

TITLE:	Methods of Animal Identification
Policy Number:	2014-027
Responsible Department:	Institutional Animal Care and Use Committee
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Approval Date:	9/10/14
Reviewed:	8/9/17; 4/8/2020 (No Changes)
Revised:	6/8/16; 8/9/16 (Clarified use of microchips, indelible markers & styptic powders)
Legislation:	Animal Welfare Act (Title 9 CFR, Part 2, Section 2141 § 2.35(b), 2.38(g), 2.50, 2.75(a))

Purpose of Policy: To inform researchers using research animals of acceptable means of identifying animals in their colonies and to provide guidance on how to perform the procedures.

Policy Information: The National Research Council's [Guide for the Care and Use of Laboratory Animals](#) provides guidelines for animal identification.

Ear punches/notches: This procedure may be used for animal identification or genotyping, preferably at the same time. However, if additional genotyping is required, the procedure may be repeated. A 2 mm ear punch is recommended as a lesser amount of tissue may not be sufficient for genotyping. The procedure may be performed at any age provided that the ears have separated from the head. A sharp punch must be used on the pinna (flap of the ear), away from visible blood vessels. Anesthesia or analgesia is not required but the animal must be securely restrained.

Ear Tags: Individually numbered ear tags must be of the appropriate size for the species and age of the animal and it must be placed in a manner that will not cause irritation or trauma to the ear.

Microchip transponders are available for use in animals along with a scanner for rapid animal identification. They can also transmit data pertaining to the animal's body temperature and activity. The microchips are placed either subcutaneously or intraperitoneally using aseptic technique.

According to the United States Department of Agriculture (USDA) [Animal Care Policy Manual](#), Animal Identification Policy #13, microchips may also be used to identify dogs and cats without first obtaining a variance from the USDA provided that all of the following criteria are met:

- The microchip must be placed in a standard anatomical location.

- An appropriate microchip scanner device must be functioning and made readily available to Animal and Plant Health Inspection Service (APHIS) officials and/or the facility employee accompanying and APHIS representative.
- The animal identification records must identify, for each animal, the microchip number, the location on the animal and the name of the microchip manufacturer.
- Any microchipped animal that is delivered, sold, transferred to or otherwise in the custody of another registrant/licensee who does not have a compatible scanner must be identified by a tag or tattoo.

Tattoos are used to permanently mark skin, most commonly on the tail or toes of animals. Other sites may also be marked. Tattooing requires a special device and investigators must be properly trained in its use or else the tattoo will likely fade. It is recommended that the animal be anesthetized for ease of application.

Indelible markers are useful for temporary identification of animals as the mark will eventually fade away. Only non-toxic ink markers must be used.

Toe-clipping: According to Chapter 3 of the *Guide* referenced above, “toe-clipping should be used only when no other individual identification method is feasible.”

Policy: Toe-clipping requires rigorous scientific justification and must be approved by the Institutional Animal Care and Use Committee (IACUC). If approved, toe-clipping may be performed without anesthesia for animals up to and including 7 days of age as, per the *Guide*, “...it appears to have few adverse effects on behavior and well-being at this age.” It is preferable that the procedure be performed when the animals are between 4-7 days of age. If genotyping is required, it should be done at this time using toe tissues. If genotyping must be repeated, some other method for collecting tissue for analysis must be used. For animals 8 days of age and older, anesthesia and analgesia appropriate for the age of the animal must be used, as determined by the Attending Veterinarian. Aseptic technique must be used in all cases and only one digit per extremity may be clipped as the procedure can alter the animals gait and ability to bear its own weight. All animals must be monitored to ensure effective hemostasis, which can be accomplished either with digital pressure, cautery or styptic powder (e.g., Kwik Stop). Silver nitrate must be avoided, as it is a local irritant to skin and eyes and is systemically toxic (LD50 in mice: 50 mg/kg, PO). When using electrocautery for the purpose of hemostasis, general anesthesia must be used.