACUC)

*These guidelines have been written to assist faculty, staff, and students in performing vertebrate animal procedures in a humane manner and complying with pertinent regulatory requirements. Under some circumstances deviations from these procedures may be indicated but such variances must be approved in advance by the IACUC.*

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This document provides information to be used when planning and performing blood collection procedures in vertebrate animals used for research, teaching, or other purposes at The University of Texas at Austin. It is organized into two sections:

#### Section A – Background Information

#### Section B – Maximum Permissible Blood Collection During Survival Procedures

- Single Blood Draw or Repeated Sampling at Intervals of Two Weeks or More
- Repeated Sampling at Intervals of Less Than Two Weeks
- Terminal Blood Withdrawal

## **Section A – Background Information**

Approximate volumes for animals commonly used in the laboratory:

- 5-10 percent of body mass = total blood volume
- 3-6 percent of body mass = expected yield of terminal exsanguination
- 1-2 percent of body mass = volume that can be safely collected with minimal physiological disruption

## **Section B – Maximum Permissible Blood Collection During Survival Procedures**

### 1. Single Blood Draw or Repeated Sampling at Intervals of Two Weeks or More

The volume equivalent of 1% of the animal's body mass may be routinely removed. For example:

- 0.15 mL from a 15-gram mouse
- 50 mL from a 5 kg nonhuman primate
- 400 mL from a 40 kg pig

This is the maximum blood volume to be routinely removed during a single survival bleed. It can be repeated at two-week intervals. It may be appropriate to sample a higher volume than this if the bleeding will NOT be repeated (for example, a single sampling of 1.5%) but this must be specifically documented and justified in the approved IACUC protocol.

### 2. Repeated Sampling at Intervals of Less Than Two Weeks

If more frequent bleeding is needed, this volume should be proportionally reduced (i.e. only 50% of this volume

or 0.05% of body mass sampled if weekly bleeds are to be performed). If more blood than this recommended maximum volume is needed, it must be specifically documented and justified in the approved IACUC protocol. The investigator may be required to coordinate with the veterinary group to arrange for animal observation and possible hematocrit monitoring.

### 3. Terminal Blood Withdrawal

Exanguination by the removal of more than the maximum blood volumes listed in (1) or (2) above is allowed only if the animal has already been killed using an approved euthanasia method, or is anesthetized properly to eliminate distress during the terminal procedure. The animal's death must be verified at the end of the bleeding. Exanguination under anesthesia is considered an appropriate euthanasia method in most cases, but this must be specifically described in the approved IACUC protocol.