



Johns Hopkins University

Animal Care and Use Committee

Ear Tagging of Mice¹

PURPOSE: This guideline provides instructions for the proper attachment of ear tags.

INTRODUCTION:

- Animal identification plays a critical role in managing individual animals regarding their care, use, and record keeping. While there are multiple options for individual identification of rodents^{2,3,4} such as, toe tattooing or fur marking, metal ear tags are inexpensive and do not require anesthesia for application; however, the animal must be securely restrained.
- To minimize the chance of improper placement of the tag or the tag tearing out of the ear: the mouse must be mature enough to support the weight of the tag; the anatomical landmark in the ear must be clearly identifiable; and the tag must be correctly attached.
- Installing ear tags is not difficult, but some training is needed to ensure proper placement based on the anatomical landmark and proficient manual restraint of the mouse.
- Ear tags may need to be removed if: they are incorrectly attached, tearing of the ear is observed, dermatitis is observed around the tag, or an infection develops. To remove an ear tag, diagonal wire cutters should be available to cut through the tags.
- This method is not appropriate for animals undergoing MRI and/or CT imaging. If animals already have metal ear tags in place, they must be removed prior to imaging.

PROCEDURE:

- Select the tag that is the appropriate size for the animal.
- Use aseptic technique to prevent infection. Sterilizing instruments, and wiping the ear with alcohol prep pads prior to tagging are both examples of ways to minimize infection. It is especially important to maintain sterility when working with immunocompromised mice.
- Each tag has a hole on one end and a point on the other. Place the tag in the applicator, as shown below.

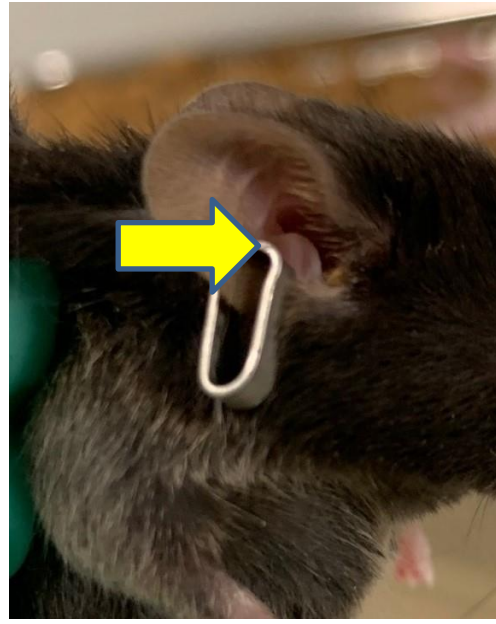


Photo courtesy of wpiinc.com

- Scruff the animal so that the ears are easily accessible and there is limited movement of the neck/head.
- There is a ring of cartilage on the base of the ear that you will use as an anatomical landmark when locating the appropriate spot to place the tag. In some strains of mice, it may be more visible than others. In the photo below, the arrow is pointing to the location where the ring of cartilage is located.



- Place the ear between the point and the hole of the tag.
- Once the tag and ear are in position, squeeze the applicator firmly so the tag point pierces the ear and closes as shown below. Note that the point of the tag goes through the hole in the tag and folds down on the other side. It is important that the squeeze is quick and firm to get clean penetration through the ear. The photos below show a properly placed ear tag.



Images show the eartag pierced next to the landmark ring of cartilage. The photo on the left shows the numbers facing the front. Alternatively, the photo on the right shows the numbers facing the back. Either way is acceptable.

- Inspect the ear for proper tag placement. If not properly installed or fully through the ear, remove the tag with the diagonal wire cutters. This can be accomplished by snipping the bottom of the tag and separating the two parts of the tag. The photos below show an example of the diagonal wire cutters used to remove a metal ear tag and an ear tag that has been cut and removed.



- Later, when working with the animal, check the ear for tearing, inflammation, or infection (redness, swelling, bleeding). If any of this is observed, treatment should be provided or the tag removed. Treatment can include, putting antibacterial ointment on the infected area; and/or call a veterinarian for guidance at (410)955-3273.
- If the animal is frequently scratching or pulling at the tag, consider removing the tag and using an alternative identification method².

- Improper placement of the tag can cause the ear tag to rip out. Below is an example of a mouse with a tag that was placed too high above the ring of cartilage. This may cause problems later on with the ear tag coming out.
- Ear tags can rip out. If they do, it is important to retag the other ear, or find an alternative method more suitable for your identification needs.² The photo below on the left shows an improperly placed ear tag that is starting to rip out. The photo below on the right shows a mouse that had an ear tag that was fully ripped out.



Arrows show the ring of cartilage landmark where the ear tag should have been placed.

¹ Approved by the JHU Animal Care and Use Committee 7/18/19, reviewed 1/31/21, 1/31/24

² For training on alternative methods of individual animal identification, contact the ACUC Office: at (443) 287-3743 or the rodent veterinary technician in Research Animal Resources at: (410) 955-3273.

³ Roughan JV, Sevenoaks, T. 2019. Welfare and scientific considerations of tattooing and ear tagging for mouse identification. JAALAS 58:142-153

⁴ Diven KJ, Richardson S, Vaughn DD. Toe tattooing: small rodent identification that lasts. JAALAS 52:667