

Microchips: The Objectives and Key Elements Needed for Effective Electronic Identification of Companion Animals Dogs, Cats, Other Small Mammals, Birds, Fish, Reptiles, Amphibians and Equids

The AVMA endorses the use implantation of electronic identification in companion animals and equids and supports standardization in materials, procedures, equipment, and registries. Veterinarian healthcare teams are thereby encouraged to recommend the use implantation of electronic identification of animals to their clients.

The objectives of an effective system of electronic identification of animals are to:

1. Accurately identify animals to aid in reuniting animals with their owners
2. Accurately identify animals for regulatory purposes
 - a. Travel (international and domestic)
 - b. Certificates of Inspection
 - c. Identification of specific animals such as breeding animals, competition animals, animals where legislation mandates permanent identification (e.g., an animal adjudicated to be a "dangerous individual")
3. Accurately identify animals prior to providing medical or surgical treatment or euthanasia

The AVMA supports ISO (International Organization for Standardization) compliant RFID (Radio Frequency Identification) technology that adheres to and is based on ISO 11784/11785 standards.

Scanning animals for microchips is necessary for the identification system to be effective. Therefore, every companion dog, cat, other small mammal, bird, fish, reptile, amphibian, and equid presented to a veterinarian should be scanned, whenever possible, for the presence of a microchip. The veterinarian, or designated staff, should scan the animal and note in the patient's medical record if a microchip is present, and if so, record the microchip number in the patient's medical record. This routine scanning for a microchip not only aids in the positive identification of an animal, but also provides the opportunity to assess if the microchip is still functioning properly and located appropriately, as well as reminding owners to keep their microchip database contact information current.

If a microchip implant is detected of which the client is not aware, the veterinarian, or designated staff, should inform the client of this fact, provide the client with contact information for the microchip database company, and encourage the client to contact that company. The veterinarian should document in the patient's medical record that he or she spoke to the client about these matters and should consider contacting the microchip database company with the client's permission. The veterinarian is not expected to investigate nor resolve ownership disputes over an animal, nor should a veterinarian be held liable for relying on a client's claim of ownership following scanning.

A veterinarian is expected to exercise his or her professional judgment on ownership before establishing a Veterinarian-Client-Patient Relationship (VCPR). In those circumstances that raise suspicion that the presenting person may not actually be the lawful owner of the animal, a veterinarian should ask for documentation of ownership, such as governmental registration, bill of sale, adoption documents, or microchip documentation. Documentation of ownership should be required when a client requests that a veterinarian remove a microchip. Where the veterinarian has cause to believe that ownership of the animal is unclear, the veterinarian should postpone treatment until evidence of ownership is presented unless, in the judgment of the veterinarian, the treatment is necessary to maintain the health of the animal, to preserve its life, or protect public health. The detection of a microchip implant of which the

client is unaware may raise suspicion but should not be considered, in and of itself, sufficient evidence that the client is not the lawful owner. In such a case, a veterinarian may proceed with treatment. In the situation where an animal that has a microchip is found and brought to a veterinarian with no claim of ownership, the veterinarian should contact the microchip database company to locate the owner of record. If unsuccessful, the proper animal control authority should then be contacted for assistance, consistent with any local ordinance.

The following key elements are necessary to achieve the objectives of an effective system of electronic identification of animals:

1. The RFID (Radio Frequency Identification) Device (transponder) – a microchip implant for companion dogs, cats, other small mammals, birds, fish, reptiles, amphibians and equids
 - a. ISO (International Organization for Standardization) compliant RFID technology that adheres to and is based on ISO 11784/11785
 - b. Open technology as defined by the ISO 11784/11785
 - c. Unique numbers must be used to reduce the chances of misrepresentation of the animal. A country code should be used only if there is a centrally run, national database that assumes responsibility for ensuring identification number uniqueness to prevent duplication of numbers. If there is no centrally run, national database, then manufacturer codes must be used to ensure that every animal identification number will remain unique.
 - d. Transponders shall be visible on radiographs (x-ray) and ultrasound.
2. The scanner/reader network –
 - a. All scanners used must be backward and forward compatible ("Global Scanners" capable of reading multiple frequencies), where all scanners can read the data contained in all chips
 - b. An appropriate period of time for implementation of approved technologies must be incorporated (2 years suggested by AVMA) to allow for a smooth transition and implementation of the appropriate infrastructure, once the national system has been adopted
 - c. Technical/medical services should be provided by manufacturers/distributors
 - I. Provide for means of receiving reports of adverse reactions and provide recommendations of medical mitigation of the situations
 - II. Respond to technical questions concerning implantation or device operation
3. Database operation and management, including process of registration of implanted animals
 - a. Cost of operating the database and the initial animal registration should be included in the purchase price of the microchip from the manufacturer or distributor
 - b. Database must be accessible 24/7/365
 - c. Microchip numbers should be able to be traced from the appropriate manufacturer/distributor to the implanted animal
 - d. Owner education is crucial
 - I. Still need external identification, such as collar/tags
 - II. Must update registration information as needed on a timely basis
 1. Without appropriate registration, a lost, microchipped animal that is scanned would probably not be able to be reunited with its owner(s).
 - e. Security of information must be ensured
 - I. The unique 15-digit, animal identification number contained on the microchip in accordance with ISO 11784/11785 cannot be changed

- h. Only the owner can change registration information
 - f. The AVMA supports the AAHA Universal Pet Microchip Lookup Database for companion animal microchip database information recovery. www.petmicrochiplookup.org/
 - g. The AVMA endorses the use of companion animal microchip registration databases for reuniting animals and owners.
4. Defined operating procedures
- a. Education of veterinary, shelter and animal control individuals on the appropriate method to scan for microchips. The "global"/multiple frequency scanner may take a few seconds longer to accurately scan for all possible implanted microchips than a scanner which reads only one frequency. The advantage of using a multiple frequency scanner is that each animal will only have to be scanned with one scanner/reader.
 - b. The implantation of a transponder (an electronic identification device such as a microchip) in an animal requires precise placement of the microchip with respect to sensitive anatomical structures in the immediate area of accepted implantation sites (some sites are described in section 4c of this policy). Improper placement of the microchip can result in detrimental consequences to the animal which can severely compromise its health and well being. Improper placement of the microchip can also impede the detection of the microchip. Therefore, implantation of microchips is a veterinary procedure that should be performed by a licensed veterinarian or under supervision of a licensed veterinarian.
 - c. Sites in animals where microchips are to be implanted must be standardized. For domestic dogs and cats, the recommended site for subcutaneous injection of a transponder is on the dorsal midline, just cranial to the shoulder blade or scapula. For companion birds, the recommended site for intramuscular injection of a transponder is in the pectoral muscle. For fish, the recommended site for a transponder is in the posterior coelomic (i.e. abdominal) cavity or the dorsal musculature on either side of the dorsal fin. Because of the broad range of shapes and sizes of small mammals, reptiles and amphibians, the site for transponder implantation varies and should be established by consultation with individuals familiar with appropriate transponder placement in that species. For horses, the transponders are injected on the left side at approximately the level of the 3rd or 4th cervical vertebrae and into the nuchal ligament.
5. RFID technology will eventually include the market availability of advanced transponders having enhanced data storage and read-write capabilities. Data security issues exist and are being addressed by the ISO, such as through the development of ISO 14233. The AVMA would support the use of advanced transponders when an open standard solution for advanced transponders exists.