

UIC UNIVERSITY OF ILLINOIS
AT CHICAGO
**POLICY – Use of Wire-
Bottom Caging for
Rodents**

Version 1.1

Office of Animal Care and Institutional Biosafety (OACIB)
1737 West Polk Street (MC 672)
206 Administrative Office Building
Chicago, IL 60612
Phone: 312.996.1972 Fax: 312.996.9088
www.research.uic.edu

I. Introduction

Acceptable primary enclosures for animals must, among other things, allow for the normal physiologic and behavioral needs of the animals, including urination and defecation, maintenance of body temperature, normal movement and postural adjustments, and where indicated, reproduction. In the research community, rodents are often housed on wire flooring, which limits coprophagy and enhances sanitation of the cage by enabling urine and feces to pass through to a collection pan. However, evidence indicates that rodents prefer solid-bottom caging with bedding. Furthermore, clinical abnormalities associated with housing rodents on wire-bottom caging have been documented. Solid-bottom caging is therefore recommended for rodents.

II. Institutional Policy

The default housing system for maintaining rodents at UIC is solid-bottom caging with bedding. The ACC must review and approve the use of wire-bottom caging systems for rodents. Wire-bottom caging systems for housing rodents are permissible only when there is an appropriate scientific rationale for not using solid-bottom caging with bedding.

III. Examples of Appropriate Scientific Rationale

- A.** Prevent/ limit coprohagia
- B.** Eliminate ingestion of bedding or bedding contaminants
- C.** Contact studies in which there may be a risk of the animals having additional contact with the compound.
- D.** Medical conditions that may be exacerbated by use of bedding such as in cases involving diabetic animals or burn models.
- E.** Metabolic studies in which feces and urine is collected.

IV. Guidelines

- A.** An evaluation process must be in place to closely monitor the health of the animals, particularly the feet of larger animals on longer studies. The evaluation of the animals will be through the direct and frequent visual examination during the regular cage changes by the animal care staff and interaction of the animals by the research staff. A mechanism that immediately alerts the veterinary staff should lesions develop must be a part of the program. This evaluation program must be described in the UIC Protocol for Animal Use.
 - 1. The program for evaluating the health status of rodents housed for long periods of time, defined as greater than nine months, on wire-bottom caging should include daily-recorded assessments by the investigator's staff.
 - 2. The program for evaluating the health status of rodents that are in excess of 500 grams and are maintained for more than 2 months on wire-bottom caging should include daily-recorded assessments by the investigator.
- B.** Rodents that develop foot/leg lesions on wire-bottom caging are to be provided at minimum rest boards that cover approximately one-third of the floor space.

References:

- *Guide for the Care and use of Laboratory Animals, 7th and 8th Editions, National Research Council, 1996 and 2010.*
- *AAALAC-International Connection Newsletter, summer, 2000.*
- *Peace, T.A., Singer A.W., Niemuth N.A., Shaw M.E., 2001. Effects of Caging Type and Animals Source on the Development of Foot Lesions in Sprague Dawley Rats (Rattus norvegicus) J. Contemp. Topics. 40(5):17-21.*
- *Stark, D.M. 2001. Wire-Bottom Versus Solid-Bottom Rodent Caging Issues Important to Scientists and Laboratory Animal Science Specialists. J. Contemp. Topics. 40(6):11-14.*