Rodent Identification Methods

There are several acceptable methods to permanently identify laboratory rodents. A description of the identification method used must be included in answer Section A #15 of your approved University Committee on Animal Resources (UCAR) protocol.

**EAR PUNCH:** This is a commonly used procedure which employs a special metal punch instrument to place a hole in the ear of the rodent, following a code (below).

**Advantages:** (1) quick and easy to perform (2) inexpensive (3) relatively atraumatic (4) no anesthesia required (5) punched tissue can be used for DNA (PCR) screening.

**Disadvantages:** (1) cannot be performed on pups under two weeks of age due to size and position of ears (2) potential for ear damage (3) may be difficult to read.

![Ear punch numbering system](image)

**EAR TAGGING:** Numbered metal clips can be applied to the base of the pinna with special pliers. Various sized tags exist; the appropriate size must be selected for the species being identified. **Advantages:** (1) quick and easy to perform (2) relatively atraumatic (3) no anesthesia required (4) relatively inexpensive. **Disadvantages:** (1) cannot be performed on pups less than three weeks of age due to size and weight of tags (2) tags can fall out (3) tags may cause granulomas at site of application.

**TOE CLIPPING:** This method involves the removal of the distal portion of up to two toes per foot in each animal. The Guide for the Care and Use of Laboratory Animals states that this identification method is only appropriate for altricial neonates and is to be used when a less invasive method of identification is not practical. Because this method may cause more than momentary pain, its use must be scientifically justified and approved by UCAR. Toe clipping must be performed in accordance with the UCAR Toe Clipping Policy. **Advantages:** (1) easy to read (2) inexpensive (3) can be successfully employed in neonates (4) clipped tissue can be used for DNA (PCR) screening. **Disadvantages:** (1) may cause pain, (2) lameness, (3) infection and (4) decreased grasping ability.

**TATTOOING:** Tattoo ink can be injected under the skin of all rodents, using either a tattoo needle or a hypodermic needle and syringe. Appropriate tattoo sites include: tail – all rodents, ears – guinea pigs. Neonatal rodents may be tattooed on the ear, tail, hock or toe. **Advantages:** (1) easy to read (2) can be used on neonates. **Disadvantages:** (1)
requires anesthesia (2) may require special equipment (3) potential for infection (4) tattoos can fade or spread as the animal ages (5) may be difficult to read in pigmented animals.

**ELECTRONIC TRANSPONDERS:** microchip transponders are implanted via subcutaneous injection. A special recording instrument reads and displays the number on the scanner. **Advantages:** (1) no anesthesia required (2) easy to read (3) quick placement of chips (4) some chips can be linked to computer system that records other data about the animal. **Disadvantages:** (1) initial cost of equipment (2) chips can fall out (3) requires special equipment to read identification (4) potential for infection.