

2009 ANIMAL CARE FORUM

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- OREGON HUMANE SOCIETY
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Helping One Animal at a Time

- **A forum for Animal Control, Shelter, and Veterinary Leaders**
- **Goal: To develop strategies for improving communication and collaboration among the animal control, shelter, and veterinary communities.**
- **Result: Decreased Euthanasia of adoptable pets, increased clients and patients in veterinary practices, and healthier communities.**

Microchip Identification: The Realities & Challenges

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Microchip Identification: The Realities & Challenges

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Microchip Identification: The Realities & Challenges

Goal:
-Improve understanding on microchip identification including the microchip, implantation procedure, scanners, and microchip databases

Result:
-Increased number of microchipped pets which will reduce the death of lost pets

Microchip Identification: The Realities & Challenges

- **Microchip Identification Should be Easy!!!**
- **It should be but the microchip industry has had challenges.**
- **In the middle of every difficulty lies an opportunity.- Albert Einstein**

Why Microchip?

- Estimated that up to 10 million pets are lost each year
- Only 15-20% of lost dogs and less than 2% of lost cats are returned to their owners
- ID tags alone don't always work
- Permanent microchip identification proves ownership and helps with dispute of ownership
- Cataloging, tracking of dangerous dogs
- Aids with reunification during disasters
- Proves identification when traveling

Microchip History

- Initial use of microchips in inanimate objects such as cargo, valuable items, military use, and many other uses
- Microchips for use in animal identification patented in the 1980's with multiple patents since then
- What is a microchip? aka-Tag or Transponder
 - An identifying integrated circuit that is based on a passive RFID (Radio Frequency Identification Device) technology. The microchip is about the size of a grain of rice that is placed under the skin in dogs and cats. Entire chip is approximately 2 mm by 9 to 22 mm in length.

Microchip Tags

- Contain an integrated circuit, coil, and capacitor
- Encapsulated in a biocompatible glass polymer
- Many chips or tags contain an "anti-migration" coating or cap
- These microchips are small enough to fit into a hypodermic needle for implantation

Microchip Tags

- How long will a microchip last?
 - Passive, So will last longer than the life of the pet
- Where is the microchip implanted?
 - Species dependant- WSAVA recommended sites
- Movement or Migration of the chip- Does it occur?
 - Recent study shows migration possible but not common. Dr. Lord states, 1.6% to less than 1.0%.
- - BSAVA adverse microchip reporting reaction system
- - Since 1996 BSAVA reports- 205 out of over 4 million dogs and cats microchipped =0.00512%

Microchip Tags

- Will MRI use with pet that is microchipped be a problem?
 - No.
- Will the microchip cause cancer ?
 - BSAVA adverse microchip reaction reporting system started in 1996 with over 4 million cats and dogs.
- - Total of 361 reported adverse reactions. 2 of the 361 are tumors. =0.00005%
- - Many reports of tumors are with rats/mice used in tumor research and may be genetically bred for tumors.

Microchip Frequency

- Short wave frequency at 125 kHz, 128 kHz, 134.2 kHz
- USDA-APHIS Report in 2007- Endorses and encourages use of microchip ID. Estimated that less than 5% of pets are microchipped. Of those chipped 98% are 125 kHz microchips.
- ISO 11784 - 134.2 kHz
 - 15 digit alphanumeric sequence, First 3 numbers
 - are country code or manufacturer code.
 - - ISO 3166 lists country code numbers which are less than 900.
 - - ICAR- lists over 60 different approved injectable ISO manufacturer microchips.
 - - Manufacturer codes are between 900 and 998.

Microchip Implantation

- Recommended implantation sites- WSAVA
- Proper restraint is important
- Proper implantation method important
- Reduce pets exercise post injection for 24-48 hours post implantation to reduce potential for movement of the microchip.
- Microchips do not “migrate” like birds flying south for the winter! BSAVA reporting of adverse reactions- lists 205 total “migrations”

Microchip Implantation

- Oregon Veterinary Practice Act
- 875-005-005 - Definition
- - (3) Surgery Procedure
 - (c) Any injection or implant of a small permanent identification device is considered surgery.
- 875-030-0040 – Supervision of Certified Veterinary Technicians
- - (2) (e) (I) Under the direct supervision of a veterinarian, inject or implant a permanent identification device.

Microchip Scanners

- How do they work? Passive not active tags
- Reader or scanner transmits a low frequency radio signal that is received by the antenna of the microchip. Creates an energy field.
- The integrated circuit which has the id code, instructs the coil antenna to draw a variable amount of power from the reader.
- Variable amount of power consumed by tag is decoded and reconstructed and displayed on the reader as the microchip id number.

Scanner Challenges

- Passive tag- Reduces read distance.
- Proper scanning technique important. Should take 30 + seconds.
- Keep batteries fresh- Don't wait for low battery signal
- Avoid interference- Metal, fluorescent bulbs
- Scan multiple times – On intake, before adoption,
- Frequency of tags operation and scanner must match
- ISO 11785 – Describes how the microchip is activated and how the information is communicated to the scanner. Forward and Backward compatibility.
- Universal Scanners are addressing problem of multiple frequency

PVMA Study

- Thank You Cristina Keef, Executive Director of the Portland Veterinary Medical Association
- Study had 70 responses
- 1. Does your hospital own an ISO compatible microchip scanner?
 - 58.8% yes
 - 41.2% no
- 2. If you do have an ISO/universal scanner, do you use it every time you scan a pet for a microchip or do you keep it on hand for occasional use when an ISO chip is suspected?
 - 73.3% Yes, I use it each time I scan a pet
 - 26.7% No, keep ISO scanner for occasional use

PVMA Study

- 3. Do you feel that microchip standardization is a good idea or that it will result in a decrease in pets being reunited with their owners?
 - 91% Yes, it is a good idea
 - 10.4% No, it is not a good idea
- 4. Would you consider using ISO chips if area shelters/emergency clinics routinely scanned for them?
 - 90.6% Yes
 - 9.4% No
- *A survey of Portland metro shelters and humane societies has been completed and all use universal scanners to scan all pets that they encounter.
- While most respondents agreed that shelters and emergency clinics were the first chance for most pets to be identified through scanning and reunited with their owners, many comments pointed out that lost pets are often brought to veterinary clinics and they see a number of sick and injured strays on a regular basis.

Database System Challenges

- In my opinion, the microchip is worthless without a database system. Like a blank collar tag
- Registration process may be separated from implantation procedure
- **OWNER DOES NOT KEEP DATABASE INFORMATION CURRENT**
- - Estimated to have changes at rate of +20% a year
- - Job change, relocation, phone number change, divorce or separation ,other
- There are multiple databases in the US
- Owner may be registered with multiple registries

Database System Realities

- Dr. Linda Lord – JAVMA, Vol. 235, No.2, July 15,2009 – Characterization of animals with microchips entering shelters.
- 8 months – 53 shelters
- Median return to owner (RTO) rate
- 21.9% of stray dogs, 52.2% if microchipped
- 1.8% of stray cats, 38.5% when microchipped
- Methods used to find owner
- 34% microchip database
- 56% shelter database
- 5% information from veterinarian
- 5% information from other source

Database Realities

- Reasons why owner was not found
- 36% incorrect or disconnected phone number
- 24% don't return a call or respond to letter
- 17% registered with another group
- 13% different owner
- 10% no registration
- Of the 1,943 animals that shelters contacted a microchip registry 1,129 or 58.1% were registered in the database.

Database Realities

- How to improve process?
- AVMA House of Delegates in July 2008 passed resolution 17 which reads "RESOLVED, that the AVMA actively promote the implementation of linking companion animal microchip databases."
- A database interface system developed and now sponsored by AAHA www.petmicrochiplookup.org
- Other online tools are also now available and work with id code structure

Summary

- Microchip system is not fail proof. **BUT WORKS!!!**
Without microchip chance of system working is **ZERO.**
- Without ID chances of lost pet returning home is less than 10%. Microchipping improves this statistic.
- More pets die from being lost than all diseases combined.
- **SAVE LIVES! MICROCHIP PETS**
- **KEEP DATABASE INFORMATION CURRENT!!!**