

Animal Care and Use Program Policy



Grid or Wire Mesh Flooring for Rodents

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BACKGROUND

Acceptable primary enclosures for animals should, 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. Historically, rodents have frequently been housed on grid or wire mesh flooring, which enhances sanitation of the cage by enabling urine and feces to pass through to a collection tray. However, evidence indicates that solid-bottom caging with bedding is preferred by rodents^{1,2}. Furthermore, clinical abnormalities associated with housing rodents on wire-bottom caging have been documented³⁻⁶. Solid bottom caging with bedding should be used for rodents unless approved as outlined below.

SCOPE

This policy applies to primary enclosures as well as holding chambers for experimental procedures.

POLICY

- I. Wire-bottom caging for rodents is permissible only when there is an appropriate scientific rationale for not using solid-bottom caging with bedding. Any PI requesting to place rodents in wire-bottom cages, must present scientific justification to the IACUC and receive approval prior to housing rodents in wire-bottom cages.
 - A. If grid or wire mesh flooring is used, a solid resting area should be considered to reduce the incidence of foot lesions
 - B. The size and weight of the animal should be taken into consideration when determining whether or not to allow the animal to be housed on grid or wire mesh flooring.
 - C. The duration of housing on grid or wire mesh flooring should be specified, as should the frequency with which the animal will undergo such housing

DEFINITIONS

Grid or wire mesh flooring – animal enclosure in which the bottom upon which the animal rests is comprised of interwoven or cross-connecting regularly spaced, linear components. Collection trays are often placed beneath the enclosure since grid or wire mesh flooring allows animal waste, food, and other items to fall through the spaces in between flooring.

Solid bottom flooring – Primary animal enclosure in which the bottom upon which the animal rests is comprised of a single contiguous surface. Solid bottom flooring can accommodate bedding to absorb liquids such as water or urine.

AUTHORITY

Guide for the care and use of Laboratory Animals eighth edition; Terrestrial housing pages 51-52.
PHS policy

FOOTNOTES

1. Blom HJM, Van Tintelen G, Van Vorstenbosch CJ, Baumans V, Beynen AC. 1996. Preferences of mice and rats for types of bedding material. *Lab Anim* 30:234-244.
2. Manser CE, Elliott H, Morris TH, Broom DM. 1996. The use of a novel operant test to determine the strength of preference for flooring in laboratory rats. *Lab Anim* 30:1-6.
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4. Fullerton PM, Gilliatt RW. 1967. Pressure neuropathy in the hind foot of the guinea pig. *JNeurol Neurosurg Psychiat* 30:18-25.
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6. Rommers J, Meijerhof R. 1996. The effect of different floor types on foot pad injuries of rabbit does. In: *Proceedings of the 6th World Rabbit Science Congress 1996, Toulouse*. p 431-436.