



Issuing Office(s)

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## UNIVERSITY STANDARD

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### Title

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## UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL STANDARD ON ENVIRONMENTAL ENRICHMENT FOR RESEARCH ANIMALS

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### Introduction

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#### PURPOSE

The standards and procedures described below provide guidance to all researchers and animal handlers for the environmental enrichment of research animals. Environmental enrichment is required by federal regulation, and is essential to the psychological well-being of research animals.

The *Guide for the Care and Use of Laboratory Animals* (NRC, 2011) states that, “The primary aim of environmental enrichment is to enhance animal well-being by providing animals with sensory and motor stimulation, through structures and resources that facilitate the expression of species-typical behaviors and promote psychological well-being through physical exercise, manipulative activities, and cognitive challenges according to species-specific characteristics.”

The *Guide* further states that, “Well-conceived enrichment provides animals with choices and a degree of control over their environment, which allows them to better cope with environmental stressors.”

#### SCOPE OF APPLICABILITY

This Standard provides information about the environmental enrichment program for research animals at UNC-Chapel Hill. The Standard is applicable to all animals, except those for which an exception has been submitted to and approved by the IACUC.

The UNC-CH IACUC expects that anyone involved in animal work at the University will comply with this Standard. Requests for exceptions to this Standard must be reviewed and approved by the IACUC and/or DLAM Management.



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## Standard

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### **Mice:**

All **mouse cages must** be provided with some type of environmental enrichment<sup>\*\*\*</sup>. This can include DLAM standardized enrichment options <sup>\*\*</sup>, nesting material, seeds, etc.

All mouse **breeding cages must** be provided with some form of nesting material.\*

All **nude mice must** be provided with nesting material (other than a nestlet) or a red hut, platform or shelter<sup>\*\*\*</sup>.

### **Other Animals**

Each animal enclosure must be provided with at least one enrichment item (or a veterinary approved alternative) <sup>\*\*\*</sup>:

Species-specific Environmental Enhancement Plans, created and approved by the UNC-CH Environmental Enrichment Committee, should be referenced when implementing new enrichment methods for species other than mice. Contact your DLAM Facility Manager or Veterinary Services to obtain a copy.

Below are a few examples of some common methods referenced in these plans, but are not intended to be a complete description of the enrichment methods utilized at UNC-CH:

- brown crinkle paper.
- puzzles, food treats
- hide boxes, chew toys.
- perches
- balls,.
- All will be provided with enrichment according to their specific needs, which may include group housing <sup>\*\*\*</sup>.

Every attempt will be made to choose items that enrich the animal's environment and are durable, cage dedicated, sanitizable and safe. The above items have been used at many other institutions and have been considered beneficial. If necessary, pilot studies will be conducted before broadly introducing new enrichment items.



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## Exceptions

Instances will arise when social grouping or enrichment items may be inappropriate for the scientific goals of the study or the health of the animals. If investigators provide justification that providing cage enrichment would have a negative impact on the study or to their animals, an exception to the Standard may be granted by the IACUC on a case by case basis.

Please note that exceptions to the Enrichment Standard must first be approved by the IACUC (meetings are held monthly) and cages exempt from the standard must be clearly identified with a capital red letter “E” in the upper right corner of the DLAM barcoded cage card. In a reverse light cycle room, this capital “E” should be in black or blue ink. To request an exception, complete addendum 8.0 of the Animal Care Application (ACAP), Exception Request Form, and submit it electronically to the IACUC as part of a full application or as an amendment to an already approved application. Describe the scientific rationale for withholding environmental enrichment so the IACUC can adequately consider your request.

\*Nesting material may consist of nestlets; crinkle paper, or other suitable substitute readily available to DLAM.

\*\*Should an alternative enrichment item be preferred instead of DLAM standardized environmental enrichment, please coordinate details with DLAM personnel. No amendment or exception is required for this option.

\*\*\* Unless the investigator has an approved Exception

## **EXCEPTIONS**

Requests for exceptions to this Standard must be reviewed and approved by the IACUC and/or DLAM Management.

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## **Definitions**

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**IACUC:** Institutional Animal Care and Use Committee

**DLAM:** Division of Laboratory Animal Medicine

**University Standard:** The minimum acceptable limits or rules used to achieve Policy implementation, enforceable by the IACUC

**Environmental Enrichment:** Any structure or resource added to a research animal’s environment that facilitates the expression of species specific behaviors and promotes psychological well-being. (*derived from the Guide*).



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### Related Requirements

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## EXTERNAL REGULATIONS AND CONSEQUENCES

## UNIVERSITY POLICIES, STANDARDS, AND PROCEDURES

For more detailed guidance, please refer to the [University Policy on the Care and Use of Vertebrate Animals for Research, Training and Teaching Purposes](#).

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### Contact Information

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Subject	Contact	Telephone	Email
IACUC Protocol	OACU	919-966-5569	iacuc@med.unc.edu
Husbandry	DLAM	919-962-5335	
Veterinary Services	DLAM	919-966-2906	

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### Important Dates

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- Effective Date and title of Approver: 1/5/05; UNC IACUC
- Revision and Review Dates: July 10, 2009, September 10, 2010, October 12, 2012, February 2015, July 2016.

Approved by: UNC IACUC

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Dr. Mitchell Picker  
UNC IACUC Chair

2/2017