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Handling of Common Laboratory Animals in Biomedical Study

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ABSTRACT

Mice are usually caught and lifted by the tail. The tail should be grasped about two-thirds of the way down. With this simple method of holding, they may be transferred to another cage or a balance, identified or sexed; but such restraint is not sufficient for treatment and close examination. For more effective control, the mouse may be held by the tail and placed on a table or other surface, preferably one that the mouse can grasp, and the loose skin over the neck and shoulders grasped with thumb and fingers.

Introduction

Mice

Mice are usually caught and lifted by the tail. The tail should be grasped about two-thirds of the way down. With this simple method of holding, they may be transferred to another cage or a balance, identified or sexed; but such restraint is not sufficient for treatment and close examination. For more effective control, the mouse may be held by the tail and placed on a table or other surface, preferably one that the mouse can grasp, and the loose skin over the neck and shoulders grasped with thumb and fingers. In the process of grasping at this point, the mouse can turn and bite, but once grasped correctly, the head is adequately controlled. With the tail and rear legs held by other fingers or the other hand, a good hold for re-examination or treatment is possible (Figure 1).

Rats

Rats quickly become conditioned or trained to tolerate routine and frequent handling. Rats are normally lifted by grasping the whole body--palm over back and side with forefinger behind the head and the thumb and second finger in opposite axial extending the forelimbs so that they may be controlled (Figure 2). Rats may also be temporarily restricted by the base of the tail. Holding with one hand is usually adequate for control, but tail, rear legs or lower part of the body may be held by a second person. Young rats may be handled in a way similar to that for mice, when body size does not permit ease of handling with one hand. Rats will bite, and certain strains are more aggressive than others. Various restraining devices are available for use with rats.

Hamsters

Hamsters will bite quickly and deeply and are

easily aroused, consequently they should be approached gently and with caution until they become accustomed to being handled and familiar without the handler. Several methods may be useful in handling the hamster. Both hands may be cupped under the animals to hold in the palms. They may be picked up with one hand, in a similar manner to that of the rat. Grasping the loose skin over the neck and shoulder also provides an effective method of control with one hand; however, this skin is very loose and practice is necessary before this method can be used casually (Figure 3). It is sometimes easier for the occasional handler to use a cup when transferring hamsters from point to point when fine manipulations are not necessary.

Gerbils

Gerbils respond to and are effectively handled by the general methods indicated for other rodents. Lifting by the base of the tail near the body is desirable. Avoid holding the gerbil near the end of the tail since the skin near the tip of the tail is fragile and may slip off.

Guinea pigs

Guinea pigs seldom bite but are timid or easily frightened and usually make determined efforts to escape when held. They are best held by placing the thumb and forefinger around the neck with the palm

over the back under the abdomen and the other fingers grasping the body. When lifting, the other hand should be used to support the lower part of the body (Figure 4). Special care should be exercised in handling pregnant females, since they may become very heavy and awkward.

Rabbits

Rabbits seldom bite but can inflict painful scratch wounds, especially with the hind feet. Hold them in a way that directs their hind feet away from your body. Grasping the loose skin over the shoulder with the head directed away from the holder is the best method of initial restraint. When lifting, the lower part of the body must be supported by the other hand (Figure 5). Rabbits should never be lifted by the ears or the neck. If the rabbit begins to struggle violently and develops rotational movements with the hindquarters, it should immediately be placed on a solid surface and calmed. Continued violent struggling frequently leads to fracture of one or more lumbar vertebrae and fatal injury to the spinal cord. Particularly important are mechanical restraints such as the one shown in Figure 6. These are necessary for safely restraining rabbits for most procedures.

All nonhuman primates must be tranquilized with ketamine hydrochloride (10 mg/kg IM) for handling unless chair restraint is used with aid of a collar and leash.



Figure 1: Manual Restraint of the Mouse



Figure 2: Manual Restraint of the Rat

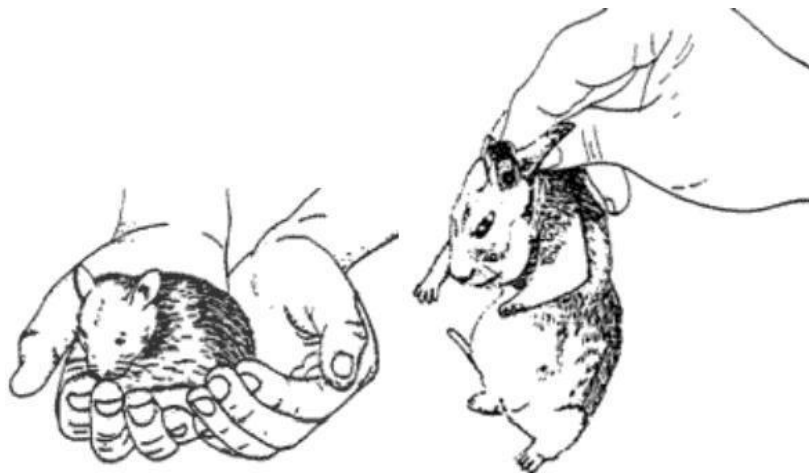


Figure 3: Manual Restraint of the Hamster

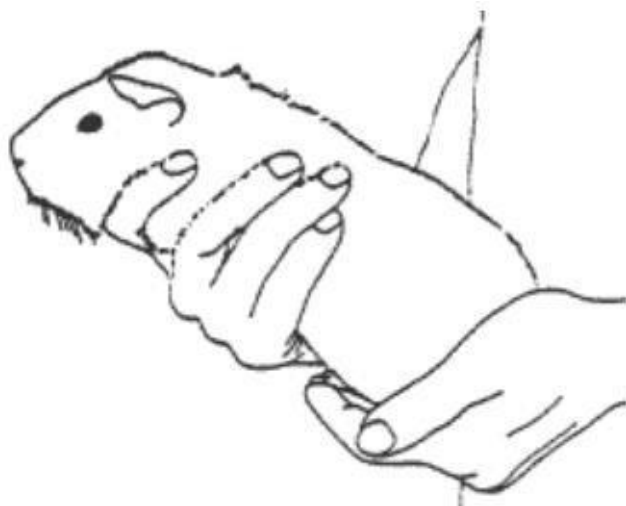


Figure 4: Manual Restraint of the Guinea Pig



Figure 5: Manual Restraint of the Rabbit

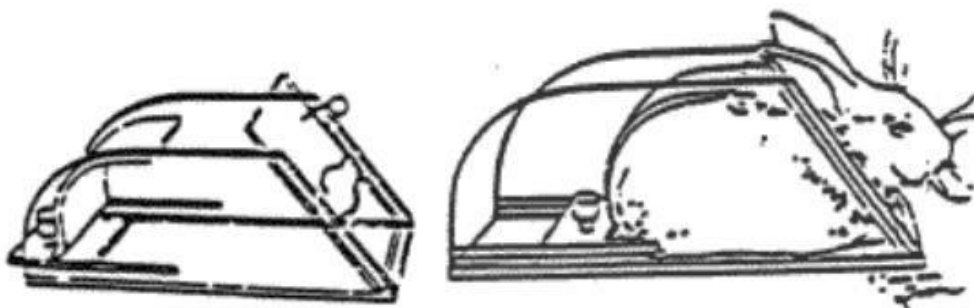


Figure 6: Mechanical Restraint of the Rabbit

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