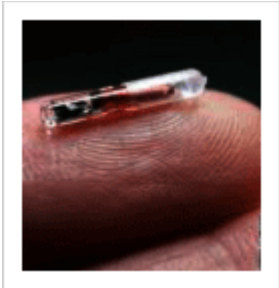


Overview

<http://noble-leon.com/letters/microchip-implants-questions-and-answers.html>

Q. What is an animal microchip implant?

Microchip implant.



A. An animal microchip implant, also known as a “transponder,” is similar to a human microchip implant. (1-2) It is a cylindrical capsule that contains of a radio frequency identification (RFID) device, a tuning capacitor and a copper antenna coil. Although most of the capsules are made of glass, some are made of a polymer material. (3-5)

The approximate size of the majority of pet microchip implants is 12 mm in length and 2 mm in width. A “MiniChip” is also available and it is reported to be “one third the size of the standard microchip.” (6)

Current animal microchip implants store an identification number and do not have an internal power source or moving parts.

Q. Are all animal microchip implants the same?

A. There are a variety of animal microchip implants that operate at different frequencies. For example: 125 kilohertz (kHz), 128 kHz and 134.2 kHz. Also, some chips are referred to as ISO (International Standards Organization) chips and others as non-ISO chips. The total number of digits that make up the identification number may vary depending on the brand of microchip. Some chips are encrypted and others are not encrypted.

In order to prevent the microchip from moving around in the body, some brands have an anti-migrational sheath that covers one end of the chip. The sheath is usually made of polypropylene, and contains a round hole, barb, extrusion lines and a sprue. (A sprue is at one end of the microchip and looks like a “twisted nipple with jagged elevations.”) (7)

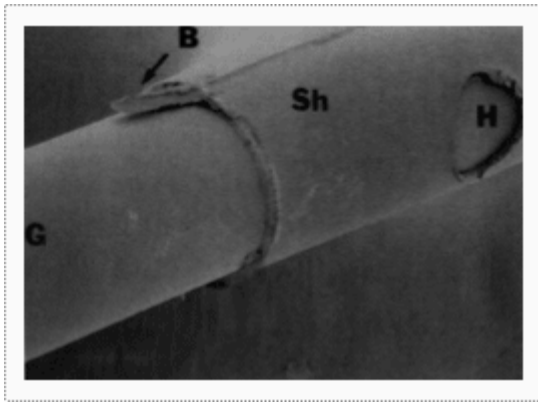
In addition to regular microchip implants, there are temperature-sensing microchips that are supposed to be able to allow the reader to measure the temperature of an animal. However, [the accuracy of temperature-sensing microchip implants is questionable](#).

NOTE: Some researchers have observed that when cancerous growths formed at the site of a microchip implant, the growths often started to form at the area of the anti-migrational sheath. For example, in the study entitled “Transponder-Induced Sarcoma in the Heterozygous p53+/- Mouse,” Kerry T. Blanchard and colleagues write:

“Although there was variation in the extent of neoplastic involvement of tissue immediately surrounding the transponder site, it appeared that tumor(s) arose in the mesenchymal tissue surrounding the polypropylene component of the transponder, initially involving the barbed area and then in some cases extending completely around the entire transponder site.” (8)

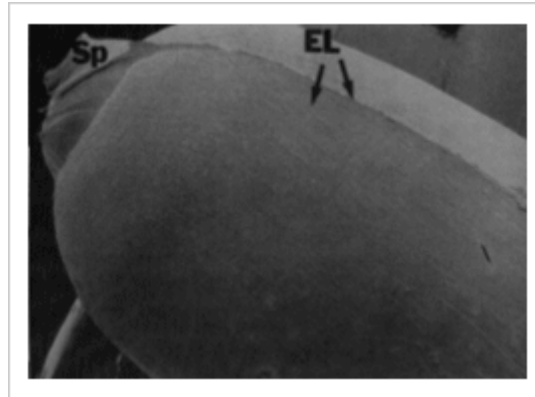
This latter observation by the researchers is important because it indicates that the anti-migrational sheath – due to its design, composition of material and/or tissue reaction elicited – may cause tumours.

“Transponder-Induced Sarcoma in the Heterozygous p53+/- Mouse” by
Kerry T. Blanchard et al., *Toxicologic Pathology*, 1999.



Anti-migrational sheath (Sh) with barb (B) and hole (H). X20

Surface of the polypropylene sheath with numerous extrusion lines (EL) and the sprue (Sp), which has the appearance of a twisted nipple with jagged elevations. X40



Q. What is a temperature-sensing microchip implant?

A. A temperature-sensing microchip implant is a bio-sensing microchip that is marketed as a way to measure the temperature of an animal. (9)

Q. Is the temperature-sensing microchip implant accurate?

A. According to the “**WARNINGS**” section of promotional literature by Destron Fearing Corporation, which was purchased by Allflex USA, Inc. from Digital Angel Corporation in 2011, the temperature-sensing Bio-Thermo® LifeChip microchip implant that is sold for use in companion animals, alpacas, llamas and equines “will not replicate rectal temperature.” (10-13)

In fine print of the document entitled “LifeChip®: Equine Radio-Frequency Identification (RFID) Microtransponder System with Bio-Thermo® Technology,” it says:

“**Conclusion:** The study horse’s actual temperature will be 3° higher than Bio-Thermo readings. Knowing this, the horse’s manager or veterinarian will be able to quickly and easily identify if the horse’s temperature is abnormal by adding 3° to the Bio-Thermo reading.” (14)

Destron Fearing’s document entitled “LifeChip®: Alpaca/Llama Radio Frequency Identification (RFID) Microtransponder System with Bio-Thermo® Technology,” says:

“**Conclusion:** The study llama’s actual temperature was 1° to 2° higher than Bio-Thermo readings. Knowing this, the alpaca/llama’s manager or veterinarian will be able to quickly and easily identify if the animal’s temperature is abnormal by adding 1° to 2° to the Bio-Thermo reading.” (15)

NOTE: In the “**WARNINGS**” section of the aforementioned equine LifeChip data sheet, it says the implant is “not for use in horses intended for human consumption.” (16) Also, in Destron’s LifeChip data sheet that pertains to alpacas and llamas it says: “Not for use in alpacas/llamas intended for human consumption.” (17) A similar warning is given in Destron’s LifeChip data sheet that pertains to companion

animals. It says: “Not for use in animals intended for human consumption.” (18)

The aforementioned warnings are important to consider because some of these animals will enter the human and animal food chain. For more information, please see the question: “[Is it possible for animal microchip implants to enter the human food chain?](#)”

Q. How is a microchip’s identification number read?

A. In order to detect a microchip and read its identification number, a compatible scanner (also referred to as a “reader”) is placed near the microchip implant. When the scanner is turned on, it sends a radio frequency signal through the animal’s body to activate the implant and read the microchip number. If the scanner is able to detect and read the chip, an identification number is displayed on the scanner and subsequently entered into a database. If the animal’s contact data is current and correctly registered in the appropriate, accessible database, the number can identify the animal and the person to whom the animal is registered.

Q. Who is allowed to implant a microchip in an animal?

A. Depending on the region or country in which you live, a microchip may be implanted in your pet by a veterinarian, designated shelter employee or breeder. Anyone who has completed a brief microchipping course – either in person or online – may also be allowed to perform the procedure.

Q. Are there potential risks associated with the microchip implant procedure?

A. As stated by the American Veterinary Medical Association (AVMA):
“Although it looks like a simple injection, it is very important that the microchip is implanted properly. Using too much force, placing the needle too deeply, or placing it in the wrong location can not only make it difficult to detect or read the microchip in the future, but it can also cause life-threatening problems.” (19)

Anthony Roberts, Policy and Public Affairs Officer for the Royal College of Veterinary Surgeons (RCVS), which is the regulatory body for veterinary surgeons and veterinary nurses in the United Kingdom (UK), writes:

“[P]oorly implanted chips can lead to severe injuries during implantation, increased risks of microchip migration and may have adverse effects on diagnostic techniques such as MRI.” (20)

The “Microchip Implant Manual – Cats/Dogs” by the Microchip Advisory Group (MAG) in the UK says: “Microchips that have been incorrectly implanted in the scruff are likely to migrate around the neck and onto the front of the shoulders or chest. Chips wrongly implanted over the side of either shoulder (instead of in-between) are likely to migrate down either respective leg... .” (21)

In addition, published scientific documents and adverse microchip reports show that animals have died because of the microchip implant procedure.

NOTE: In spite of the potential risks associated with microchipping animals, some microchipping courses only require an individual to be 16 years of age or older, and implant one animal in order to pass the course. For example, The Pet Chip Company Ltd., which boasts of being “the largest Training Provider teaching non-veterinarians to microchip companion animals ... inside and outside the UK,” (22) says:

“In order to show the vet that you are competent to microchip companion animals you have to microchip at least one animal, although we prefer if you chip two or even three. The vet then signs a certificate for you and that is recognised by Petlog (UK Kennel Club) that you have been appropriately trained.” (23)

The website E-TrainingForDogs.com has offered a one-hour online microchip course. It says:

“Learn to microchip your own pets ... SAVE \$\$ ON VET'S FEES or start a profitable small business or add onto existing pet businesses ... Course is only one hour and can be taken anytime on your home computer.” (24)

Offering online courses that require hands-on training and experience is potentially dangerous for the animal. It is also potentially dangerous for the handler of the animal because some animals may be nervous or aggressive. (25)

Q. What types of animals have been implanted with microchips?

A. Microchips have been marketed and sold for use in dogs, cats, horses, fish, ferrets, alpacas, llamas, livestock, laboratory animals, zoo animals, birds, turtles, reptiles, elephants and many other animals.

Q. How is a microchip implanted in an animal?

A. The chip is implanted by using an insertion device that contains a needle that is larger than those used for regular injections. In general, animals such as dogs, cats and horses are not sedated for the procedure. However, mild sedation or a local anaesthetic may be necessary for some animals.

For some species of animals the microchipping procedure is more complex. For example, birds require tissue glue and digital pressure or a suture to seal the site of implantation. (26)

Q. Where is the chip usually implanted in an animal?

A. The bodily location of the microchip implant varies depending on the type of animal. In addition, different parts of the world may use different implant sites for the same type of animal.

According to the World Small Animal Veterinary Association (WSAVA), two implant sites are recognized in dogs and cats: The chip is implanted subcutaneously on the dorsal midline, cranial to the shoulder blades or scapula. Or, the chip is implanted subcutaneously in the midway region of the left side of the neck. (27)

The WSAVA says there are two recognized implant sites in horses: The chip is generally implanted in the nuchal ligament of the neck in the middle third or halfway point between the ears and the withers. In Australia, the recommended implant site is in the musculature of the left neck or anterior injection triangle. “Clipping of the hair, local anaesthetic and aseptic technique is required,” writes the WSAVA. (28)

Amphibians are implanted in the lymphatic cavity and the site should be sealed with tissue glue. Snakes are implanted subcutaneously on the left side of the neck, approximately twice the length of the head from the tip of the nose. (29)

Chelonians (turtles and tortoises) are implanted in the left hind limb socket. The WSAVA recommends using a subcutaneous site in small chelonians, and an intramuscular technique in large species as well as in small species that have thin skin. Tissue glue should be used to seal the implant site. (30)

For more details regarding microchip implant sites, please refer to the information provided by the appropriate agency in the country in which your animal lives. Also refer to the data provided by the WSAVA. (31)

NOTE: Varying sites of implantation is one of the reasons that microchips are not detected by readers. Dr. Hannis Stoddard of American Veterinary Identification Devices (AVID microchips) says:

“Even in a perfect world where all technologies past, present and future were compatible, U.S. pets going to Europe and European pets coming to the U.S. could still risk being classified as 'not identified' because of the different implant sites.” (32)

Q. What is the lifespan of a microchip implant?

A. According to promotional information, the microchip implant lasts the lifetime of the animal. However, it is an extremely vague answer, particularly since microchips are implanted in animals that have a relatively long lifespan.

Human microchip implant data also fails to provide a precise answer. In 2004, Angela Fulcher, Vice President of Marketing and Sales for VeriChip Corporation (currently known as PositiveID Corporation), said, “We believe the tags [microchip implants] can last 20 years.” (33) However, other reports indicate that the average lifespan of a microchip implant is 10 to 15 years. (34)

As there is no definitive answer regarding the longevity of a microchip implant, it remains to be seen if the device lasts the lifetime of animals, such as horses, elephants, turtles or parrots, which have an average lifespan greater than twenty years.

NOTE: The question regarding the lifespan of an implantable microchip leads to other important questions that must be answered by the microchip industry, veterinary community, pharmaceutical companies that sell microchips, and organizations that enact mandatory microchipping legislation. For example:

- What happens when a microchip implant no longer works, or a more sophisticated one is available?
- Is the faulty or obsolete device left in the body and replaced with another implant?
- Do the components of the microchip deteriorate or alter over time? If so, what effect will this have on the animal?
- Is it safe to leave the failed or even functional microchip in the body indefinitely, or should it be removed surgically?
- Is the new microchip implant reprogrammed with the old identification number, or is a new number assigned?
- Who pays for the replacement and/or removal of the implant?

Q. Can a microchip implant help to locate a lost or stolen pet?

A. Microchip implants currently on the market do not have GPS (Global Positioning System) capability to locate a missing pet. So, if your pet is lost or stolen, a satellite cannot locate your pet via the microchip implant.

If, however, implantable GPS devices were available for pets, these implants would be expensive, large, and could even require an external antenna that protrudes out of the animal's body. (35)

Q. Under what circumstances can a microchip help to reunite a missing pet with its owner?

A. A microchip implant may help you recover your pet if he or she is taken to an animal shelter or a

veterinarian's office. When shelter or veterinary staff members find a stray animal, they first check if the animal is wearing a collar with current identification. If the animal is not wearing a collar with current identification, workers are supposed to thoroughly scan the animal's body with a compatible microchip scanner. If the pet has been chipped, the implant is supposed to emit a number that can be looked up in the appropriate database in order to identify the animal and contact the owner.

However, even if a lost or stolen microchipped animal is brought to a shelter or vet's office, the chip can only help to reunite the animal with the owner if all of the following conditions are met:

- The animal is scanned for a microchip implant.
- The microchip is working and has not been expelled from the animal's body.
- The scanner is able to locate and accurately read the microchip implant.
- The microchip number and current contact data are accurately recorded in the appropriate database.
- The database is accessible.

Also, even if all of the aforementioned conditions are met, cases in the UK reveal that microchip implants are not proof of ownership. Therefore, even if your lost or stolen microchipped pet is found, it is possible that he or she may not be returned to you. (36-37)

Q. If my pet is found, does the microchip guarantee proof of ownership?

A. Not necessarily. In the 2010 news report entitled "Dog-Owner Prevented From Finding Microchipped Pet Under Data Protection Act," Caroline Kisko, Secretary of the Kennel Club (UK), says the microchip implant does not provide proof of ownership. (38) Therefore, even if you are able to locate your stolen or lost, microchipped pet, there is no guarantee that your animal will be returned to you.

Also, the 2010 news report entitled "Police Find Nine-Year Old Girl's Stolen Pet Puppy ... But Say She Can't Have It Back," says that after locating their stolen Chinese Shar Pei puppy named Millie, the Stewart family was told that they could not have Millie back (even though the microchip was registered to the Stewart's) because the new owner bought the puppy in good faith. (39)

Q. Is a microchip implant a permanent form of identification?

A. Microchips are promoted as a permanent form of identification. However, sometimes microchips stop working, are expelled from the body, are lost within the body, are incorrectly read by the scanner, or are unreadable by the scanner. Also, even if a microchip is working, it cannot identify the animal unless the microchip number and current contact information of the owner are accurately recorded in the appropriate database.

For pet owners who rely on a microchip implant to identify their pet when traveling to countries that require the use of an implantable microchip, the British Small Animal Veterinary Association (BSAVA) warns:

"[M]icrochips can fail. This has particular implications for those travelling abroad with their pet, as microchip failure can lead to an animal being unable to travel." (40-41)

Also, as stated by the World Small Animal Veterinary Association, "[I]t is a fact that a transponder can fail." (42) Therefore, a microchip implant is not necessarily a permanent form of identification and should

not be advertised as such.

Q. How do I know if my pet's chip is working?

A. A microchip implant is not a visible form of identification. Therefore, the only way to know if it is working is to have it scanned with a compatible working scanner. However, even if a microchip is working one day, it can fail thereafter.

Q. Can microchip scanners read all microchip implants?

A. For a variety of reasons, microchip scanners cannot accurately read any of the microchip implants 100% of the time. Sometimes a microchip scanner cannot even read its own microchip implant. (43)

Although the majority of people assume that a “universal” scanner can read all microchip implants, universal scanners cannot detect or read all microchips all of the time. In the study entitled “Sensitivity of Commercial Scanners to Microchips of Various Frequencies Implanted in Dogs and Cats,” which was published in 2008 in *Journal of the American Veterinary Medical Association (JAVMA)*, Linda K. Lord and colleagues write:

“The 3 universal scanners capable of reading or detecting 128- and 134.2-kHz microchips all had sensitivities $\geq 94.8\%$ for microchips of these frequencies. Three of the 4 scanners had sensitivities $\geq 88.2\%$ for 125-kHz microchips, but sensitivity of one of the universal scanners for microchips of this frequency was lower (66.4% to 75.0%).” (44)

They also write:

“There are concerns, however, that universal scanners may not be sufficiently sensitive to detect all microchips.” (45)

NOTE: The World Small Animal Veterinary Association (WSAVA) warns of an important limitation associated with microchip scanners. It says:

“Readers [microchip scanners] emit and receive electromagnetic energy and therefore can be affected by other electronic equipment or metallic objects. In this regard, shelters and veterinary clinics can be regarded as ‘hostile environments’ due to the presence of computer terminals, fluorescent lights and stainless steel tables to mention a few. Try to maintain a distance of at least one meter (three feet) from electronic equipment. Ideally, one should not scan on stainless steel tables and remember to remove metal collars from the animal prior to scanning. (46)

Q. I've heard that microchip companies sell microchips and scanners that are not compatible with competing microchip-scanner technologies. Is this true?

A. Yes. In order to protect their patents and market share, microchip companies are known to sell microchips and scanners that are incompatible with competing microchip-scanner technologies. This means that a scanner may not be able to read a competitor's microchip implant.

[As a result of incompatible microchip-scanner technologies, microchipped pets have been euthanized at animal shelters.](#) (47)

Q. Have microchip companies been sued for misleading or false advertising?

A. Microchip companies have sued their competitors for misleading and false advertising. For example, in the 2006 article entitled “Jury Awards \$6 Million Plus in Avid Pet Microchip Trial,” it says that American Veterinary Identification Devices (AVID) was awarded more than \$6 million in a lawsuit against

European-based Datamars SA and its wholly owned US subsidiary, Crystal Import Corporation. The jury found that Datamars and Crystal infringed on AVID's patents and made false advertising claims regarding the effectiveness of their microchip implants to locate and reunite lost animals with their owners. (48) The news report says:

"Avid claimed that statements made by Datamars and Crystal in advertising their products were false and harmful to consumers, and Avid sought damages under the Lanham Act. Datamars and Crystal made several false claims in promotional materials including, 'if your pet becomes lost, any animal care facility can scan your pet,' despite that the majority of scanners in use in shelters in the U.S. were unable to read the Datamars microchips." (49)

The same report also says:

"Last year, a Superior Court in San Diego, California, stopped Banfield, the Pet Hospital from selling the same ISO microchips due to 'the risk of great, irreparable harm for which legal remedies are inadequate, specifically the increased potential for pets to be euthanized while their owners believe them to be safe.'" (50)

Juanita Brooks, lead trial counsel for AVID says:

"Pets are an important part of most American families and pet owners must be protected against false advertising particularly when their pets' lives are put at risk." (51)

While it is essential that companies are held accountable for false advertising and incompatible microchip-scanner technologies, the irony is that microchip companies are suing each other. Instead, pet owners should be filing lawsuits because of false microchip advertising and incompatible microchip-scanner technologies.

For more information regarding lawsuits that pertain to "UNSUBSTANTIATED, MISLEADING AND INCORRECT" microchip advertising, please review the following references in brackets. (52-53)

For more information regarding incompatible microchip-scanner technologies, please read the three part series, "The Microchip Wars and How They Affect Your Pets' Safety," by Dr. Patty Khuly, VMD. (54-56)

Q. Why don't veterinarians and animal shelters have scanners that can read all microchip implants?

A. Due to the cost of microchip scanners and the time required to scan each animal with multiple scanners, veterinary clinics and animal shelters usually do not have multiple scanners to read different microchip frequencies:

"[It] has been found that 61.4% of shelter operators will not use two scanners because of the lack of staffing or funding required to double scan animals," says Dr. Hannis Stoddard of AVID microchips. (57) Also, although clinics and shelters may have a "universal" scanner, it cannot detect or read all microchips all of the time. For more information, please see the question: "[Can microchip scanners read all microchip implants?](#)"

Q. Why aren't microchip companies required to ensure that all microchip implants are readable by all microchip scanners?

A. Microchips are not regulated in the US. As a result, microchip companies are allowed to sell microchip-scanner technologies that are incompatible with competing technologies.

The article entitled "USDA: No Authority to Regulate Pet Microchips," which appeared in *JAVMA News (Journal of the American Veterinary Medical Association)* in October 2007, says:

"More than two years after Congress directed the Department of Agriculture to weigh in on the debate over incompatible pet microchip technology, the USDA has determined it lacks the regulatory authority to mandate a national standard for microchips or microchip scanners for privately owned pets." (58)

The JAVMA article also says:

“The federal Animal Welfare Act does not grant the USDA Animal and Plant Health Inspection Service power to mandate standardization for pet microchips or the scanners that read them.” (59)

In spite of the lack of regulation that allows companies to sell microchips and scanners that are not compatible with those of their competitors, the same JAVMA article says:

“One result of its inquiry is that the USDA plans on making microchips an acceptable form of identification for animals regulated under the Animal Welfare Act.” (60)

Q. What happens if the scanner cannot detect my pet’s microchip implant?

A. If your pet is lost and his microchip implant cannot be detected by the scanning device, it is possible that your pet will be euthanized, re-homed, or sent to a research facility.

One of the most well-known tragedies that resulted because a scanner could not detect a lost pet’s microchip implant, is the death of Hadden. The 8-month-old American Pit Bull Terrier was euthanized at the Stafford County Animal Shelter in Virginia after the scanner could not detect his chip. Lisa Massey, Hadden’s owner, says:

"They just explained that they were very sorry; that they were beside themselves; that they couldn't understand how, in fact, this happened; that they had scanned Hadden twice and nothing registered." (61)

Q. Is it possible for the scanner to display an incorrect identification number?

A. Yes. In the study entitled “Sensitivity of Commercial Scanners to Microchips of Various Frequencies Implanted in Dogs and Cats,” it says there were cases in which “the wrong microchip number was displayed on the scanner during scanning.” (62)

Q. Is it possible for a microchip implant to be lost once it is implanted in an animal’s body?

A. Although implantable microchips are promoted as a permanent form of identification that is supposed to be superior to other methods of animal identification (such as an identification collar, tattoo or brand), a microchip implant can be expelled from the body. It can also migrate from the original implant site and become lost within the body. As a result, the animal cannot be identified by his or her microchip implant.

Side-note: An Atlanta fire-fighter named John Centola had a microchip implanted in his arm for identification purposes. However, within days of receiving the microchip implant, it fell out. Mr. Centola decided not to have another one implanted. (63)

Q. Are microchip implant identification numbers unique?

A. Microchip numbers can be duplicated. As a result, it is possible that more than one animal can have the same identification number. (64-67) Also, as microchips are being sold via the Internet, it may be difficult, if not impossible, to identify the source of the chip or whether another microchip has the same identification number.

Rachel Crowe, BSc, PhD, ACIM, of Virbac Ltd UK, reveals another reason why there may be confusion with microchip identification numbers, not to mention that the burden of the potential failure of the chip to identify an animal usually falls on the owner instead of the microchip company. Crowe writes:

“Virbac has become aware of a potential problem regarding some microchips, prefixed 978, being sold in the UK, which are not logged on the Virbac BackHome database.

These are not BackHome microchips. The prefix number 978 refers to the manufacturer of the microchips, rather than to Virbac as such. As this manufacturer also provides these microchips to a distributor other than Virbac, some microchips that bear the prefix number 978 on the UK market, cannot, therefore, necessarily be considered as having been distributed by Virbac ... Therefore, Virbac cannot be liable for these other microchips, even if they start with the prefix 978.” (68-69)

Q. Do those who support and promote microchipping know that microchip numbers can be duplicated?

A. Although the majority of pet owners do not know that their pet could have the same identifying microchip number as another animal, industry leaders are fully aware that the numbers can be duplicated. However, they have chosen to ignore this problem. For example, Barbara Masin of Electronic Identification Devices, Ltd. (EID) and distributor of Trovan microchips says:

“I went to the USDA listening sessions and offered to show them the problem with duplication possibilities, but they didn’t want to see it. The situation is very political. There are certain people involved within the USDA who have very close ties to certain manufacturers. There is an underlying agenda, unfortunately, and this is not for the good of the country.” (70)

[Chris Laurence](#), Chairman of the Microchip Advisory Group and former Veterinary Director of Dogs Trust in the UK, also admits that microchip implant numbers can be duplicated. (71) Nevertheless, Mr. Laurence supports mandatory animal chipping legislation.

Q. Can microchip implants and insertion devices be purchased via the Internet?

A. Yes. However, purchasing microchip implants and insertion devices via the Internet is potentially dangerous because it may be difficult, if not impossible, to determine the origin or quality of the products. Knowing whether or not the products are sterile is another serious concern.

Also, because microchip implant kits are available online, individuals without training can buy and implant microchips in animals, which poses a health risk to the animals concerned. (72)

Q. Why do some animals have two microchip implants?

A. There are several reasons why an animal may have two microchip implants. For example, someone may implant a microchip in an animal without checking the animal for an existing chip, or the scanner used to determine if the animal is already chipped did not detect the chip. As a result, a second microchip is implanted in the animal. Also, because some countries require a microchip implant of a specific frequency, some animals have been intentionally chipped with an ISO and a non-ISO chip.

Q. How secure is my data once it is registered in a microchip database?

A. Pet owners are told that their personal data is “protected” and “safe.” However, as computer hackers are able to access classified information from sophisticated government databases, they can probably access your information from a microchip database.

Q. Can microchips and databases be infected with computer viruses and worms?

A. In 2006, researchers at Vrije Universiteit Amsterdam in the Netherlands warned that “a completely

different category of threats arises when hackers or criminals cause valid RFID tags to behave in unexpected (and generally malicious) ways.” (73) They write:

“Up until now, everyone working on RFID technology has tacitly assumed that the mere act of scanning an RFID tag cannot modify back-end software, and certainly not in a malicious way. Unfortunately, they are wrong. In our research, we have discovered that if certain vulnerabilities exist in the RFID software, an RFID tag can be (intentionally) infected with a virus and this virus can infect the backend database used by the RFID software. From there it can be easily spread to other RFID tags.” (74)

In the same paper, the researchers use an example of how a cat’s microchip implant could be infected with a computer virus, which could infect the database of the veterinarian or the database of whomever scans the cat. They write:

“Unlike a biological virus, which jumps from animal to animal, an RFID virus spread this way jumps from animal to database to animal. The same transmission mechanism that applies to pets also applies to RFID-tagged livestock.” (75-76)

In 2009, Dr. Mark N. Gasson of the University of Reading in the UK conducted an experiment on himself to show how a [human microchip implant](#) could be infected with a computer virus. (77) Dr. Gasson writes: “The result is that the virus is copied into the new profile field for all tags, and so any tag subsequently using the system will likely become overwritten and infected. A feature of a computer virus is that it must have the ability to self-replicate, and this is evident here. Having corrupted the database contents in such a way to allow replication, there is a further ‘payload’ (some additional malicious activity) associated with the virus.” (78)

Q. Do the benefits of microchip implants outweigh the risks?

A. The answer depends on one’s perspective:

Those who manufacture, promote, sell, and/or implant microchips say the benefits of the technology outweigh the risks. However, these individuals and corporations have a vested interest in the success of microchipping. They may also be unaware of the risks associated with chipping, and believe that the implants offer a failsafe way of identifying animals.

Pet owners whose animals have experienced adverse microchip reactions do not believe that the benefits of microchipping outweigh the risks. In addition, individuals who do not have a vested interest in the success of microchipping and who have carefully examined the problems associated with microchipping, do not believe that the benefits of chipping outweigh the risks.

Q. Why should the general public be concerned about animal microchipping?

A. Microchipping animals psychologically prepares people to accept and embrace the use of microchip implants for humans.

For some people this latter statement may seem like a bizarre concept from a science fiction movie. However, in October 2004, the United States Food and Drug Administration (FDA) approved the use of microchip implants in humans for medical purposes. When microchips are marketed for non-medical purposes – such as security, financial or personal identification reasons – the microtransponder system does not require FDA approval. (79-81)

American firemen, Mexican officials, Alzheimer patients, diabetics, bar patrons, employees and others have already been “chipped.” (82-94) In addition, many companies have patents for tracking humans. (95-98)

Scott R. Silverman (Chairman and CEO of VeriTeQ Corporation, former Chairman and CEO of both

PositiveID Corporation and VeriChip Corporation, and former CEO and Acting President of Digital Angel Corporation) predicts that microchipping “will work into our culture and our lives. It will almost take on a life of its own.” (99-103) In a Fox News television interview he also says:

“We are working on a product that we have called internally a PLD. PLD stands for personal locating device, which is an implantable GPS for which our company owns a patent and can be implanted surgically in the clavicle area of a child or someone that you are interested in tracking. It is the first implantable microchip for humans. It has multiple security, financial and health-care applications.” (104)

Tommy G. Thompson (19th Secretary of Health and Human Services – the department that oversees the FDA; 42nd Governor of Wisconsin; 2008 US presidential candidate; and former member of the Board of Directors of VeriChip Corporation) says the human microchip implant “has so many uses.” (105) Mr. Thompson says “it will give an identification number” and “identifies you with a database that has your medical records.” (106) He refers to the technology as “a giant step forward to getting what we call an electronic medical record for all Americans.” (107) He also suggests using the implant “to replace dog tags” currently used by the US armed forces. (108)

Dr. Peter Zhou, chief scientist for development of the microchip implant, says the chip “will be a connection from yourself to the electronic world. It will be your guardian, protector. It will bring good things to you.” (109) He also says microchip implants will enable us to be “a hybrid of electronic intelligence and our own soul.” (110-111)

Also, US Patent #5,629,678, entitled “Personal Tracking and Recovery System,” discusses ways in which an implantable tracking device can be remotely activated. It says:

“The device will remain in a dormant state until activated, either by the person in whom it is implanted, or by remote means.” (112)

Technology that enables activation and control of human implants by someone other than the person in whom it is implanted shows how easy it would be to use microchip implants to manipulate individuals and societies. (113-114)

Also of interest, Proteus Biomedical of the US has designed edible microchips to monitor if and when patients take their medications. Scheduled to be sold in the UK by Lloydspharmacy by the end of this year, Proteus says their product can be “integrated into any pharmaceutical tablet or capsule to allow real-time detection of pill ingestion, thereby helping measure and improve patient adherence to medications and dosing regimens.” (115-117)

Manufactured on silicon, the edible microchips contain copper and magnesium, and are also referred to as “ingestible event markers” or “IEM’s.” When swallowed, they are activated by stomach fluids and create a “digital signal detected by a microelectronic recorder configured as either a small bandage style skin-patch or a tiny device inserted under the skin.” (118-120) “The unique ingestion event and personalized physiologic information are then communicated via Bluetooth to any computerized device,” says Proteus. (121)



Manufactured at “wafer scale”
on
silicon, the edible microchips
contain copper and
magnesium. ~ *Proteus*
Biomedical

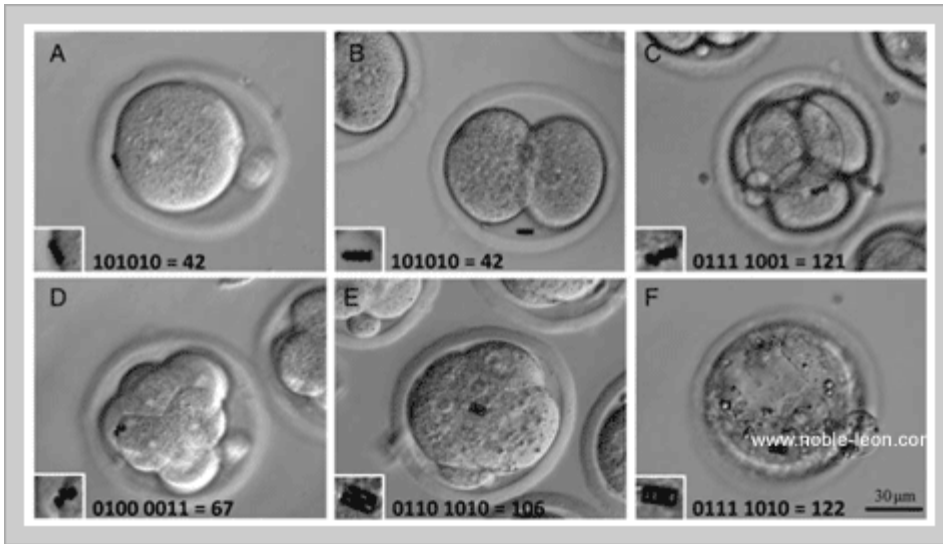
Pills that contain “edible microchips”
are able to monitor if and when patients
take their medication. ~ *Proteus*
Biomedical

Although Andrew M. Thompson, Chief Executive Officer of Proteus, says, “[T]he single-most important thing that I worry about is that we do nothing that harms a patient,” designing medications that can broadcast personal information about patients raises concerns about data privacy. (122-123) Also, although Mr. Thompson says their product is “safe,” made from “ingredients that are found commonly in the food supply,” and “can be formulated into any dosage form without changing the properties or performance of a drug,” ingesting copper on a regular basis, even in small doses, could create an imbalance of essential vitamins and minerals in the body. (124-125) It could also create an excessive build-up of copper that could become toxic, leading to tissue injury and disease. (126) These health concerns could be exacerbated for people who are sick and take a lot of medication.

Mr. Thompson, estimates that edible microchips will create a \$100-billion industry. (127) However, while microchipped pills may be able to monitor a patient’s compliance to a prescribed medical regimen, it does not mean that patients will remember to take the pills, or change the skin-patch at the appropriate time. Instead, it means that corporations and governments have another powerful tool that can be used to monitor our behaviour, and exert more control over our bodies and our lives.

Also worth noting, in 2010, the scientific document entitled “A Novel Embryo Identification System by Direct Tagging of Mouse Embryos Using Silicon-Based Barcodes” was published on behalf of European Society of Human Reproduction and Embryology. (128-129) In the document, researchers in Spain describe how they have developed an identification system that allows the use of silicon barcodes to label mouse embryos. The system could eventually be used to label human embryos. The researchers write: “In summary, the results presented here demonstrate the feasibility of a direct embryo labeling system and constitute the starting point in the development of such systems. Even though pronuclear embryos were used in the experiments reported here, the same barcode-based labeling approach could also be applied to embryos at later developmental stages and to oocytes [egg cells].” (130) Development of this latter type of identification system means that it will be possible to tag humans before they are born.

“A Novel Embryo Identification System by Direct Tagging of Mouse Embryos Using Silicon-Based Barcodes” by Sergi Novo et al., *Human Reproduction*, 2010.



In vitro development of embryos microinjected with different types of polysilicon barcodes into their perivitelline space. (A and B) One- and 2-cell embryos labeled with type A barcodes. (C and D) Four-cell and compacting 8-cell embryos containing a type B barcode. (E and F) Morula and hatching blastocyst labeled with a type C barcode. Magnified images of the barcodes (insets) and their corresponding binary and decimal numbers are shown for each embryo.

The general public should also be aware that the potential to misuse RFID-based identification systems has been discussed in government reports. For example, the draft report entitled “The Use of RFID for Human Identification” from the Department of Homeland Security (DHS) Emerging Applications and Technology Subcommittee to the Full Data Privacy and Integrity Advisory Committee says, “Some current and contemplated uses of RFID for tracking people may be misguided.” (131) It also says: “[R]FID appears to offer little benefit when compared to the consequences it brings for privacy and data integrity. Instead, it increases risks to personal privacy and security, with no commensurate benefit for performance or national security ... we recommend that RFID be disfavored for identifying and tracking human beings.” (132)

Also, because of the risks associated with human microchipping, some US states have passed laws against mandatory human microchipping. These states include Wisconsin, North Dakota, California, Oklahoma, Georgia and Virginia. (133-150)

To learn more about the use of microchip implants for humans and the potential negative repercussions, please read the sections “Tagged from Cradle to Grave” and “The Holocaust: NEVER AGAIN!” in the document entitled “[Microchip Implants: Technological Solution or 21st Century Nightmare?](#)” (151)

Health Concerns

Q. What are some of the health risks associated with microchip implants?

A. As stated by the United States Food and Drug Administration (FDA):

“The potential risks to health associated with the device are: adverse tissue reaction; migration of implanted transponder; compromised information security; failure of implanted transponder; failure of inserter; failure of electronic scanner; electromagnetic interference; electrical hazards; magnetic resonance imaging incompatibility; and needle stick.” (1-3)

Published scientific literature also shows that [microchip implants can cause cancer, spinal cord injuries, and death due to the microchip implant procedure](#). (4)

[Abscesses](#), infections, lumps, bleeding, itching and hair loss have also occurred at the site of the implants. (5-8)

Microchips can also migrate (move) from one bodily location to another. [Movement of the implant could pose health risks for the animal in whom it is implanted](#).

Q. Have animals developed cancer because of microchip implants?

A. In the 1990's, researchers documented several cases of laboratory mice and rats that developed aggressive cancerous growths at the site of their microchip implants. (9) The cases are significant because they offer the first definitive proof that animals were developing cancer because of implantable microchips. For example, researchers from Germany, Spain and Italy co-authored the paper entitled "Subcutaneous Soft Tissue Tumours at the Site of Implanted Microchips in Mice." It was published in 1997 in *Experimental and Toxicologic Pathology*. The authors state:

"The neoplasms induced in the present investigation are clearly due to the implanted microchips." (10)

In 2001, the Bayer Corporation study entitled "Tumors in Long-Term Rat Studies Associated with Microchip Animal Identification Devices" was published in *Experimental and Toxicologic Pathology*.

Researchers in the US write:

"Electronic microchip technology as a means of animal identification may affect animal morbidity and mortality, due to the large size and rapid growth rate of microchip-induced tumors, as well as the occurrence of metastases." (11)

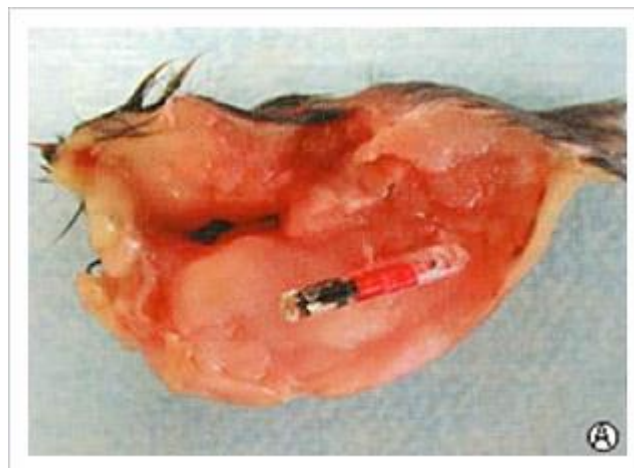
The authors of this latter scientific document also write:

"The occurrence of tumours due to microchip implantation is not an entirely unexpected finding. According to the literature on foreign-body tumorigenesis, any inert substance inserted into the body for long time periods can produce neoplasia." (12)

In 2006, the document entitled "Subcutaneous Microchip-Associated Tumours in B6C3F1 Mice: A Retrospective Study to Attempt to Determine their Histogenesis" was published in *Experimental and Toxicologic Pathology*. Researchers in France write:

"One of the most potentially serious disadvantages of the microchip implantation is the possibility that foreign-body-induced tumours may develop in long-term rodent studies." (13)

"Subcutaneous Microchip-Associated Tumours in B6C3F1 Mice: A Retrospective Study to Attempt to Determine Their Histogenesis" by Sophie Le Calvez et al., *Experimental and Toxicologic Pathology*, 2006.



Gross appearance of a microchip-associated tumour. The microchip has been removed from the cavity where it resided in situ (size of microchip 2 x 12 mm).

Scientific documents also reveal that dogs and cats have developed cancerous growths at or adjacent to the site of their microchip implants. For example, in 2004, the paper entitled “Liposarcoma at the Site of an Implanted Microchip in a Dog” was published in *The Veterinary Journal*. Researchers Marta Vascellari, Franco Mutinelli, Romina Cossettini and Emanuela Altinier in Italy write:

“Using an image intensifier, the microchip [Indexel, Merial, Lyon, France] was located in the subcutaneous fascia at the base of the mass ... This mass appeared to have developed in the subcutis, around the microchip itself, causing bulging of the skin contour.” (14)

In 2006, the scientific document entitled “Fibrosarcoma with Typical Features of Postinjection Sarcoma at Site of Microchip Implant in a Dog: Histologic and Immunohistochemical Study” was published in *Veterinary Pathology*. The document was written by Vascellari, Melchiotti and Mutinelli, and examines the case of a 9-year-old French Bulldog that developed “a high-grade infiltrative fibrosarcoma, with multifocal necrosis and peripheral lymphoid aggregates” at the site of his Indexel (Merial, Lyon, France) microchip implant. (15)

In 2008, “Fibrosarcoma Adjacent to the Site of Microchip Implantation in a Cat” was published in *Journal of Feline Medicine and Surgery*. Researchers from the US write:

“A 14-year-old spayed female domestic shorthair cat presented with an interscapular mass. A computed tomography scan, biopsy, and histological examination revealed a fibrosarcoma adjacent to a pet identification microchip.” (16)

It is important to mention that the specific bodily locations of the vaccines that were administered to the pets discussed in the three latter cases were not documented. Because vaccines and microchip implants have caused aggressive and lethal cancerous growths to develop in animals, the researchers were not sure if the microchip and/or vaccines caused the cancerous masses to develop in these animals. (17-20) However, in 2011, the scientific document entitled “Microchip-Associated Fibrosarcoma in a Cat” was published in *Veterinary Dermatology*. Researchers Carminato, Vascellari, Marchioro, Melchiotti and Mutinelli from the Istituto Zooprofilattico Sperimentale delle Venezie in Italy write:

“A nine-year-old, neutered male cat was presented for a subcutaneous mass on the neck. After surgical removal of the mass, a pet identification microchip [Indexel, Merial, Lyon, France] was found within the tumour. Histological examination of the mass revealed typical features of the feline postinjection sarcoma. The cat had never received vaccinations at the tumour site; all routine vaccinations were administered in the hindlimbs.” (21)

This latter document is significant because it indicates that the tumour was not caused by vaccines; it indicates that the tumour was caused by the microchip that was embedded within the cancerous mass.

“Microchip-Associated Fibrosarcoma in a Cat.” by
Antonio Carminato et al., *Veterinary Dermatology*,
2011.



"[V]eterinarians should be aware that tumours can develop at microchip sites," write the authors of "Microchip-Associated Fibrosarcoma in a Cat." (22)

Surgically excised, formalin-fixed skin and subcutaneous mass from the cat. Cut section reveals a nodular cavitory subcutaneous lesion with a microchip embedded in the adipose tissue. Scale bar represents 2.5 mm.

In 2009, Leah K. Schutt of the University of Guelph, Guelph, Ontario, Canada, was the recipient of the ACVP/AAVLD Diagnostic Travel Award for the scientific paper entitled "Microchip-Associated Soft Tissue Sarcoma and Massive Multiorgan Extramedullary Hematopoiesis in a House Musk Shrew (*Suncus Murinus*)." (23) In 2010, the full document was published in *Journal of the American Association for Laboratory Animal Science* and is entitled "Microchip-Associated Sarcoma in a Shrew (*Suncus Murinus*)." It says:

"A 16-mo-old female house musk shrew (*Suncus murinus*) with a 1-wk history of a rapidly growing subcutaneous mass in the interscapular region was euthanized and submitted for necropsy. Macroscopic examination identified an irregular, well-demarcated, solid, tan-white subcutaneous mass. A small cavity containing a microchip device was present at the center of the mass." (24)

Published scientific documents also show that Damaraland mole-rats, small zoo animals, an Egyptian fruit bat, and a marmoset have developed microchip-associated cancerous growths. (25)

Q. Why do some people – including veterinarians – say that it is an "Internet urban legend" that implantable microchips can cause cancer?

A. In spite of published scientific literature that proves that microchip implants can cause cancer, some people still claim that the microchip-cancer risk is an "Internet urban legend." For example, in the April 14, 2010 article entitled "'Chipping' Your Pet Painless, Worthwhile," Dr. Ellen Friedman, DVM writes: "There have been concerns about the implanted chip causing problems; various Internet 'urban legends' have tried to link microchips and a rare form of cancer. To date, we are not aware of any scientific data confirming this. In our opinion, the risk is negligible to nonexistent." (26)

Dr. Friedman's comments indicate that even people in the veterinary community are still not aware of scientific documents that prove that animals have developed aggressive and lethal cancerous growths because of microchip implants. Instead of thoroughly researching the topic for themselves, some people choose to regurgitate the sales pitch offered by the microchip industry and dismiss the microchip-cancer risk. In other cases, there are people who are fully aware of the scientific microchip-cancer data. However, because they have a vested interest in the success of microchip implant technology, they intentionally lie to pet owners, veterinarians, policy-makers, the media and the public by saying that the microchip-cancer risk

is an “Internet urban legend.”

Q. I’ve heard that the rodents that developed cancer from their microchips were bred to develop cancer. Is this true or false?

A. False. In addition to saying that the microchip-cancer risk is an “Internet urban legend,” some people who promote microchips say that the rodents that developed cancer from the implants were bred to develop the disease. However, researchers who examined the animals state otherwise. For example, in the study entitled “Transponder-Induced Sarcoma in the Heterozygous p53+/- Mouse,” the authors write: “[M]asses (undifferentiated sarcomas) were observed arising at the site of transponder implantation ... Because p53+/- mice are ostensibly insensitive to non-genotoxic proliferative agents, the observation of transponder site sarcomas in 18/177 (10%) of the animals studied was surprising.” (27)

The authors of this latter study also write:

“[T]he presence of the foreign body may elicit tissue reactions capable of generating genotoxic byproducts.” (28)

Q. I’ve heard that the rodents that developed cancer from their microchips were exposed to cancer-causing agents. Is this true or false?

A. False. In the study entitled “Subcutaneous Soft Tissue Tumours at the Site of Implanted Microchips in Mice,” T. Tillman and colleagues state, “The neoplasms induced in the present investigation are clearly due to the implanted microchips.” (29)

In the study entitled “Fibrosarcomas Associated with Passive Integrated Transponder Implants,” T. E. Palmer and colleagues state, “The tumors associated with the implants were found in control and treated animals and were considered unrelated to the test material.” (30)

In the study entitled “Transponder-Induced Sarcoma in the Heterozygous p53+/- Mouse,” Kerry T. Blanchard and colleagues state, “These masses were not related to test substance administration... .” (31)

Also, in an interview in 2007 with Todd Lewan (AP reporter and author of “Chip Implants Linked to Animal Tumors”), Keith A. Johnson, author of the study entitled “Foreign-Body Tumorigenesis: Sarcomas Induced in Mice by Subcutaneously Implanted Transponders,” states, “The transponders were the cause of the tumors.” (32-33)

Q. Where did the tumours start to develop in the animals?

A. Scientific documents reveal that the cancerous growths developed at or adjacent to the site of the microchip implants.

In addition, researchers observed that sometimes the cancerous growths began to form at the location of the anti-migrational sheath that covers part of the implant. For example, in the study entitled “Transponder-Induced Sarcoma in the Heterozygous p53+/- Mouse,” the authors write:

“Mass development is apparent in association with the polypropylene extremity and was often observed to begin at the glass-polypropylene interface.” (34)

Q. Can the cancer metastasize (spread) to other parts of the body?

A. Yes. As stated in the scientific document entitled “Tumors in Long-Term Rat Studies Associated with Microchip Animal Identification Devices”:

“Although animal morbidity and mortality were attributed partially to tumor size in several animals, an additional contributing factor consisted of occasional metastases ... Metastatic sites included the lungs, thymus, epicardium of the heart, mediastinal lymph nodes, and the musculature of the right foreleg.” (35) Also, in the scientific document entitled “Subcutaneous Microchip-Associated Tumours in B6C3F1 Mice: A Retrospective Study to Attempt to Determine Their Histogenesis,” it says: “Microscopic metastases were detected in four mice: two had metastases in the lungs only; one in the lungs and liver and another in the wall of the stomach and in the pancreas.” (36)

Q. How aggressive are the cancerous growths?

A. The cancerous growths can be extremely aggressive, and even lethal. For example, in the study entitled “Tumors in Long-Term Rat Studies Associated with Microchip Animal Identification Devices,” Laura E. Elcock and colleagues write:

“Some masses were extremely fast-growing, enlarging as much as 1 cm per week. As a result, the size of the masses often necessitated early sacrifice [euthanasia] of the animal.” (37)

In the study entitled “Fibrosarcomas Associated with Passive Integrated Transponder Implants,” T. E. Palmer and colleagues write:

“Some masses became large enough to inhibit the animal’s access to its feed jar.” (38)

In the study “Subcutaneous Microchip-Associated Tumours in B6C3F1 Mice: A Retrospective Study to Attempt to Determine Their Histogenesis,” Sophie Le Calvez and colleagues write:

“Most of the animals (33/52 = 65.4%) with microchip-associated tumours died prematurely; 28/33 were sacrificed for ethical reasons due to the size of the masses, and in 5/33 cases the deaths were spontaneous and attributed to the masses.” (39)

The authors of this latter paper also write:

“Desmin staining also confirmed the infiltration of the panniculus muscle in many tumours and the extensive cavernous network of capillaries within the tumour, especially around the hole left by the microchip.” (40)

Also, in the study entitled “Microchip-Associated Sarcoma in a Shrew (*Suncus Murinus*),” L. K. Schutt and P. V. Turner write:

“One week prior to presentation, a lump was noted in the interscapular region of the shrew. Because of the rapidly growing nature of the mass and its potential to interfere with the animal’s mobility, the shrew was euthanized and submitted for necropsy.” (41)

“Microchip-Associated Sarcoma in a Shrew (*Suncus Murinus*)” by Leah K. Schutt and Patricia V. Turner, *Journal of the American Association for Laboratory Animal Science*, 2010.



Subcutaneous mass in the interscapular region or dorsal cervical midline of a shrew. Note the small cavity at the center of the mass that contained the microchip implant.

Q. What are some of the proposed reasons that implantable microchips can cause cancer?

A. Some of the proposed reasons that implantable microchips can cause cancer are:

“(1) Foreign-Body Tumorigenesis: The presence of the microchip, a subcutaneous foreign body, may cause cellular changes that can lead to cancer.

(2) Post-Injection Sarcoma: Inflammation from the chip-injection procedure may cause cellular changes that can lead to cancer.

(3) Possible Genotoxic Properties of the Implant: The glass capsule or polypropylene sheath surrounding it may have carcinogenic or genotoxic properties, or its presence within the host may give rise to genotoxic byproducts.

(4) Radio-Frequency Energy Emissions from the Transponder or Reader: The radio-frequency energy involved with the transponder may somehow contribute to tumor formation.” (42)

Q. Is it possible for researchers to misinterpret study results because of microchip-induced tumours?

A. In the Dow Chemical study entitled “Foreign-Body Tumorigenesis: Sarcomas Induced in Mice by Subcutaneously Implanted Transponders,” Keith A. Johnson warns that microchip-induced tumours could affect study results. He writes:

“Investigators using similar types of implanted devices need be aware of foreign-body tumorigenesis when evaluating the results of longterm studies using mice.” (43)

In “Microchip-Associated Tumour in a C57/BL Mouse,” the authors state:

“Researchers/pathologists must be aware of foreign body tumorigenesis (microchip-induced neoplasms) possibly complicating the interpretation of data from carcinogenicity studies.” (44)

And in “Tumors in Long-Term Rat Studies Associated with Microchip Animal Identification Devices,” researchers for Bayer Corporation in the US write:

“[T]umors due to microchip implantation have been documented in long-term rat studies, and may be a complicating factor in the interpretation of carcinogenicity data.” (45)

Q. Have animals experienced spinal cord injuries or nerve damage because of microchip implants?

A. Yes. For example, in 2007, the scientific document entitled “Spinal Cord Injury Resulting from Incorrect Microchip Placement in a Cat” was published in *Journal of Feline Medicine and Surgery*. Simon Platt and colleagues write:

“A 2-year-old, male neutered domestic shorthair cat was presented for investigation of an acute onset of tetraparesis immediately following the implantation of a pet identification microchip. A left-sided C6-T2 spinal segment localisation was suspected from the neurological examination, with spinal cord trauma being the primary differential diagnosis. Myelography demonstrated obliteration of the contrast columns by the microchip at the C5-C6 intervertebral disc space.” (46)

In 2009, “Surgical Removal of a Microchip from a Puppy’s Spinal Canal” was published in *Veterinary and Comparative Orthopaedics and Traumatology*. T. J. Smith and N. Fitzpatrick write:

“A 1.6 kg, six-week-old Tibetan Terrier was admitted with a 12-hours history of acute onset of progressive tetraparesis following insertion of a microchip to the dorsal cervical region. Neurological examination indicated a lesion to the Ce(1) to Ce(5) spinal cord segments. Radiographic examination confirmed the intra-spinal location of a microchip foreign body at the level of the second cervical vertebra.” (47)

In 2010, “Delayed Spinal Cord Injury Following Microchip Placement in a Dog” was published in *Veterinary and Comparative Orthopaedics and Traumatology*. S. K. Joslyn and colleagues write:^{[1][2][3][4][5][6][7][8][9][10]}

“A three-year-old female, entire Yorkshire Terrier dog was examined because it had progressive non-weight-bearing left forelimb lameness and tetraparesis of two weeks duration ... Computed tomography identified the exact location of the foreign body [microchip] encroaching on the left dorsolateral vertebral canal, and osteolysis of the lamina of the sixth cervical vertebra.” (48)

Also, in 2005, veterinarians E. G. A. Laarakker, C. Wilekens, M. Kelfkens and F. Kokke in The Netherlands documented a case of a horse that experienced nerve damage because of the microchip implant. In the report the veterinarians also write, ‘All vets in our clinic share the opinion that chipping horses is anything but safe.’ (49)

Q. Have animals died because of the microchip implant procedure?

A. Yes. The “Microchip Report 2004” by the British Small Animal Veterinary Association (BSAVA), states:

“The most disastrous report received during 2004 concerned an attempt to implant a struggling kitten resulting in sudden death. During the post mortem examination the microchip was found in the brainstem.” (50)

In 2007, *The Veterinary Record* published the document “Microchip Insertion in Alpacas.” Authors G. van der Burgt and M. Dowle write:

“A 6-month-old alpaca in the UK was implanted with a microchip behind the left ear in the upper part of the neck at a 90 degrees angle to the skin. The alpaca collapsed and died within 5 min of insertion of the microchip. Postmortem examination showed that the microchip was located in the spinal cord between C2 and C3 vertebrae. The resulting neurogenic shock was thought to be the cause of death.” (51)

Also, in 2009, a young Chihuahua named Charlie Brown bled to death within hours of receiving a microchip implant that was required by law in Los Angeles County, California, USA. Dr. Reid Loken, the veterinarian who performed the procedure, cited “an extreme amount of bleeding” from the “little hole in the skin where the [microchip implant] needle went in” as the cause of death. (52)

Q. Where can I find scientific data that supports the statement: “Microchip implants can cause cancer, spinal cord injuries, and death due to the microchip implant procedure”?

A. Peer-reviewed studies have been published in a variety of scientific journals. Many of the documents can be accessed via www.noble-leon.com. (53)

Q. Why do those promoting microchips say the implants are safe even though published scientific documents prove that animals have not only experienced serious adverse reactions but also died because of microchipping?

A. A considerable amount of money can be made from the sale of microchip implants, scanning devices, the microchip implant procedure, registration fees and data mining. If pet owners knew that there were so many serious problems associated with microchipping, they would not allow their animals to be chipped. Therefore, in order to sell microchip implants, those promoting the technology must maintain the illusion that microchip implants are safe.

Q. Is it potentially dangerous if a microchip moves from the original site of implantation?

A. Microchip implants can move significantly from the original implant site. This unwanted movement could be painful and pose health problems for an animal.

Pet owners should be aware that adverse microchip reports compiled by the BSAVA indicate that “migration remains the commonest problem with the elbow and shoulder being the favourite locations of wayward microchips” in pets. (54)

Also, researchers in France noted that microchips implanted in mice migrated from the original implant site to the limbs, abdominal region and dorsal head. (55)

Movement of a chip from one bodily location to another could also make it difficult, if not impossible, to locate the implant and to identify the animal.

Q. Why should vaccines and other injections not be given at or near the site of a microchip implant?

A. Injections should not be given at the site of a microchip implant because it is possible to unintentionally hit the microchip and/or disturb the tissue that has formed around it.

In the document entitled “Microchip-Associated Fibrosarcoma in a Cat,” researchers from the Istituto Zooprofilattico Sperimentale delle Venezie in Italy advise against giving vaccines at the site of microchip implants because it would help to prevent “micro-environment alterations that could increase the risk of sarcoma development.” (56) More specifically, both dogs and cats are known to be at risk of vaccine-induced sarcomas, and microchips can elevate the risk of cancer at the microchip site. (57-59) It is not logical to double-up on the cancer risk by vaccinating and microchipping in the same bodily location.

The authors of “Microchip-Associated Fibrosarcoma in a Cat” also note that if vaccines are not given at or near the site of microchip implants, researchers will be able “to determine the aetiology of tumours more easily.” (60) In other words, researchers will be able to more accurately determine if the microchip, or the product injected near the microchip, caused the adverse reaction. Also, in order to effectively treat and accurately report an adverse reaction, it is important to know why the reaction occurred.

Q. What are some of the potential health risks for a microchipped animal that undergoes Magnetic Resonance Imaging (MRI) diagnostics?

A. The FDA lists “MRI incompatibility” as a potential health risk associated with microchip implants. As stated in the FDA’s “A Primer on Medical Device Interactions with Magnetic Resonance Imaging Systems,” potential adverse effects associated with implant devices in the MRI environment include, but are not limited to: “Device malfunction or failure,” “tearing of tissues,” “rotation of object in order to align with field,” “acceleration of object into bore of magnet ‘missile effect,’” and “patient burns (thermal and electrical).” (61)

Also, the Japanese study entitled “Evaluation of the Susceptibility Artifacts and Tissue Injury Caused by Implanted Microchips in Dogs on 1.5T Magnetic Resonance Imaging,” warns that a microchip implant can impede diagnostic use of MRI. Miyoko Saito and colleagues write:

“There was significant signal loss and image distortion over a wide range around the area where the microchip was implanted. This change was consistent with susceptibility artifacts which rendered the affected area including the spinal cord undiagnostic.” (62)

The same study also says:

“The artifact produced by microchips implanted under the skin of the dorsal part of the cervicothoracic junction may cause difficulty in interpretation of MRI in this region, which includes the cervical to cranial thoracic spinal cord. The image of the brain may also be affected when the animal is small in size.” (63)

NOTE: For more information regarding potential microchip-MRI incompatibility issues, please see the section “Magnetic Resonance Imaging (MRI) Incompatibility with Microchip Implant Technology” in the document entitled “[Microchip Implants: Technological Solution or 21st Century Nightmare?](#)” (64)

Q. Is it safe to use acupuncture needles, therapeutic magnets, laser therapy or light emitting diode

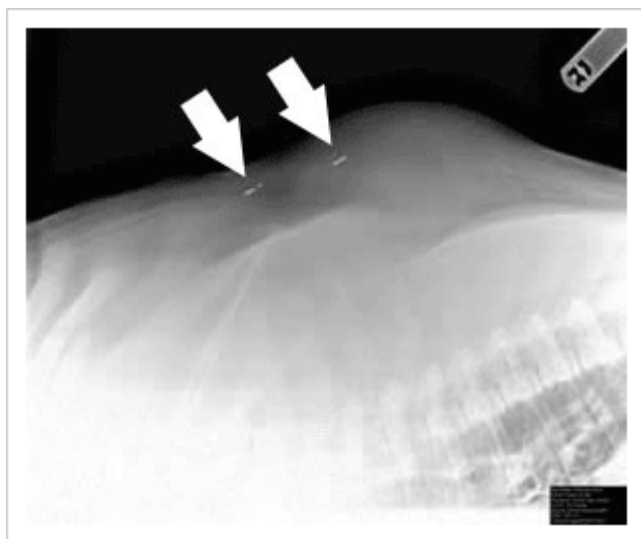
(LED) treatments at or near the site of a microchip implant?

A. Similar to vaccines and other injections, acupuncture needles should not be used at or near the site of a microchip implant because it is possible to unintentionally hit the microchip with the needle and/or disturb the tissue that has formed around the implant.

Also, as we do not know the effect that acupuncture needles, magnets, lasers or LED's may have when used at or near the microchip implant site, it is advisable to err on the side of caution and avoid using these therapeutic treatments at or near the implant site.

Q. Is it safe for an animal to have two or more microchip implants?

A. Although those who promote microchip implants say that it is safe to implant multiple chips in an animal, this procedure places the animal at an even greater risk of experiencing an adverse microchip reaction. Inserting multiple chips in an animal also places an extra financial burden on pet owners who pay for the implantation and registration of multiple chips per animal.



X-ray of a fast-growing hemangiosarcoma in a 5-year-old Bull Mastiff. The arrows point to one microchip within the cancerous mass and another microchip adjacent to the mass. (65)

Photo of x-ray provided by Howard Gillis, owner of Seamus.

Q. Is it possible for animal microchip implants to enter the human food chain?

A. Yes. For example, in 2004, the USDA's Food Safety and Inspection Service (FSIS) issued a "Class I Recall" because pork shoulder butts may have contained microchip implants. As stated in a USDA/FSIS recall release, "The devices were inserted in the shoulders of the animals at a livestock production facility and the animals were inadvertently shipped to slaughter." (66)

This latter error is significant because the USDA defines a "Class I Recall" as "a health hazard situation where there is a reasonable probability that the use of the product will cause serious, adverse health consequences or death." (67)

Although the USDA categorizes the recall as a "HIGH" health risk, it has been trying to implement a National Animal Identification System (NAIS) which requires implantation of microchips in cattle and other animals used for human consumption. (68-70)

Also, in the article entitled “A Focus on Animal Electronic Identification” (which was published on the USDA’s website), it says that in Australia:

“RFID injectable transponders or subcutaneous implants are not commonly used for livestock identification due to device migrations, rejection, breakage and recovery problems.” (71)

This latter statement and the aforementioned document by the USDA are important because they show that countries are aware that microchip implants can enter the human food chain and cause serious, adverse health consequences for individuals who unintentionally eat the implants.

Q. Are microchip implants being eaten by animals?

A. Yes. For example, birds are eating fish that have been microchipped. Scott Bettin, a freshwater fisheries biologist with the Bonneville Power Administration (BPA) says, “Caspian terns eat the tagged salmon and then [excrete] them onto their nests.” (72)

The glass, copper and other materials that microchips are made of could be a health risk for birds and other animals that eat microchips. The chips could also be an environmental problem: “These islands glisten with RFID tags,” says Mr. Bettin. (73)

Q. Where can I find more information regarding potential health risks associated with microchip implants?

A. For an in-depth review of potential health risks associated with microchip implants, please see the following sections of the document entitled “[Microchip Implants: Technological Solution or 21st Century Nightmare?](#)”:

“FDA’s List of Potential Health Risks Associated with Microchip Implants”

“A Closer Examination of the FDA’s List of Potential Health Risks Associated with Microchip Implants: Adverse Tissue Reaction and Migration of Implanted Microchip”

“Failure of Implanted Transponder and Potentially Lethal Implications”

“Failure of Electronic Scanner”

“Electromagnetic Interference with Microchip Implants and Scanning Devices”

“Magnetic Resonance Imaging (MRI) Incompatibility with Microchip Implant Technology”

“Microchip Implant Technology May Result in Compromised Information Security”

“More Potential Health Concerns Associated with Microchip Implant System”

“Tagged from Cradle to Grave” (74)

Adverse Microchip Reactions

Q. What are potential adverse consequences of microchipping that I should be aware of and report?

A. Adverse microchip reactions include: Pain, swelling, abscesses, infections, lumps, hair loss, itching, bleeding, nerve damage, spinal cord injuries, cancerous growths, and death due to the microchip implant procedure.

Unintended consequences of microchipping that should also be recorded as adverse microchip reactions include: Migration (movement of a chip from one bodily location to another), loss of a microchip within the body, expulsion of a microchip from the body, failure of a microchip, failure of a scanner, failure of an insertion device, inability to detect or read a microchip, and MRI incompatibility issues.

Duplication of a microchip number and the inability to access the appropriate microchip database are also potential adverse consequences of microchipping that pet owners should be aware of and report.

Q. What can pet owners and veterinarians do in order to reduce the risk that an animal might experience an adverse microchip reaction?

A. There are many risks associated with microchipping. So, regardless of the precautionary measures taken to ensure that animals do not experience an adverse microchip reaction, problems can occur.

Still, there are several ways to reduce the risk of experiencing a problem with a microchip implant. For example:

1. Before implanting a microchip, the animal must be thoroughly scanned to make sure that he or she is not already chipped.
2. In order to verify that the chip is working correctly, the chip must be scanned before and after it is implanted in the animal. The identification number should also be verified with the number on the package, and the name of the manufacturer/distributor should be noted.
3. In order to minimize the risk of infection, the implant area must be thoroughly cleaned before injecting the chip in the animal. It is a good idea to shave the implant area prior to implanting the device, particularly if an animal has a long or thick coat.
4. In order to minimize the chance that an animal moves during implantation of a microchip, the procedure must be done in a calm environment. Animals who are nervous or do not like injections may need a mild sedative.

NOTE: As stated in the “Microchip Implant Manual – Cats/Dogs” by the Microchip Advisory Group (MAG) in the UK:

“It is not recommended to implant a chip while the animal is under sedation or asleep without placing it steadily on its front and with its skin in its natural central position, particularly relevant with loose skinned animals. Awake, sitting and gently restrained is best.” (1)

5. The implant site should be checked periodically to make sure that an adverse reaction is not occurring in that area. (For example: Swelling, abscess, infection, lump, hair loss, itching or bleeding.) This can be done visually and also by gently feeling the implant area.
6. The chip should be scanned periodically to make sure that it is still working and has not moved from the original site of implantation.

7. Microchip implants can cause cancer. Microchipping pets that are predisposed to lumps and cancer should be avoided. For more information, please see the question: "[Does mandatory chipping legislation apply to animals that are predisposed to cancer?](#)"
8. Vaccines and other injections should not be administered at or near the site of a microchip implant. For more information, please see the question: "[Why should vaccines and other injections not be given at or near the site of a microchip implant?](#)"
9. As there are potential problems associated with using MRI for a chipped animal, it may not be advisable to use this diagnostic tool. If, however, a microchipped animal undergoes MRI, he or she should be carefully monitored and the chip should be re-scanned after the MRI procedure to make sure that it is still working and has not moved from the original site of implantation.

For more details regarding potential MRI-microchip incompatibility issues, please see the question: "[What are some of the potential health risks for a microchipped animal that undergoes Magnetic Resonance Imaging \(MRI\) diagnostics?](#)"

10. It is advisable to err on the side of caution and avoid using acupuncture needles, therapeutic magnets, laser therapy and LED's at or near the site of a microchip implant.
11. It is also advisable to err on the side of caution and avoid placing a shock collar or a similar device at or near the site of a microchip implant.

Q. What should I do if my pet experiences an adverse microchip reaction?

A. Your animal should be immediately taken to a competent veterinarian and thoroughly examined. The medical treatment will depend on the type of adverse microchip reaction that your animal experiences.

Pet owners should also keep accurate documentation of the adverse or suspected adverse microchip reaction, and report it to the appropriate individuals, corporations and adverse reporting agency. (2)

Q. How can I have my pet's adverse or suspected adverse microchip reaction recorded?

A. You can ask your veterinarian to report the adverse reaction or you can report it yourself. The adverse data may include a veterinary report, blood results, x-rays, biopsy report, pathology report, tissue samples, and any other information that may be relevant to the case.

The adverse reaction should be reported to the manufacturer/distributor of the chip, to the veterinary clinic, the shelter, or individual who implanted the chip, and to [the adverse reporting agency in your country](#). (3) [The British Small Animal Veterinary Association \(BSAVA\)](#) also records adverse microchip reactions. (4-7)

In order to increase public awareness of problems associated with microchip implants, you may also want to share your pet's adverse microchip reaction with the media. There are also discussion groups and websites that allow you to share your adverse microchip experience with pet owners and the public.

Websites that are interested in recording adverse microchip reactions include: [ChipMeNot \(US\)](#), [ChipMeNot \(UK\)](#) and [Group Nijhof \(Netherlands\)](#). (8-10) The website [Dogs Adverse Reactions](#) in the US also records adverse reactions. (11)

If your animal experiences a severe adverse reaction – such as cancer, nerve damage, spinal cord injury, or death due to the microchip implant procedure – you should ask a qualified, independent researcher to

examine the case and have it published in a reputable scientific journal.

Researchers at the Istituto Zooprofilattico Sperimentale delle Venezie, in Legnaro (PD), Italy, have experience in documenting cases of microchip-associated tumours in pets. Perhaps they would be interested in reviewing your case. (12-14)

Q. Why is it important to report an adverse or suspected adverse microchip reaction?

A. As illogical as it may seem, veterinarians are not required to report an adverse or suspected adverse microchip reaction. As a result, only an extremely small number of adverse microchip reactions are accurately reported and recorded.

This latter point is confirmed by Fred Nind, former Chairman of the Microchip Advisory Group. In the “Microchip Report 2003” he says:

“It is significant that several reports [of adverse microchip reactions] were received from some quite small practices while many larger practices filed no reports at all. This suggests that there is an element of under reporting which may be happening for a variety of reasons.” (15)

Chris Laurence, current Chairman of the Microchip Advisory Group, admits that adverse microchip reactions continue to be under-reported. (16)

Failure to report adverse microchip reactions allows those who promote the implants to say that adverse microchip reactions are rare. Unless adverse and suspected adverse microchip reactions are recorded, advocates of chipping will continue to claim that adverse microchip reactions are “rare” and that “the benefits of microchipping outweigh the risks.”

Q. Who is financially responsible if my pet experiences an adverse microchip reaction?

A. In the majority of cases the owner assumes all of the financial burden, not to mention the emotional burden, when a pet experiences an adverse microchip reaction.

In some cases, however, the distributor of the chip will offer a small amount of money to compensate the owner for an adverse microchip reaction. For example, in the case of Scotty, a 5-year-old Yorkshire Terrier that developed epitheliotropic lymphoma (cancer) at the site of his microchip implant, the owner, Linda Hawkins was given US\$300.00 to pay for his medical expenses. (17-20)

Q. Should I have the microchip removed from my animal?

A. This is a decision that should be made on a case-by-case basis because surgery is generally required to remove a microchip implant. If, however, your animal develops cancer or experiences a spinal cord injury due to the chip, it is best to consult with a competent veterinarian and have the device removed immediately.

Also, if the chip jeopardizes the health of your animal because the device has migrated, caused an abscess, or caused an infection, it should be removed. (21)

Mandatory Microchipping

Q. Are animals required to be microchipped?

A. Some regions and countries have enacted legislation that requires some animals to be microchipped. Also, many animal shelters in the United States only allow pets to be adopted if they are chipped. In addition, it appears that pets living on US military bases are required to be chipped. (1-16)

Although some organizations support the use of microchip implants, not all of them believe that it should be a mandatory procedure. For example, the American Kennel Club (AKC) writes:
“As part of AKC's ongoing efforts to promote responsible dog ownership, we encourage dog owners to properly identify their pets. We believe, however, that the final decision about identification – whether by collar, tattoo or microchip – should be made by the owner, not the government.

It is crucial that all fanciers and concerned dog owners work together to protect our rights as dog owners.”
(17)

Q. Does mandatory chipping legislation apply to animals that are predisposed to cancer?

A. Although specific exemptions for animals predisposed to cancer have not been incorporated in mandatory chipping legislation, it is important to check the current legislation in your area because [some exemptions may apply](#).

Certain breeds of dogs, gray horses and other animals are predisposed to develop lumps and cancerous growths. We are also living in a period when cancer is becoming more and more prevalent in animals. Mandating a procedure that has the potential to cause cancer is illogical and unethical. Please consult with a lawyer regarding your legal rights to protect your animal.

Q. My pet wears a collar with current identification and has a legible tattoo. Why should I be required to have my pet chipped?

A. A properly fitted collar with current identification and a tattoo is a great combination to use in order to identify your pet. So, there is no reason that you should be required to have a microchip implanted in your pet.

Also, in light of the fact that scientific documents show that animals have developed cancerous growths, experienced spinal cord injuries, and died because of the microchip implant procedure, no one should be obliged to have a microchip (foreign object) implanted in his or her animal.

Q. My pet has a non-ISO microchip implant. However, the country that I am taking my pet to requires an ISO microchip. What should I do?

A. Even though your pet already has a non-ISO microchip, he or she will probably be required to have an ISO microchip implant in order to enter a country that requires ISO chips.

In some cases, the country may allow your pet to enter without an ISO chip as long as you have a scanner that can read the chip that is already implanted in your pet. For example, the Animal Quarantine Service (AQS) of Japan says:

“Dogs and cats must be individually identified by microchip ... If the animal is not implanted with an ISO compliant (11784 and 11785) microchip, please bring a microchip reader with you.” (18)

If you decide not to have an ISO chip implanted in your pet and he or she is lost or stolen in a country that only has scanners that read ISO chips, it is likely that the chip will not be detected when scanned.

Q. What are some of the reasons used to justify and implement mandatory animal microchipping legislation?

A. Several reasons are used to justify and implement mandatory chipping legislation. For example, advocates of microchipping claim that:

- Microchipping is a permanent form of identification that allows lost or stolen pets to be reunited with their owners.
- Microchipping will significantly reduce the number of animals in shelters.
- Owners of “dangerous” dogs can be identified and held accountable for problems caused by their dogs.
- Microchip implants will deter thieves from stealing pets.
- Veterinarians can identify and locate breeders whose dogs have medical problems due to inbreeding.
- Pets that travel between countries can be easily identified via their microchip implant.
- Diseased animals can be easily identified and located via their microchip implant.
- Microchipping will prevent cruelty to animals.
- Microchipping will make pet owners more responsible.

However, there are major flaws in all of the aforementioned arguments. (Please see the following questions and answers for details.)

Q. Is microchipping a permanent form of identification that guarantees the safe return of my pet if he or she is lost or stolen?

A. As previously mentioned in this document, microchip implants are not necessarily a permanent form of identification. For example, sometimes microchips stop working, are expelled from the body, become lost within the body, or are incorrectly read by the scanner. Microchip implant numbers can also be duplicated. As a result, more than one animal may have the same identification number. Also, even if a microchip is working and its identification number is unique, the chip number and current contact information of the owner must be accurately recorded in the appropriate database in order to identify the animal and contact the owner.

Pet owners should also be aware that sometimes scanners cannot detect microchip implants. As a result, lost microchipped pets that have been taken to shelters have been re-homed or euthanized. (19)

Also, cases in the United Kingdom demonstrate that microchips are not proof of ownership. Therefore, even if you locate your lost or stolen microchipped pet, it is possible that your pet will not be returned to you. (20-21)

Q. Will microchipping significantly reduce the number of animals in shelters?

A. Those who promote and/or profit from microchip implant technology claim that microchipping will significantly reduce the number of animals in shelters. However, this claim is not substantiated by accurate, independent, long-term studies. In fact, in the few, short-term studies that used carefully selected animal shelters to test microchips, scanners and databases, researchers noticed many limitations associated with microchip implant technology. For example, in “Sensitivity of Commercial Scanners to Microchips of Various Frequencies Implanted in Dogs and Cats,” Linda K. Lord and colleagues discuss some of the problems associated with microchipping. They also write that microchipping “is not an infallible system, and it is not realistic to expect 100% performance.” (22)

Also, in “Evaluation of Collars and Microchips for Visual and Permanent Identification of Pet Cats,” L. K. Lord and colleagues agree that “visual identification remains the easiest and fastest way to reunite lost pets with their owners.” (23)

Q. Will the use of microchip implants make owners accountable for “dangerous” dogs?

A. In order to avoid identification, owners of “dangerous” dogs will find ways to keep their dogs from being chipped. Either the owners will not have their dogs chipped, or they will have the chip removed surgically or via an inhumane method. It is also possible that owners of dangerous dogs will deactivate the implant so that the identification number cannot be read.

As microchip numbers can be duplicated, owners of dangerous dogs could obtain a microchip that has the same number as a gentle dog, and have it implanted in their dangerous dog. Dr. Hannis Stoddard of AVID microchip implants writes:

“Unencrypted ISO chips can be easily and quickly cloned. These clones can be used to implant identical chips into another pet to avoid liability for a vicious dog or defraud insurance companies.” (24)

Q: Will microchip implants deter thieves from stealing pets?

A. High-tech car alarms have not deterred thieves from stealing cars. Why, therefore, would low-tech microchip implants deter thieves from stealing pets?

In addition to stealing microchipped pets, thieves might steal microchip scanners so that they can locate the microchip implanted in the animal that they have stolen. Then they might deactivate the device or remove it from the animal, which could pose health risks for the animal.

Q. Will microchipping allow veterinarians to identify and locate breeders whose dogs have medical problems due to inbreeding?

A. Besides being difficult to legally prove that an animal has medical problems due to inbreeding, it is highly unlikely that veterinarians have the time, resources, or legal power to identify and locate breeders whose dogs have medical problems due to inbreeding.

Also, Dr. Patty Khuly, VMD writes:

“[A] veterinarian doesn’t cross-reference every microchip number with an owner’s name and digits. That’d be an onerous add-on to a very busy day, and not very fruitful given that most microchips are unregistered and mis-registered to pet shops and shelters.” (25)

Q. Will microchipping make it easier to identify pets that travel between countries?

A. Sometimes microchip implants do not work. As a result, microchipped pets have been denied entry into countries that require a microchip as a form of identification. For example, in 2007, a chocolate Labrador named Coco was not allowed to re-enter the UK because her chip was unreadable. At the suggestion of Eurotunnel staff members, Coco's owners, Jane and Richard Birtwistle, took Coco to a French veterinarian. However, he too was unable to read the chip. As a result, surgery was performed to remove the faulty chip and another one was implanted. The Birtwistle's were obliged to leave Coco in France until the issue was resolved. Jane Birtwistle says:

"It has caused the whole family a great deal of emotional stress to witness Coco undergo a risky surgical procedure carried out for non medical purposes and then be separated from us for what could have resulted in a period of up to 6 months. It has also caused us a great deal of financial stress." (26-27)

The British Small Animal Veterinary Association (BSAVA) is aware that faulty microchips can cause problems for pet owners and their travelling pets. It says:

"[M]icrochips can fail. This has particular implications for those travelling abroad with their pet, as microchip failure can lead to an animal being unable to travel." (28)

Methods that are less invasive and less dangerous than implantable microchips can be used to identify animals that travel between countries. For example, a combination of a properly fitted collar with current identification tags, a passport, tattoo, or brand can be used.

Q. Will microchipping make it easier to identify and locate diseased animals?

A. Due to problems associated with microchip implant technology (microchips, scanners and databases), it would not be wise to rely on the use of microchips to identify and locate diseased animals, particularly when there is a crisis.

Barbara Masin of Electronic Identification Devices, Ltd. (EID), distributor of Trovan microchip implants in the US, says:

"The NAIS [National Animal Identification System] is being touted as an anti-bioterrorism measure, but it won't cut the mustard, especially using these chips. If USDA or our livestock/horse industries tell people this is what they have to use, the first incidence of some serious disease outbreak after the NAIS is implemented will spawn litigation. We have put the USDA on notice, in writing, that this is a problem (so they are aware of it), and if they persist with their plans and use this type of ID anyway, it will be a field day for lawyers." (29)

Q. Will microchipping prevent cruelty to animals?

A. Microchipping will not prevent cruelty to animals. In fact, when asked about this particular topic, Chris Laurence (Chairman of the Microchip Advisory Group and former Veterinary Director of Dogs Trust in the UK) responded:

"If somebody is going to keep a dog in a shed and abuse it, they are going to keep a dog in the shed and abuse it." (30)

Q. Will microchipping make pet owners more responsible?

A. Microchipping will not make pet owners more responsible; only educating them will.

Q. What are some of the real reasons for implementing mandatory animal microchipping legislation?

A. One of the reasons for passing legislation that requires people to have their animals chipped is that a lot of money can be earned from microchip implants, scanning devices, the microchip implant procedure, registration fees, and data-mining. However, as only a small percentage of animals have been microchipped on a voluntary basis, mandatory microchipping legislation is necessary in order to make chipping profitable.

Depending on the area in which your pet lives, mandatory microchipping of animals – as opposed to voluntary chipping – could mean that those who manufacture, sell and implant microchips are absolved from all responsibility if your animal experiences an adverse microchip reaction. (31)

Another reason for implementing mandatory animal microchipping legislation is that it could allow people to be identified and located via their animals. It also prepares people to accept microchip implants for human use. For more information regarding human chipping, please see the question: “[Why should the general public be concerned about animal microchipping?](#)”

Q. Why have some regions and countries enacted legislation for mandatory animal chipping yet they have not enacted legislation for mandatory reporting of adverse or suspected adverse microchip reactions?

A. For some reason it is not mandatory to report an adverse microchip reaction, or a reaction to any veterinary product for that matter.

Perhaps your veterinarian, government officials, policy-makers, or those who sell and promote microchip implants can answer the question and you can write a report about their responses.

In the meantime, as long as it is not mandatory to report adverse or suspected adverse microchip reactions, only an extremely small percentage of adverse microchip reactions will be reported. As a result, those who support microchipping will continue to mislead the public by saying that microchip implants are safe.

Q. I've heard that some organizations and individuals who advocate the use of microchip implants not only have a vested interest in the success of microchip implant technology but also have influential policy-making positions regarding mandatory chipping legislation. Is this true?

A. Yes. For example, the Microchip Advisory Group (MAG) and the British Small Animal Veterinary Association (BSAVA) are strong advocates of animal microchipping. The BSAVA appoints the Chairman of meetings and provides the Secretariat to the MAG. The BSAVA also “reserves the right to invite observers and induct new members to the group.” (32) Current membership of the Microchip Advisory Group is: "Manufacturers; Distributors; Databases; Major purchasers; Major implanters" that influence microchipping policies and benefit financially from compulsory microchipping legislation. (33-34)

Chris Laurence, MBE, QVRM, TD, BVSc, MRCVS, is the BSAVA's appointed Chairman of the MAG. While Chairman of the MAG he was the Veterinary Director of Dogs Trust, which is an influential dog welfare charity in the UK that is campaigning for mandatory animal chipping. Dogs Trust also advises government on “any matters concerning dog ownership.” (35-38)

Before becoming the Veterinary Director of Dogs Trust, Mr. Laurence was the Chief Veterinary Officer of the Royal Society for the Prevention of Cruelty to Animals (RSPCA). The RSPCA is the oldest animal charity in the world and “has a local government adviser who provides an information service on a variety of animal welfare issues to politicians and officers at all levels of local government in England and Wales.” The RSPCA is campaigning for mandatory chipping. (39-41)

Mr. Laurence was also Vice Chairman of the Pet Advisory Committee (PAC), which “is made up of major animal welfare charities, veterinary organizations, environmental health, local authority and trade associations.” (42) PAC advises national and local government about animal welfare issues. PAC supports compulsory chipping. (43)

Mr. Laurence is also on the BSAVA’s International Affairs Committee, which “is responsible for links with UEVP [Union of European Veterinary Practitioners], and through UEVP to FVE [Federation of Veterinarians of Europe] and also for liaison with FECAVA [Federation of European Companion Animal Veterinary Associations] and WSAVA [World Small Animal Veterinary Association]. This allows BSAVA to identify and influence matters of importance to the small animal veterinary surgeon in Europe and further afield.” (44)

Also, before becoming Chairman of the MAG, Mr. Laurence represented the UK at an ISO Working Group 3: Identification meeting in Paris, France in 2001. (45) Although the BSAVA says the Chairman of the MAG meetings “is to be independent,” the positions that Mr. Laurence has been appointed to indicate enmeshment with industry, rather than independence. (46)

It is also important to note that Mr. Laurence admits that microchip numbers can be duplicated, that microchipping will not prevent cruelty to animals and that adverse microchip reactions are under-reported. (47) Nevertheless, he supports compulsory microchipping.

Also, data used to justify the "safety" of microchipping is not based on long-term, scientific studies by independent researchers. Instead, the “safety” data is often based on adverse microchip reports compiled by the BSAVA. However, as veterinarians are not required to report adverse or suspected adverse microchip reactions, adverse events are rarely reported. (48)

Although the BSAVA admits that there is “an element of under reporting [of adverse microchip reactions] that may be happening for a variety of reasons,” neither the BSAVA nor the MAG has campaigned for mandatory reporting of adverse or suspected adverse microchip reactions. (49) Nevertheless, both organizations support mandatory chipping legislation.

Q. I’ve heard that some veterinarians who advocate the use of microchip implants not only have a vested interest in the success of microchipping but also have influential policy-making positions regarding mandatory chipping legislation. Is this true?

A. Yes. For example, Dr. Walt Ingwersen, DVM is the Honorary Secretary of the World Small Animal Veterinary Association (WSAVA), which "has recognised Radio Frequency Identification Devices (RFID) as the gold standard for identification of companion animals." (50-51) Dr. Ingwersen has also been Chair of the Canadian Veterinary Medical Association (CVMA) Microchip Committee, Chair of the WSAVA Microchip Committee, and Canadian Delegate to the International Standards Organization (ISO) Committee that is responsible for developing global standards for RFID technology. (52-53)

Dr. Ingwersen is a co-author of the 2008 paper entitled “Sensitivity of Commercial Scanners to Microchips of Various Frequencies Implanted in Dogs and Cats,” in which he and his colleagues write, “There are concerns, however, that universal scanners may not be sufficiently sensitive to detect all microchips.” (54) Dr. Ingwersen is also a co-author of the 2008 paper entitled “In Vitro Sensitivity of Commercial Scanners to Microchips of Various Frequencies,” in which he and his colleagues write, “Findings in the present study help to emphasize that even under controlled conditions, no scanner has 100% sensitivity for all microchips in all orientations.” (55) Nevertheless, he supports mandatory microchipping legislation.

Dr. Ingwersen is also a consultant for Pethealth Inc., which provides pet recovery database services under the 24PetWatch brand name. The 24PetWatch program includes the use of the 24PetWatch microchip. (56) In May 2010, Pethealth issued a press release announcing an extension of its "strategic alliance with Allflex USA, Inc., the world's leading provider of ID technology for animals." (57) The press release also says:

"Companion animal microchipping is a key driver to Pethealth's insurance and non-insurance operations alike, most notably with respect to pet owner and pet data collection and aggregation." (58)

In 2011, Allflex expanded its business in animal identification by purchasing Destron Fearing Corporation from Digital Angel Corporation for approximately \$25 million. (59-60)

Allflex is a member of the [Microchip Advisory Group \(MAG\)](#), which is comprised of "Manufacturers; Distributors; Databases; Major purchasers; Major implanters" that influence microchipping policies and benefit financially from compulsory microchip legislation. (61-62)

Q. I've heard that some dog groups that advocate the use of microchip implants not only have a vested interest in the success of microchipping but also have influential policy-making positions regarding mandatory chipping legislation. Is this true?

A. Yes. For example, the Kennel Club (UK), which promotes itself as being "the largest organization in the UK devoted to dog health, welfare and training," supports mandatory microchipping of animals. (63) It says:

"[T]he Kennel Club is a part of the Microchipping Alliance which comprises of a variety of prominent animal welfare organisations and others who are impacted by dog issues. The Group works to raise public awareness of microchipping and its benefits and lobbies the government to introduce regulations that would enable compulsory permanent identification through microchipping for all dogs in the UK." (64)

In addition to its support of compulsory microchipping legislation, The Kennel Club owns and manages Petlog, the UK's largest microchip pet registration database. Petlog runs National Microchipping Month, which is sponsored by the Kennel Club "to assist veterinary practices, local authorities, rescue centres and welfare organisations in the education and promotion of responsible pet ownership through microchipping." (65-67) National Microchipping Month is also geared to chipping zoo animals. (68)

To promote "The Kennel Club's Compulsory Microchipping Campaign," the Kennel Club says, "Microchipping is a safe and painless way to permanently identify your pet." (69) However, [there are serious potential health risks associated with microchipping](#) and a [microchip implant is not necessarily a permanent form of identification](#).

The Kennel Club also says, "[B]y having their pets microchipped, owners can ensure that if their missing pets are found they will be returned to them." (70) However, the Kennel Club is fully aware that cases in the UK demonstrate that microchipping does not provide proof of ownership. For example, in the news report entitled "Dog-Owner Prevented from Finding Microchipped Pet Under Data Protection Act," Caroline Kisko, Secretary of the Kennel Club says, "Microchipping ... does not provide proof of ownership." (71) Therefore, even if you locate your lost or stolen microchipped pet, the identifying chip does not guarantee that your pet will be returned to you.

The Kennel Club and Petlog are members of the Microchip Advisory Group (MAG), which is comprised of "Manufacturers; Distributors; Databases; Major purchasers; Major implanters" that influence microchipping policies and benefit financially from compulsory microchip legislation. (72)

Q. How will mandatory animal microchipping legislation be enforced?

A. Only the future will reveal the answer to this question. In the meantime, suggestions have been made to require veterinarians to report owners of non-chipped pets to the authorities. However, if such a policy is implemented, people opposed to chipping will be reluctant to take their non-chipped pet to the vet when the animal needs medical attention. Requiring veterinarians to report owners of non-chipped pets to the authorities could also strain the relationship between veterinarians and pet owners:

“If veterinary surgeons were expected to ‘police’ any policy of compulsory microchipping this could have a negative effect on animal health and welfare, by adversely affecting the client vet relationship,” writes Anthony Roberts, Policy and Public Affairs Officer for the Royal College of Veterinary Surgeons in the UK. (73-74)

Local animal control officers could also be used to enforce compulsory chipping laws. For example, in the 2011 news report entitled “West Covina-Area Pet Owners Face Fees for Failure to Microchip, Vaccinate,” it says:

“Animal control officers will be out in unincorporated areas of West Covina checking for compliance with laws that include requiring owners to vaccinate, spay/neuter and microchip their dogs and cats... .” (75)

Using animal control officers to enforce compulsory microchipping would be costly and time-consuming because areas that already have financial problems will have to hire and train more employees. Expensive scanning devices that can detect and read all microchip implants would also have to be purchased.

Using animal control officers to enforce compulsory microchipping could also anger pet owners and members of the public who believe that the government is not only wasting valuable resources that could be used for more important needs in the community but they could also take action against the government for invading their privacy and exerting too much control over their lives.

Compulsory microchipping could also be enforced if animals are required to be chipped in order to enter a country, or if an association requires chipping for registration or competition purposes. However, as soon as enough pet owners file lawsuits because of adverse microchip reactions or because of false advertising claims about microchipping (just as [microchip companies have filed lawsuits against their competitors for misleading and false advertising claims](#)), microchipping will become a costly endeavour for those who manufacture and sell microchips. Chipping will also become problematic for those who enact and enforce mandatory microchipping policies. (76-77)

Also, with regards to the campaign that has been launched to implement mandatory dog chipping in the UK, Richard Bacon MP says:

“There are important questions over whether making it mandatory to microchip all dogs in the UK would work in practical terms. For instance, the government would need to set up a national dog registration scheme, but this has been tried before. The dog licence was abolished in 1987 because it was too expensive to run and very few dog owners took any notice of it.” (78)

So, just as it is difficult to enforce dog licensing policies, it will probably be difficult to enforce mandatory microchipping legislation.

Q. What will happen to people who refuse to allow their animals to be chipped?

A. People could be fined for refusing to have their animals chipped. For example, in the 2012 report entitled “Pet Checks in Saugus/Stevenson Ranch,” it says:

“Officers from the Department of Animal Care and Control (DACC) will be in the unincorporated areas in the vicinity of Saugus and Stevenson Ranch checking for current rabies vaccinations, ensuring residents are in compliance with licensing requirements as well as the mandatory spay/neuter and microchip ordinance ... Residents not in compliance will be subject to license fees and delinquency charges, including a \$40 field enforcement fee... .” (79)

In the UK, horses, ponies, donkeys and zebras are required to have a current horse passport and a microchip implant to identify them. Owners can be fined up to £5000 if they violate this rule. (80)

Imposing fines on those who refuse to have their animals chipped leads to important questions that must be answered by those who propose, enact and enforce mandatory chipping legislation. For example: What happens if a person will not or cannot pay the fine for having a non-chipped animal? Will the person be imprisoned? Will the animal be confiscated? If the person is imprisoned or the animal is confiscated, will the animal be re-homed or even euthanized? Also, how will shelters be able to accommodate non-chipped animals that have been taken from their owners, particularly when shelters are struggling to support the animals that are already in their care?

In the case of farmers who refuse to have their livestock chipped, it is possible that they will be forced out of business because they will not be able to sell their non-chipped animals for food consumption or breeding purposes.

Q. What can I do to prevent my animal from being microchipped?

A. Educate yourself regarding the problems associated with microchip implant technology and consult with a lawyer regarding your legal rights.

Also, review the mandatory microchipping policy in your area very carefully because there may be exceptions to the legislation. For example, in Northern Ireland the “Dogs (Amendment) Act, (Northern Ireland) 2011” says that all dogs must be microchipped in order to receive a dog license. However, this rule does not apply “if the keeper of the dog produces to the council a certificate signed by a veterinary surgeon to the effect that implantation (or continued implantation) of a microchip in the dog would have an adverse effect on the health of the dog.” (81)

The law in New Zealand says, “All dogs registered in New Zealand for the first time from 1 July 2006, except working farm dogs, need to be microchipped.” (82) It also says, “Most other dogs will not need to be microchipped unless they:

- Have been classified as dangerous or menacing on or after 1 December 2003.
- Are unregistered and get impounded.
- Are registered and get impounded twice.” (83-85)

In the UK, all horses, ponies, donkeys and zebras are required to have an up-to-date horse passport and a microchip implant. However:

“[H]orses living in the New Forest, or on Dartmoor and Exmoor ... don’t need a micro-chip or passport while they remain in these areas, as long as they are registered in the appropriate studbook.

Special arrangements are in place that allow the ponies to move from the areas without a micro-chip. This arrangement doesn’t extend to all horses within the areas.” (86-87)

Also, it appears that horses in the UK that have a current passport and have been identified before July 31, 2009, do not need to be chipped. (88-89)

Q. What can I do to prevent, reverse and ban mandatory animal microchipping legislation?

A. The first step is to learn the truth about microchip implant technology. Then you can increase awareness of the health risks and other problems associated with microchipping by sharing the information with pet owners, breeders, veterinarians, animal associations, government officials, the general public, the media and those responsible for proposing and enacting mandatory microchipping legislation.

In addition to sharing this document with others, sample letters are available for you to use when writing to the government, media and others regarding the risks of microchip implants and why no one should be forced to have a microchip (foreign object) implanted in their animal's body. [Sample letters are available here.](#) (90)

You can also organize and/or participate in a peaceful anti-microchip protest; design, wear and/or sell anti-microchip clothes and accessories; write an anti-microchip song and/or jingle; write an essay and/or book about microchip implants; create an anti-microchip website; put an educational, anti-microchip video on the Internet; create and/or [sign an anti-microchip petition](#) etc... (91)

NOTE: Several anti-microchip petitions have already been created. Please review the petitions that are referenced in brackets, and show your support by signing the petitions and sharing them with others. (92-95)

Suggestions

Q. What suggestions do you have for pet owners and breeders regarding microchip implants?

A. Pet owners and breeders are rarely advised of potential health risks and other problems associated with microchipping. So, it is important that pet owners and breeders educate themselves about this topic.

Pet owners and breeders should also report all adverse and all suspected adverse microchip reactions to the appropriate individuals and organizations. In addition, pet owners and breeders should work together to prevent mandatory microchipping legislation and to reverse current mandatory microchipping legislation that has already been enacted.

If you do not want your pet microchipped, ask your veterinarian to write "DO NOT MICROCHIP" on the top of your pet's medical file. If your pet is already microchipped, ask your veterinarian to write "DO NOT GIVE ANY VACCINES OR INJECTIONS AT OR NEAR THE SITE OF THE MICROCHIP IMPLANT."

Due to problems associated with microchip implant technology, pet owners who have microchipped pets should not be lulled into a false sense of security by believing that their pets can be identified via the chip if they are lost, stolen or required to have a chip as a form of identification.

Q. What suggestions do you have for those who promote and sell microchip implants?

A. Learn the truth about microchip implant technology and advise consumers of potential risks associated with microchipping.

Q. What suggestions do you have for veterinary clinics, animal shelters and rescue organizations regarding microchip implants?

A. Do not allow yourselves to be influenced by misleading or false advertising claims regarding the safety and reliability of microchips. To develop a balanced understanding of the issues, educate yourselves regarding the health risks and other problems associated with microchipping. (1-2)

Veterinarians, animal shelters and rescue organizations should advise pet owners regarding all risks associated with microchipping and they should teach pet owners how to check the site of the microchip implant. The authors of the scientific document entitled “Microchip-Associated Fibrosarcoma in a Cat,” write:

“[V]eterinarians should be aware that tumours can develop at microchip sites, and owners should be educated to monitor these sites for long periods of time, in order to promote early detection as well as better definition of the incidence of tumours.” (3)

Also, animals that have been microchipped should not be given vaccines or other injections at or near the site of the implant.

Veterinarians, animal shelters and rescue organizations should also document all suspected adverse microchip reactions. The data should be reported to the manufacturer/distributor of the chip and to the appropriate adverse reaction agency. (4)

In the case of adverse reactions – such as cancer, nerve damage, spinal cord injuries, death due the implant procedure and MRI incompatibility issues – it is important to work with competent, independent researchers and pathologists so that the adverse reaction can be documented in a reputable scientific journal.

Veterinarians, animal shelters and rescue organizations should also remind pet owners regarding the importance of putting a properly fitted collar with current identification on their pets, whether or not the pets have been microchipped. Microchips can and do fail. (5-6)

Q. What suggestions do you have for policy-makers regarding microchip implants?

A. Policy-makers should learn the truth about microchip implants. Policy-makers should also prevent those who manufacture, promote and/or sell microchip implant technology from using deceptive and false advertising, and impose heavy fines on them if they continue with this type of behavior.

Policy-makers should also implement legislation for mandatory reporting of adverse and suspected adverse microchip reactions, reverse mandatory chipping legislation currently enacted, and resist mandatory animal chipping legislation.

Public awareness campaigns can also be used to remind pet owners to keep a safe collar with current identification on their pets.

Q. What suggestions do you have for researchers and pathologists regarding microchip implants?

A. Researchers and pathologists play a key role in the scientific documentation of adverse microchip reactions and in making the data available to the medical community, pet owners and anyone else who is interested in the topic.

Publication of adverse microchip reaction case studies in reputable scientific journals is essential in order to increase awareness of problems associated with microchipping. (7)

Q. How can I learn more about microchipping?

A. The document entitled “[Microchip Implants: Technological Solution or 21st Century Nightmare?](#)” offers

an in-depth review of health risks associated with microchip implants, the unethical behavior of the microchip industry and other problems associated with microchipping. (8) The supporting “[References](#)” section also leads to a wealth of information. (9)

The document entitled “[Are Pet Owners Being Misled Regarding the Safety and Reliability of Microchip Implants?](#)” discusses several of the tactics used by advocates of microchipping in order to convince pet owners that microchips are safe and reliable. (10)

The “[Advanced Literature: Microchips](#)” section of [Léon’s website](#) provides scientific literature regarding health risks and other problems associated with microchip implant technology. (11-12)

The “[Layman’s Literature: Microchips](#)” section of Léon’s website contains an extensive list of helpful articles, websites and videos that pertain to microchip implants. (13)

The documents “[Microchip-Induced Tumors in Laboratory Rodents and Dogs: A Review of the Literature 1990-2006](#)” and “[Microchip Implants: Answers to Frequently Asked Questions](#)” by Katherine Albrecht, Ed.D. are also very informative. (14-15)

Q. What are safe alternatives to microchip implants?

A. A properly fitted collar with current identification is still the most safe, effective and economical way to identify your pet. A tattoo done professionally, humanely and on a voluntary basis (rather than on a mandatory basis) is another effective way to identify your pet. A passport used in conjunction with an identification collar and a tattoo is also a helpful form of identification, particularly for animals that compete and/or travel.

Q. Why is a properly fitted collar with current identification an important form of identification?

A. A properly fitted collar with current identification is important because:

- It is safe, effective and inexpensive.
- It does not require special equipment to install, and only requires average vision and basic reading skills to be seen and read.
- It allows the person who finds the lost animal to contact the owner directly and have the animal quickly reunited with the owner.
- The owner can immediately see if the collar or tag is missing and promptly replace it.
- It is easy to remember to update an animal’s contact information when it is either written on or attached to the collar because it is visible.
- If your animal requires MRI diagnostics, it is easy to temporarily remove the collar and identification tag for the MRI procedure. As a result, the collar and tag will not endanger the animal or impede MRI diagnostics.

Q. What can I do to prevent my pet from getting lost or stolen?

A. Here are some suggestions:

1. Know your pet well. For example: Is your pet an escape artist or an adventurer who looks for opportunities to leave the house or property? If so, find out how your pet is escaping and then figure out a safe way to prevent her from repeating the behaviour.

Is your pet afraid of thunderstorms or fireworks? If so, use safe, gentle methods to keep your pet calm so that she does not get stressed and try to run away.

Does your pet have a favourite hiding place or a neighbour that she likes to visit? If so, find out where she goes, because this is one of the first places that you should look if she is missing for an unusual length of time.

Does your pet have a lot of energy or is she easily bored? If so, make sure that she gets the appropriate amount of exercise on a daily basis and has safe toys to play with. These measures will reduce the chance that she will run off.

Does your dog have a tendency to slip out of her collar when you take her for a walk? If so, walk her with a properly fitted harness. The extra advantage of using a harness is that if she pulls on the leash, her neck and throat will not get sore, bruised or damaged.

Does your dog have a tendency to jump in the car with strangers? If so, pay close attention because these dogs are easy targets for thieves.

Does your cat like to play or sleep in vehicles that are left open? If so, be sure to keep your vehicle shut (doors, windows and trunks) and ask guests who visit your property to do the same.

2. Keep a safe collar with current identification on your pet. If he runs off, someone may find him and call you before you realize that he is missing.
3. Consider having your pet tattooed by a professional in a calm environment because a tattoo is a helpful form of visual identification.
4. Teach your pet to come when you call her. For example, call her name, whistle for her, and teach her hand signals. When she obeys, reward her with praise and a healthy treat.

You can also teach your dog to bark. Every time she barks on command, say, "Good girl." Soon your dog will bark when you give the command, "Speak." This could be very useful when looking for a lost dog.

Cats can also be taught to respond vocally when called.

5. Make a habit of promptly closing doors that access the exterior of your home and insist that family, friends and visitors do the same.
6. Windows should be closed, particularly if you have a cat that likes to escape. If you need to keep a window open, either keep your pet away from that particular area, or install a strong, safe screen. Be sure to check the screen daily to make sure that it is secure and in good condition.
7. Install safe fencing that is appropriate for your pet and the property on which you live. Special cat fencing is available which allows your cats to play outside. It also prevents other animals from accessing the enclosed area.

8. Keep property gates closed and consider installing latches that close automatically. It is a good idea to attach a sign that says, “PLEASE CLOSE GATE PROMPTLY AND SECURELY.” This is a helpful reminder for everyone; particularly for children, visitors and absent-minded people who may forget to shut the gate.
9. If you live in a high-rise or have a balcony, be sure to take precautionary measures so that pets cannot fall, escape, or get stuck on the roof.
10. If you have a pet that is easily frightened or likes to bolt out the door, you may want to put him in a safe place with clean water, healthy treats and safe toys when you have visitors. Or, you can hold him on a leash when visitors come in and out of the door.

These precautionary measures are especially important during holidays and whenever fireworks are being set off.

11. If you are renovating your home or moving to another location, be sure to provide a safe area for your pet so that she does not wander off, or is not inadvertently locked in a worker’s truck, a moving van or anywhere else.

If you do not have a safe place for your pet while you are renovating or while you are in the process of moving, consider asking a reliable family member, friend or pet service to keep your pet during this brief period.

12. If you have just relocated to a new home, take as much time as necessary to familiarize your pet with the new home. Some pets take longer than others to adapt to a new environment. So be patient with your furry friend.
13. If you are going on vacation and have arranged for a pet sitter to come to your home to take care of your pet, select a kind, competent person who your pet likes. Also, discuss any quirks that your pet may have with the pet sitter and reassure your pet that you will return.
14. If you are traveling with a pet that is nervous or has a tendency to jump out of the car, it is a good idea to transport him in a safe, comfortable, spacious carrier.
15. Always secure your cat in a safe, strong carrier when moving her to and from the vehicle. If your cat is calm and you allow her out of the carrier while in the vehicle, always secure her back in the carrier before anyone opens a window or door. Even cats that are extremely calm can be frightened by a police siren, a barking dog, or other sights and sounds. Do not take unnecessary risks that could endanger your pet’s life.

You may also want to put a safe, properly fitted harness on your cat when she travels with you. However, your cat must be used to wearing a harness. So, take the time to teach her by putting it on her for approximately ten minutes (or less time if she has difficulty tolerating it in the beginning) and increase time periods until she is comfortable enough to wear a harness while travelling.

16. When using commercial carrier services (such as planes, trains and buses) to transport your pet, always use a safe, strong crate that is properly marked with contact names and current phone numbers.
17. Always keep a safe, sturdy pet carrier available in case bad weather forces you to leave your home quickly. This is especially important if you live in an area that is prone to hurricanes, tornados, blizzards, avalanches, earthquakes or wildfires.

18. Some breeds of animals are more likely to be stolen than others. However, thieves steal all types of pets, so always be vigilant.

Small dogs, such as Chihuahuas and Yorkshire Terriers, are an easy target because they are easy to carry and easy to re-sell. Large dogs, such as Pit Bulls, Doberman Pinschers and Rottweilers, are targeted by thieves because these dogs may be used as guard dogs, as a status symbol or for dog fighting. Certain breeds like Beagles are stolen and used at laboratories for experiments that are often painful and cruel.

19. Do not leave your dog attached to a parking meter or a lamp pole because he will be an easy target for thieves.
20. Breeders should always be careful of potential buyers because someone who expresses interest in the puppies or kittens could be a thief posing as a buyer. So be extremely careful if you let potential buyers come to your home.
21. If you have information about any individuals or groups that are involved in the process of stealing animals, please expose them and have them prosecuted to the full extent of the law.
22. Remember: An ounce of prevention is worth a pound of cure. So, make a habit of taking precautionary measures to keep your pets safe. Good luck!

Q. What can I do to locate my pet if he or she is lost or stolen?

A. Here are several suggestions:

1. Thoroughly examine all areas of your house and property because your pet may have gotten locked in a closet or vehicle by accident. (Cats are notorious for pranks like this because they are very curious and love to explore.) Also, carefully check the area surrounding your property.

Use a “call and listen” approach when searching for your pet. In other words, call, whistle, and make a noise with one of your pet’s favourite toys. Then listen carefully for some indication that your pet is nearby. For example, your pet may respond to you by making a noise that enables you to find him if he is hiding under the neighbour’s porch or stuck in a tree. Also, if your pet has a bell on his collar, listen for the sound of that particular bell.

2. As soon as you have determined that your pet is missing, figure out when she was last seen. If, for example, you saw your cat before family, friends or workmen visited your property, it is possible that she hitched a ride in their vehicle. So, contact them immediately and ask them to check their vehicle (including the trunk) for a stow-away cat. Or, if your dog is missing and you saw strangers hanging around your property or in the neighbourhood, it is possible that your dog has been stolen. In that case, you should contact the local police because they may be aware of a dog-napping operation.
3. Ask your neighbours if they have seen your pet recently. Also ask if they have seen any unusual activity near your house. This may help you determine if your pet got scared and is hiding nearby, or if your pet may have been stolen. Ask your neighbours to call you as soon as they see your pet.
4. Call and/or visit all of the veterinary clinics, animal shelters and rescue organizations in your neighbourhood or county. (It is a good idea to keep a list of current contact numbers available in case your pet goes missing because this will save you a lot of valuable time when looking for your pet.) Ask them if they have your pet. If they do, go and get him immediately because some shelters

will hold pets for a limited amount of time and then euthanize them. If they do not have your pet, ask them to contact you as soon as someone brings your pet to their facility. Staff members change and notes can get lost, so call the facility daily to ask about your missing pet.

5. Create a missing poster of your pet and post it in your neighbourhood, at veterinary clinics, animal shelters, pet stores and other helpful locations. Posters that are posted outside should be put in a water-proof sleeve or designed on water-proof material. The poster should include a current, clear photo of your pet, an accurate description, and current phone numbers so that you can be contacted.

If you think your pet has been stolen, write “STOLEN” on the poster. If you offer a reward for the safe return of your pet, print “REWARD” on the poster. However, do not give money to anyone who claims to have your pet until your pet is safely returned to you.

In order to avoid con-artists, do not include details on the poster of one or two of your pet’s identifying marks. For example, your pet may have a black spot on the tongue, a chipped tooth, or a unique pattern on the inside of the right front leg. When someone calls to say that he or she has found your pet, ask for a detailed description of the area of your pet that only you, close family members and the caller know about. Also, if your pet has a tattoo, ask the caller to provide the number and/or letters of the tattoo. If the caller identifies your pet accurately, arrange to meet in a public place as soon as possible.

6. Put a lost pet advertisement in local papers.
7. Use online resources to spread the word about your missing pet.
8. Get the media involved. If you are a celebrity this should be relatively easy. However, if you are not a celebrity, you may have to be creative. For example, dress up in a dog or cat suit, stand in a safe spot at a busy intersection, and hand out flyers of your missing pet. Get family and friends to dress up in animal costumes and join your efforts. Who knows, your story could make the evening news!
9. Enlist the help of a reputable pet detective or an animal communicator who specializes in locating missing pets.
10. Be persistent. Be persistent. Be persistent.
11. Once you have found your pet, be sure to take down all of the posters. Also notify the individuals and establishments that you called regarding your pet, and thank them for their cooperation and assistance.

Q. Do you have any suggestions regarding a suitable collar for my dog?

A. Dogs usually adapt quickly to wearing a collar and there are a lot of choices available. Still, here are a few suggestions:

1. Some people prefer leather collars while other people prefer nylon collars. (Nylon collars are useful if you are taking your dog swimming or giving him a bath because nylon is easy to rinse off quickly and also withstands a lot of soap and water.)
2. Collars that have a reflector strip are great because it makes it easier to see your dog in the dark. A reflector strip may also help to prevent your dog from being hit by a car because drivers have a better chance of seeing her. A small flashing light can also be attached to your dog’s collar.

3. If your dog does not mind having a small bell on his collar, this is a useful item that allows you to keep track of him. A bell is also great because if your dog is missing, the sound of his bell will let you know when you are getting close to him.
4. It is important to attach a tag (or two) with current identification on the collar. A variety of tags are available. Just be sure to select one that is safe, easy to read, durable and securely fastened to the collar.
5. Collars must always be properly fitted; not too tight and not too loose. Use the two-finger rule: If you can slip your middle finger and index finger between your dog's neck and the collar, it is probably a good fit. If you have any questions regarding the correct size and fit of your dog's collar, just ask someone who is knowledgeable about dogs for advice.
6. If you have a puppy, remember that puppies outgrow their collars. So be sure to adjust and replace the collar as your little friend grows up.
7. It is a good idea to keep an extra collar and identification tag handy in case either one breaks or gets lost. That way you can replace the collar and/or tag immediately.
8. Properly fitted harnesses are great for dogs that have a tendency to pull on the leash or slip out of their collars when going for a walk.

Q. Do you have any suggestions regarding a suitable collar for my cat?

A. Cats can be a bit more fussy than dogs about wearing a collar. Here are a few tips for getting a collar that your feline friend approves of:

1. Use a properly fitted break-away collar with current identification. (A break-away collar is designed to open if it is pulled with a bit of force.) Or use a collar that can slip over your cat's head if she gets stuck on something.

If you wish, you can easily make a safe collar. Please click here for easy, step-by-step instructions that describe "[How To Make A Safe, Inexpensive Cat Collar.](#)" (16)

2. In order to determine if you should put a bell on your cat's collar, it is important to consider the personality and lifestyle of your cat. For example, some cats are very laid-back and do not mind having a small bell on their collar. However, cats that are very sensitive may not like the extra noise. Also, cats that play outside may not appreciate having a bell on their collar because the noise could make them an easy target for dogs, fox, coyotes or other potential predators. Putting a bell on the collar of an outdoor cat could also prevent him from catching mice and rats.
3. While some cats immediately take to wearing a collar, others need a bit of time to get used to it. So, when teaching your cat to wear a collar (particularly a feral or older cat), put the collar on for about ten minutes (or less if your cat wants you to take it off). Watch your cat to see how she reacts. Gradually increase the amount of time that she wears her collar until you are sure that she is comfortable enough to wear it on a full-time basis.
4. Collars must always be properly fitted; not too tight and not too loose. Use the two-finger rule: If you can slip your middle finger and index finger between your cat's neck and the collar, it is probably a good fit. If you have any questions regarding the correct size and fit of your cat's collar, just ask someone who is knowledgeable about cats for advice.

5. If you have a kitten, remember that kittens outgrow their collars. So be sure to adjust and replace the collar as your feline friend grows up.
6. It is a good idea to keep an extra collar and identification tag handy in case either one breaks or gets lost. That way you can replace the collar and/or tag immediately.

This information is provided by Noble-Leon.com on behalf of, and in memory of [Léon](#), the unforgettable French Bulldog who helped to publicly expose the microchip-cancer risk and other problems associated with microchipping.

This document is dedicated to all of the animals that have warned us about the dangers of microchip implants.

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[Please click here to read](#) **“Are Pet Owners Being Misled Regarding the Safety and Reliability of Microchip Implants?”**

[Please click here to read](#) **“Microchip Implants: Technological Solution or 21st Century Nightmare?”**

## **Microchip Implants: Technological Solution or 21st Century Nightmare?**

### **Introduction**

“Why does Léon have a lump?” asked the young girl who was playing with him. I paused for a moment and reassured myself that she must be mistaken. Within the past few weeks Léon had received a physical examination and no lumps were detected. Besides, I thought to myself, he and I were constantly together. If he had a lump, I would have known about it.

“Léon doesn’t have any lumps,” I responded. Still, I took the question seriously and went to check my little French Bulldog. At first I felt nothing. A false alarm, I thought. But after rolling his skin in the neck/shoulder blade area again, my heart sank. Léon had a lump. I scooped him up in my arms and drove him to the veterinary clinic.

The veterinarian confirmed that Léon did indeed have a lump. It was at the site of the microchip, implanted approximately eight months before. As the veterinarian was concerned that the mass might be cancerous, a biopsy was performed. The results indicated that Léon had a fibrosarcoma, an aggressive form of cancer. After getting a second veterinary opinion, the decision was made to surgically remove the cancerous mass and the attached microchip implant.

In order to determine the best care for Léon, I wanted to know why he developed cancer. Veterinarians who helped care for Léon throughout his illness told me that cats are known to develop the same type of growth due to vaccines; therefore, the vaccine-cancer possibility was considered. (1-5) However, as the microchip implant was at the site of the cancerous mass, I wanted to know if the microchip could have caused the problem. So I began to research the topic of microchip implants related to cancer. Unfortunately, the information that I uncovered painted a dismal picture. I found scientific case studies that prove that microchip implants have caused cancer in animals. I also learned that there are a wide variety of serious health risks associated with microchip implants.

As my attention was focused on the care of Léon, it was not until later that I realized there are also serious privacy, legal, ethical, agricultural, religious, and environmental concerns associated with these implants. But that was not all. After spending countless hours reading about microchip implants and radio frequency identification devices (RFID), something far more insidious became obvious: the ultimate objective is to track everything and everyone everywhere, all of the time, in real time. If we do not awaken from our naïve slumber and take action by refusing microchip implants, this invasive technology will be used as one of the methods to accomplish the goal of continuous surveillance.

Although some of those promoting microchip implants are not aware of the myriad of problems associated with this seemingly harmless device, others know the truth but are doing whatever it takes to ensure that the public remains ignorant of the risks and dangers associated with this invasive and potentially lethal technology.

Microchip implants are promoted as safe and lifesaving. They are promoted for use in pets, livestock, and wildlife. The list includes kittens, puppies, ferrets, horses, cattle, baby birds, fish, newly hatched sea turtles, snakes, exotic pets, and many more amazing creatures. (6-11) In fact, several places around the world have already implemented mandatory microchipping of some animals. (12-31)

While many people are still under the impression that these implants are intended only for use in animals, humans have also been microchipped. In October 2004, the United States Food and Drug Administration (FDA) approved the use of microchip implants in humans for medical purposes. (32-35) In fact, American firemen, Mexican officials, Alzheimer patients, diabetics, bar patrons, employees, and others have been “chipped.” (36-49) In addition, many companies have patents for tracking humans. (50-54) It is not surprising, therefore, that George Orwell’s book, *1984*, (55) is often cited by those who speak out against the intrusive and sinister nature of microchip implants – implants that have the potential to cause irreversible damage to our health and end our right to live in a free society.

*The reality is that the entire system associated with microchip implants is flawed from A to Z. Instead of solving problems, these implants only create more problems. Therefore, laws that require mandatory microchipping must be repealed immediately, and laws to prevent mandatory microchipping of animals and humans alike must be enacted now.*

### **Warning: Microchip Implants Cause Cancer**

When Léon was diagnosed with a high-grade fibrosarcoma, I was stunned – stunned because I thought he had a healthy lifestyle, and stunned because a few years prior I watched one of the greatest people in my life suffer and ultimately die because of cancer. I had seen the ugly face of cancer. I was not prepared to see it or be defeated by it again.

I knew that in order to help Léon, it was important to determine what caused the cancerous mass. As the microchip implant was at the site of the growth, I began to research the microchip-cancer connection. I found published, scientific case studies regarding mice and rats that developed cancer due to their microchip implants. (1) In fact, in the document “Tumors in Long-Term Rat Studies Associated with Microchip Animal Identification Devices” by Laura E. Elcock and colleagues, there is mention of “the early

sacrifice of most affected animals, due to tumor size and occasional metastases.” (2) I took copies of the documents to one of Léon’s veterinarians and asked what “early sacrifice” meant. The veterinarian read the paper, looked at me and said, “It means the tumours were so big that the animals had to be destroyed.” She added, “Sometimes the tumours even spread to other parts of the body.” (3) I was speechless.

I continued to research the microchip-cancer connection. In 2004 I spoke with one of the authors of the aforementioned paper. She said their data clearly indicates that microchip implants can cause cancer. She also said one could not rule out the possibility that the microchip implant caused Léon’s cancerous growth. (4)

I spoke with a veterinary representative of Merial, the pharmaceutical company that endorsed the microchip that was implanted in little Léon in September 2003. The gentleman said he was not aware of any adverse reactions associated with Merial’s microchip implants. Not long thereafter, I read the scientific document “Liposarcoma at the Site of an Implanted Microchip in a Dog,” which is about a mixed breed dog that developed a liposarcoma at the site of his microchip implant. (5) Interestingly enough, the microchip referenced in the document is the same type that Léon had – Merial/Indexel® which leads back to Digital Angel Corporation. (6-7)

I called Merial’s representative again and told him about the information I had found. I also sent letters urging Merial to act responsibly and update their literature regarding the microchip-cancer risk. (8-9) To my knowledge, Merial still has not included information regarding the microchip-cancer risk, or the other health risks associated with microchip implants, in its promotional literature.

In 2004 I contacted Schering-Plough, promoters of Home Again® microchip implants. These implants also lead back to Digital Angel Corporation. (10) I spoke with two representatives. Both said they were aware of abscesses and growths that had occurred due to microchip implants. “Growths? What type of growths?” I asked. Neither would expand on the details. They didn’t have to. Their silence said everything. (11)

I also read a brief discussion by two veterinarians on the Veterinary Information Network (VIN). The post is dated November 24, 2003 and makes reference to “a pathologist who had seen 5 fibrosarcomas around microchips.” (12) In addition, I found the scientific documents entitled “Fibrosarcoma Adjacent to the Site of Microchip Implantation in a Cat” and “Microchip-Associated Leiomyosarcoma in an Egyptian Fruit Bat (*Rousettus Aegyptiacus*).” (13-14)

Other people had also made the microchip-cancer connection. They even wrote about it. For example, Jane Williams sounded the alarm with the article “Implanted Microchips Cause Cancer.” She wrote:

“At the National ID Expo in Kansas City, Arkansas Animal Producer’s Association President Michael Steenbergen asked, ‘What safety studies have been conducted on the chips that are inserted into animals?’ His question was met with total silence. Did these manufacturers not know, or were they unwilling to admit that research has confirmed that implanted microchips cause cancer?” (15)

She continued:

“Melvin T. Massey, DVM from Brownsboro, Texas, brought this to the attention of the American Horse Council when he wrote, ‘I am a retired Equine Veterinarian and still breed a few horses. Because of migration-infections-increased risk of sarcoids I will not want to have microchips in my horse.’” (16-17)

As for future research that may be done regarding the microchip-cancer connection, Williams sends another strong warning. She says, “Don’t hold your breath for the manufacturers of microchips to conduct such research and be leery of any such ‘research’ they may conduct.” (18) Williams’ advice indicates that she understands not only the health risks associated with microchip implants but also the irresponsible and unethical behavior of those pushing this technology upon us.

In 1999, the West Lancaster Animal Hospital (WLAH) in Pennsylvania gave a warning in its newsletter regarding the formation of sarcomas. It says, “We expect that even the implanted microchips will be implicated. The reaction around the inert glass capsule is a chronic inflammation, which is the underlying cause of these cancers.” (19) Were these the words of a prophet, or simply the words of someone utilizing common sense?

In spite of the scientific data and the warnings, the microchip-cancer risk flew safely under the radar. I know, because even when I sounded the alarm, few heard it. For example, after struggling to find a credible researcher to do additional testing of Léon’s tissue samples, I was fortunate to contact Dr. Marta Vascellari of the Istituto Zooprofilattico Sperimentale delle Venezie in Italy. She and her colleagues studied Léon’s biopsy report, pathology report, and his wax blocks (samples taken by the pathologist from Léon’s fibrosarcoma). The work of the Italian team resulted in the scientific document entitled “Fibrosarcoma with Typical Features of Postinjection Sarcoma at Site of Microchip Implant in a Dog: Histologic and Immunohistochemical Study.” It was published in the July 2006 edition of *Veterinary Pathology*. (20)

In addition to the publication of Léon’s scientific paper, the creators of Canine Health Concern (CHC) and

DogsAdverseReactions.com were kind enough to include an article that I wrote regarding Léon's story on their websites. (21-22) Still, the microchip-cancer warning was barely heard.

I contacted organizations in the United States, England, and France regarding Léon's case and the other scientific documents that I had found. But the consistent and nauseating reply from these organizations that are supposed to report adverse reactions was, "Sorry, I can't help you ... Sorry, I can't help you ... Sorry, I can't help you." (23)

*The picture was clear. Those promoting microchip implants, and those employed to protect the public and animals from unscrupulous individuals and companies, do not want to know about the microchip-cancer risk. In fact, they do not want to know of any risks or concerns associated with microchip implants, and they certainly do not want the public to know either.* (24-25)

### **Exposed: Microchip-Cancer Risk Receives International Media Coverage**

The microchip-cancer risk had flown safely under the radar for far too long. As Mark Twain once wrote, "A lie can travel halfway around the world while the truth is putting on its shoes." (1) Fortunately, however, the truth always 'puts on its shoes' and, in this case, the truth was on a collision course with the microchip-cancer cover-up and other dirty microchip laundry.

Katherine Albrecht and Liz McIntyre, co-authors of the book *Spychips: How Major Corporations and Government Plan to Track Your Every Purchase and Watch Your Every Move*, learned of Léon's story. (2) Armed with scientific case studies of animals that developed cancer from microchip implants, information regarding the "colourful" characters who have been influential in the campaign to chip animals and humans alike, and other data, Albrecht and McIntyre captured the attention of Associated Press (AP) reporter Todd Lewan.

In September 2007, Lewan unleashed the news report "Chip Implants Linked to Animal Tumors." (3) At last the microchip-cancer alarm resonated around the globe. But how would this news be received?

The responses were impressive. For example, some people were extremely concerned about the implications of the animal studies. Lewan writes:

- "Leading cancer specialists reviewed the research for The Associated Press ... Some said they would not allow family members to receive implants, and all urged further research before the glass-encased transponders are widely implanted in people." (4)
- "'There's no way in the world, having read this information, that I would have one of those chips implanted in my skin, or in one of my family members,' said Dr. Robert Benezra, head of the Cancer Biology Genetics Program at the Memorial Sloan-Kettering Cancer Center in New York.

'... these are bad diseases. They are life-threatening. And given the preliminary animal data, it looks to me that there's definitely cause for concern.'" (5)

- "Dr. George Demetri, director of the Center for Sarcoma and Bone Oncology at the Dana-Farber Cancer Institute in Boston, agreed. Even though the tumor incidences were 'reasonably small,' in his view, the research underscored 'certainly real risks' in RFID implants.

In humans, sarcomas, which strike connective tissues, can range from the highly curable to 'tumors that are incredibly aggressive and can kill people in three to six months,' he said." (6)

- "At the Jackson Laboratory in Maine, a leader in mouse genetics research and the initiation of cancer, Dr. Oded Foreman, a forensic pathologist, also reviewed the studies at the AP's request.

At first he was skeptical, suggesting that chemicals administered in some of the studies could have caused the cancers and skewed the results. But he took a different view after seeing that control mice, which received no chemicals, also developed the cancers. 'That might be a little hint that something real is happening here,' he said." (7)

Others took a different approach to the microchip-cancer news. For example:

- "Dr. Cheryl London, a veterinarian oncologist at Ohio State University, noted: 'It's much easier to cause cancer in mice than it is in people. So it may be that what you're seeing in mice represents an exaggerated phenomenon of what may occur in people ...'



Nonetheless, London saw a need for a 20-year study of chipped canines 'to see if you have a biological effect.' Dr. Chand Khanna, a veterinary oncologist at the National Cancer Institute, also backed such a study, saying current evidence 'does suggest some reason to be concerned about tumor formations.'" (8)

But others, most noticeably those who have a vested interest in the success of microchip implants, completely dismissed the data. For example:

- "We stand by our implantable products which have been approved by the FDA and/or other U.S. regulatory authorities,' Scott Silverman, VeriChip Corp. chairman and chief executive officer said in a written response to AP questions." (9)

And then there were those who were personally familiar with the microchip-cancer risk. So this was old news, over a decade old!

- "The transponders were the cause of the tumors,' said Keith Johnson, a retired toxicologic pathologist, explaining in a phone interview the findings of a 1996 study he led at the Dow Chemical Co. in Midland, Mich." (10)

But what about the FDA's response to the microchip-cancer news? According to Todd Lewan's article, the FDA "stands by its approval of the technology." (11) However, what remains unclear is whether the FDA knew about the animal studies prior to approving the use of microchip implants for medical purposes in humans. Also unclear is whether any special favours were granted during the FDA approval process, and if rigorous, independent testing was done on the microchip system – RFID microchip implant, insertion device, scanner, and personal health record (PHR) database – prior to FDA approval.

### **Controversy Surrounds Microchip Implant Technology**

Before expanding on Scott Silverman's response to Todd Lewan's microchip-cancer news report, it is helpful to discuss a few events that reflect the general operating style and overall financial health of some of the microchip companies, most noticeably Applied Digital Solutions, Inc. (ADS), Digital Angel Corporation, and VeriChip Corporation. (1) These companies have been driving forces behind microchip implant technology. In addition, Mr. Silverman has held key positions at all three companies. (2)

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In December 1999, Applied Digital Solutions acquired the patent rights to a unique technology that allows humans to be tracked continuously, in real time. As stated by ADS in the document entitled "Digital Angel Patent":

"On May 13, 1997, United States Patent Number 5,629,678 was granted for a 'personal tracking and recovery system,' consisting of a miniature digital transceiver – implantable in humans – with a built-in electromechanical power supply and actuation system.

These features enable the device to remain implanted and functional for years without maintenance. This transceiver sends and receives data and can be continuously tracked by Global Positioning Satellite (GPS) technology.

On December 10, 1999, Applied Digital Solutions, Inc. (ADS) acquired the patent rights to this technology, which the company refers to as 'Digital Angel™.' The agreement gives ADS the right to develop this unique product for all of its applications or to sublicense the development of specific applications to other entities." (3)

Applied Digital's document entitled "What is Digital Angel?" says:

"The Digital Angel™ transceiver can be implanted just under the skin or hidden inconspicuously on or within valuable personal belongings and priceless works of art. When implanted within the human body, the transceiver is powered electromagnetically through the movement of muscles. It can be activated either by the 'wearer' or by a remote monitoring facility. The device also can monitor certain biological functions of the human body ...

While a number of other tracking and monitoring technologies have been patented and marketed in the past, they are all unsuitable for the widespread tracking, recovery and identification of people due to a variety of limitations, including unwieldy size, maintenance requirements, insufficient or inconvenient power-supply and activation difficulties. For the first time in the history of location and monitoring technology, Digital Angel™ overcomes these limitations." (4)

The document also says, "ADS is actively seeking joint venture partners to develop and market this technology. We expect to

produce a prototype of the device by the end of 2000. We believe Digital Angel™ technology, in all of its applications, has a multi-billion marketing potential.” (5)

On December 15, 1999, Applied Digital issued the press release “Applied Digital Solutions Acquires Rights to World’s First Digital Device -- Implantable in Humans - With Applications in E-Business to Business Security, Health Care and Criminal Justice.” The press release confirms the aforementioned information. It says, “**Inserted just under the skin, with maintenance-free regenerating power supply, miniature 'Digital Angel'™ has multi-billion dollar market potential.**” It also states clearly, “The implantable transceiver sends and receives data and can be continuously tracked by GPS (Global Positioning Satellite) technology.” (6)

Fortunately for the public, but unfortunately for Applied Digital, WorldNetDaily (WND) reported on the company and the intended applications of Digital Angel™. (7) The technology was met with widespread criticism from civil rights groups, Christians and privacy advocates. WND reports:

“The resulting protests made strange bedfellows of the ACLU [American Civil Liberties Union], who called the implantable chip 'an outrage,' the Black Radical Congress, which called it a 'fascist technology,' Christians, for whom it was disturbingly close to the biblical 'mark of the beast' foretold in the book of Revelation, and privacy advocates.” (8)

Due in part to the negative reaction to Digital Angel™, ADS back-peddled on previous comments and said the transceiver was intended only for external use which, given the potential for abuse, is still extremely disturbing. Although ADS’s original plans were to unveil the internal (implantable) and external (wearable) Digital Angel™ devices in New York City in October 2000, shortly before the unveiling Applied Digital removed information regarding the human implantable applications of Digital Angel™ from its website and press reports. (9-12) Even more remarkable, however, is that Applied Digital accused WND “of intentionally publishing inaccurate information regarding the company and its products.” (13) For example, Applied Digital says the following comment by WND – in the article “Digital Angel' Lands in China: Will implantable tracking chips be used by a totalitarian government?” – is false:

“As WorldNetDaily first reported, Digital Angel is a sophisticated, miniaturized tracking device intended by its manufacturer for subdermal implantation in large numbers of human beings.” (14-17)

Press reports by Applied Digital demonstrate that this latter statement by WND is accurate. (18-20) In addition, in a Fox News television interview, Scott Silverman confirms that the GPS transceiver is intended for internal implantation in humans. Silverman says:

“We are working on a product that we have called internally a PLD. PLD stands for personal locating device which is an implantable GPS for which our company owns a patent and can be implanted surgically in the clavicle area of a child or someone that you are interested in tracking. It is the first implantable microchip for humans. It has multiple security, financial and health-care applications.” (21)

Thus, it is obvious that WorldNetDaily has reported accurately on Applied Digital Solutions and its products. It is also obvious that Applied Digital acquired U.S. patent #5,629,678, “Personal Tracking and Recovery System,” so that every potential aspect of the patent could be explored and exploited for all that it is worth. Clearly, Applied Digital has a record of questionable business practices and a pattern of discrediting those who reveal the inconvenient truth about its products, its intentions, and its actions. (22-24)

### **Financial Instability of Microchip Companies**

In 2001, the South Florida Business Journal (SFBJ) exposed Applied Digital in “A Fowl List Indeed for Businesses” when the company was honoured with the not-so-prestigious, top ten, Turkeys of the Year award – an award garnered by companies that have “a special concoction of blind will and heavy debt.” (1) The chef of the Big Kitchen’s 2001 Turkeys of the Year awards says:

“The Applied Digital Solutions turkey is a lean bird lately. After a five-year feeding binge that saw it gobble up a host of companies, this pedigreed bird, headquartered in Palm Beach, has shown that its blood may be blue, but its bottom line is bright red.

How red? During the first quarter of 2001, Applied Digital (Nasdaq: ADSX) lost \$11.4 million. It lost \$33.9 million for all of 2000.

In 2000, shares were \$18. On Tuesday, they traded at 53 cents.

During the past year, two presidents have flown the coop, a VP of PR along with scores of employees given the wing, and a number of those companies it acquired in the turkey ca-ca ...

Hmmm. Last we heard Applied Digital was not in compliance with its lender, IBM Credit Corp. It's facing delisting by Nasdaq and some shareholders have filed suit for rescission of an earlier acquisition ...

A recent SEC filing said the company couldn't predict 'whether or when' it would be profitable." (2)

While the chef of the Big Kitchen has presented Applied Digital in a comical light, the comments are shamefully true and tragically understated.

After receiving the 2001 Turkeys of the Year award, Applied Digital continued to lose money; its stocks plummeted as low as three cents; it closed or consolidated a slew of businesses; it attracted a plethora of lawsuits; key players resigned; and it was delisted from Nasdaq. (3-20) At one point the future of ADS was so dismal that Scott Silverman admits, "We literally had prepared the bankruptcy filing." (21)

But that's not all. After defaulting repeatedly on its credit agreement with IBM Credit Corporation, the company "filed a grandiose lawsuit against IBM, alleging tortuous interference with business relationships, conspiracy to commit fraud, fraud, breach of good faith and fair dealing, lender liability, and breach of the Florida Uniform Trade Secrets Protection Act." (22-23) Applied Digital eventually made a deal with IBM to pay a sharply discounted loan and dismiss the lawsuit. (24-25)

While ADS was busy filing a lawsuit against IBM, its questionable business practices made it a target for lawsuits. For example, in 2002 the South Florida Business Journal reports that several lawsuits accused ADS of withholding important financial information from investors, thereby artificially inflating its stock price. The company was also accused of deceiving clients. Although it claimed that almost all major hospitals in West Palm Beach, Florida would have VeriChip scanners to read the microchip implants, no hospital had accepted a scanner. (26)

The financial consequences of Applied Digital's poor business decisions are reflected in its SEC filings for the year which ended December 31, 2007. It says, "We have a history of operating losses and negative cash flows and we may not become profitable in the future, which could ultimately result in our inability to continue operations in the normal course of business." (27)

The SEC filings for the fiscal year ending December 31, 2008 by Digital Angel Corporation, formerly known as Applied Digital Solutions, Inc., are equally ominous. It says:

"As of December 31, 2008, we had an accumulated deficit of approximately \$558.8 million. We have funded our operating cash requirements, as well as our capital needs, with the proceeds from investing and/or financing activities. There is no assurance that our operating activities will be able to fund our cash requirements in the future if our investing and/or financing activities cannot." (28)

The SEC filings of VeriChip Corporation, originally a wholly-owned subsidiary of Applied Digital Solutions, indicate it is also in dire financial straits. In its extensive list of business-related risks filed February 09, 2007 with the SEC, the company says, "An investment in our common stock involves a high degree of risk." (29) It also says:

"Our ability in the future to achieve or sustain profitability is based on a number of factors, many of which are beyond our control, including the future demand for our active RFID systems targeted at the healthcare sector and the development of the market for our VeriMed system. If demand for our RFID systems generally, and the VeriMed system in particular, does not reach anticipated levels, or if we fail to manage our cost structure, we may not achieve or be able to sustain profitability." (30)

Unfortunately for VeriChip, its SEC filing for the fiscal year which ended December 31, 2008 continues to reveal a losing streak. It says, "On October 21, 2008, we received a letter from Nasdaq indicating that we are not in compliance with the Nasdaq's requirements for continued listing ..." (31)

*Company SEC filings indicate that VeriChip Corporation and Digital Angel Corporation have a history of financial failure. In spite of their failures, however, they are motivated to succeed. Sales estimates indicate that if a system is created whereby microchip implants are either mandatory or if societal influences make it difficult for people to function without the implants, the companies could achieve great financial success. They could also thrive from the control that these tracking devices and databases could provide. Thus, it is important that the public is educated regarding the irreparable damage that microchip implants can have on individuals and societies, not to mention that the companies holding the keys to this technology have a history of financial instability and deceptive behavior. (32)*

### **Microchip Company Leads Public to Believe that FDA Does Not Consider VeriChip Implant to be Registered Medical Device**

As the microchip-cancer news sped around the world, the stocks of Applied Digital Solutions and VeriChip Corporation took a

nose dive. (1-2) Scott Silverman defended the safety of microchip implants and tried to discredit Todd Lewan's microchip-cancer news report. Silverman's main line of defense has been: "We stand by our implantable products which have been approved by the FDA ..." (3) However, he continually omits all information regarding the questionable circumstances surrounding the controversial approval process of the VeriChip microchip implant by the FDA for human medical purposes.

On December 19, 2001 Applied Digital issued the press release entitled "Applied Digital Solutions Introduces VeriChip™, a Miniaturized, Implantable Identification Device with a Variety of Medical, Security and Emergency Applications." It says:

"VeriChip is an implantable, 12mm by 2.1mm radio frequency device about the size of the point of a typical ballpoint pen. Each VeriChip will contain a unique identification number and other critical data. Utilizing an external scanner, radio frequency energy passes through the skin energizing the dormant VeriChip, which then emits a radio frequency signal transmitting the identification number and other data contained in the VeriChip. The scanner will display the identification number, but the VeriChip data can also be transmitted, via telephone or the Internet, to an FDA compliant, secure data-storage site. It will then be accessible by authorized personnel." (4)

On April 04, 2002 Applied Digital issued the press release "VeriChip™ Receives Favorable FDA Guidance – Sales, Marketing and Distribution of VeriChip to Begin in the United States." It says:

"Applied Digital Solutions, Inc (Nasdaq: ADSX), an advanced technology development company, announced today that it has received written guidance that the U.S. Food and Drug Administration (FDA) does not consider VeriChip to be a regulated medical device. This clears the way for the company to begin sales, marketing and distribution of VeriChip™ in the United States.

Commenting on the FDA notification, Scott R. Silverman, President of Applied Digital Solutions said: 'Since we introduced VeriChip to the world in December, it has received global recognition as life-enhancing technology. This favorable FDA guidance was a major goal of Applied's new management team. It has been accomplished. We can now begin to sell, market and distribute VeriChip in the United States.'" (5)

On May 09, 2002, Applied Digital issued a press release to confirm that the following day the Jacobs family of Florida would "get chipped" with VeriChip's personal verification microchip. (6) The "chipping" event was covered by the media. Throughout the coverage, Applied Digital promoted the VeriChip implant as a life-saving device that could essentially speak for someone who was unable to communicate important health information to medical personnel. The company also reiterated that the FDA does not consider the VeriChip implant to be a regulated medical device.

After the three members of the Jacobs family were injected in the arm with the microchip implant, Keith Bolton, chief technology officer of Applied Digital, used a hand-held scanner to read the information contained on the small devices. It is reported that the names, phone numbers and medical conditions of the microchip recipients were revealed. (7)

To the casual observer, the "chipping" spectacle appeared to go smoothly. However, there was a problem. According to Wally Pellerite, assistant to the director of the FDA Office of Compliance, the administration had been "very clear" in its response to ADS's request to market the VeriChip implant. Specifically, the device could be sold in the U.S. provided that it did not contain any medical information and was not linked to a medical database. (8) Still, Applied Digital repeatedly publicized that it did not require FDA approval to sell the implant for medical purposes.

Mr. Pellerite also told TechTV that ADS may have broken the law when Mr. Bolton said, "There's more information that can be pulled out of the FDA-compliant database." (9) Pellerite says, "The firm made reference to using an FDA-complaint [database]. It is a violation of the law to use the FDA in such a way that it would be used to endorse your particular product." (10)

When TechTV asked Scott Silverman about the FDA's concerns regarding the way in which the VeriChip implant was being promoted, he responded by saying that Applied Digital was in contact with "people much higher in the FDA." (11) Nevertheless, on May 17, 2002, ADS issued the press release entitled "Applied Digital Solutions President Issues Statement Regarding the Nasdaq Trading Halt on ADSX." In it, Silverman says:

"The NASDAQ stock market halted trading in ADSX this morning following a cable network's report last evening that the FDA had launched a formal investigation in the use of the Company's VeriChip product to access a medical database. Being unaware of any such investigation, I requested that our FDA consultants contact the FDA for clarification. As a result of that consultation earlier today, it is clear that VeriChip is not an FDA regulated device for security, identification and financial applications. The FDA has asked for additional information regarding the linking of the VeriChip verification number with a medical database. If the FDA requires additional information or approvals for the linking of VeriChip with a medical database, we obviously will abide by the FDA's requests and cooperate fully." (12)

Although Silverman promised to “cooperate fully” and conform to the FDA’s rules and regulations, Applied Digital continued to send mixed signals to potential clients. On September 17, 2002, ADS issued the press release “Washington, D.C.-Area Authorized Distribution Center Established for VeriChip™ Subdermal Personal Verification Microchip.” While the report says, “Announcements about the resumption of the ‘chipping’ procedures in the United States will be made at the appropriate time pending further regulatory clarification,” the same report promotes the VeriChip as “a miniaturized radio frequency identification device (RFID) that can be used in a variety of security, financial, emergency identification and healthcare applications.” (13)

### **Microchip Company Recruits Government Muscle**

On October 12, 2004, the FDA approved the use of the VeriChip microchip implant for medical purposes. However, in spite of the long anticipated green light from the FDA, the device attracted few clients. In addition, those in the media who had followed the on-again, off-again, on-again “approval” of the VeriChip implant by the FDA began to raise red flags regarding the final approval process.

At the time of the FDA’s controversial approval of the microchip implant, Tommy G. Thompson was Secretary of Health and Human Services (HHS), the department that oversees the FDA. Within months of leaving his government position, Thompson was appointed to the board of directors of VeriChip Corporation. (1) Although Thompson denies any involvement in the approval of the VeriChip implant by the FDA – or even having any knowledge of VeriChip Corporation before leaving HHS – Todd Lewan reports:

“Thompson vigorously campaigned for electronic medical records and healthcare technology both as governor of Wisconsin and at HHS. While in President Bush’s Cabinet, he formed a ‘medical innovation’ task force that worked to partner FDA with companies developing medical information technologies.

At a ‘Medical Innovation Summit’ on Oct. 20, 2004, Lester Crawford, the FDA’s acting commissioner, thanked the secretary for getting the agency ‘deeply involved in the use of new information technology to help prevent medication error.’ One notable example he cited: ‘the implantable chips and scanners of the VeriChip system our agency approved last week.’” (2-3)

The relationship between influential government employees and corporations angered many, including Danielle Brian, Executive Director of Project On Government Oversight. She says:

“This story is outrageous because it is only one of what is becoming a nearly weekly instance of senior policy makers in both the Executive Branch and Congress leaving the government to work for the industries they were regulating or overseeing. The next President should seek an oath from all political appointees that they will not go to work for the industries they are overseeing once they leave government.” (4)

Naturally, however, those at VeriChip and Applied Digital were delighted that Tommy Thompson had officially joined their team, and their objective of capitalizing on his government experience and influence is reflected in VeriChip’s news release of July 07, 2005:

“We are pleased that we have been able to attract such a highly respected member of the healthcare community,’ said Scott R. Silverman, Chairman and CEO of Applied Digital. ‘An important part of our strategy has been to attract key thought and opinion leaders, and Secretary Thompson has played an influential role in shaping this country’s healthcare policies. We look forward to him assisting the Company to make the VeriChip an important part of the healthcare landscape.’” (5)

VeriChip’s news release also says, “In his role as a member of the Board, Secretary Thompson is expected to help the Company accelerate adoption of the VeriChip for healthcare and security applications.” (6)

Days later, Tommy Thompson was interviewed by Ed Crane, host of CBS MarketWatch. Thompson promoted VeriChip’s microchip implant as an “extremely small” device that “can be implanted in your arm within seconds.” He says “it will give an identification number” and “identifies you with a database that has your medical records.” He refers to the technology as “a giant step forward to getting what we call an electronic medical record for all Americans.” (7)

When asked regarding some of the concerns associated with microchip implants, Thompson responds, “Oh, they’ve all been addressed many times over ... the product ... has been given the preliminary approval by the FDA ... There will be no encroachment on privacy, there won’t be any adverse impact on the arm or tissue. And so it’s really, very – it’s a failsafe kind of system.” (8)

Although Thompson says the microchip implant is “completely voluntary,” he says this technology “has so many uses,” and even suggests using it “to replace dog tags” currently used by the U.S. armed forces. (9)

To the added horror of those who understand the risks associated with microchip implant technology, Thompson says the VeriChip implant is “our baby and we have patents on it.” He adds, “The growth of this company is going to be exponential ... The whole healthcare industry is way behind in technology and this is going to give that, really that impetus, to get the changing, the transformation which I call, that’s badly needed in our healthcare system.” (10)

Although Thompson promotes the product with certainty and even said publicly that he would get a microchip implant, reports indicate that he has been “too busy” to get chipped. (11) Also, according to John Procter, a VeriChip spokesperson, Thompson “wants to see it [the VeriChip] in a real-world environment first.” (12) However, Liz McIntyre, long-time opponent of microchip implants and RFID, responds by saying, “We would expect Mr. Thompson to investigate the device before advocating it to others.” She adds, “Our concern is that the VeriChip Company would like to chip every person on the planet, and they’re counting on Thompson to be their ticket to mass acceptance.” (13)

McIntyre’s suspicions regarding VeriChips’s objective of using Thompson to convince the public to get chipped are confirmed by Procter:

“‘He said it on live television,’ said Procter of Thompson’s chipping intentions. ‘We look forward to setting a firm date in accordance to his schedule and other commitments. ... We want to maximize the impact of [Thompson’s chipping] event. ... We’d certainly like to ... really knock it out of the park.’” (14)

As there have not been any press releases from the microchip companies or any media extravaganzas to announce the chipping of Tommy Thompson, one may assume that he has not received a microchip implant.

Thompson eventually resigned from VeriChip’s board of directors and pursued his quest to become the 44th President of the United States of America. Although it did not take long before he bowed out of the presidential race, reports indicate that VeriChip Corporation contributed financial resources to Mr. Thompson’s campaign. (15)

### **FDA Approval Process of VeriChip Microchip Implant System**

Many questions remain unanswered regarding the FDA approval process of the VeriChip microchip implant. One question is, Did the VeriChip™ Health Information Microtransponder System – which includes the VeriChip™ microchip implant, VeriChip™ pocket reader, insertion device, and personal health record (PHR) database – undergo rigorous, independent testing before being approved by the FDA for medical purposes?

The product approval letter of October 12, 2004 from the U.S. Food and Drug Administration (FDA) to James Santelli, Vice President, Finance and Chief Financial Office of Digital Angel Corporation, South Saint Paul, Minnesota says:

“Section 510(m) of the act provides that FDA may exempt a class II device from the premarket notification requirements under section 510(k) of the act, if FDA determines that premarket notification is not necessary to provide reasonable assurance of the safety and effectiveness of the device. FDA has determined premarket notification is not necessary to provide reasonable assurance of the safety and effectiveness of an Implantable Radiofrequency Transponder System for Patient Identification and Health Information and, therefore, the device type is exempt from the premarket notification requirements. Thus, persons who intend to market this device type need not submit to FDA a premarket notification submission containing information on an Implantable Radiofrequency Transponder System for Patient Identification and Health Information, unless they exceed the limitations on exemptions in 21 CFR 880.9 (e.g., different intended use or fundamental scientific technology).” (1)

*It appears, therefore, that the VeriChip microtransponder system received FDA approval for medical purposes without undergoing rigorous, independent testing. While this information is unsettling, equally unsettling is that when the microtransponder system is marketed for non-medical purposes – such as security, financial or personal identification reasons – it does not require FDA approval.*

In 2002 – at the time Applied Digital press releases claimed the company had FDA approval to sell the VeriChip implant for medical purposes, but in reality it did not – Wally Pellerite of the FDA said that even implants that have no medical purpose, including cosmetic breast and penile enhancers, must be tested to determine potential adverse effects on the body. (2) Thus, one would think that in order to protect consumers and inform them of potential risks associated with the microtransponder system, extensive, independent testing would have been done, regardless of its application, before receiving the FDA stamp of approval.

Another important question is, Did the FDA know of any of the microchip-cancer studies prior to its approval of the VeriChip microchip implant for medical purposes? Anthony Watson, FDA representative in charge of the VeriChip approval process says, “At the time we reviewed this, I don’t remember seeing anything like that.” (3) He also says, “Even if it’s adverse information” the FDA expects companies to provide the data during the approval process. (4) Watson’s comments indicate that the FDA was not aware of any of the microchip-cancer studies.

When AP reporter Todd Lewan asked if VeriChip Corporation knew of the microchip-cancer studies, Scott Silverman responded by saying the company was “not aware of any studies that have resulted in malignant tumors in laboratory rats, mice and certainly not dogs or cats.” (5) Yet weeks later in an exclusive interview with TIME it is reported that:

“Silverman provided a list of 34 studies the company included in its FDA application, including one [Subcutaneous Soft Tissue Tumors at the Site of Implanted Microchips in Mice] of the three mentioned in the AP article [Chip Implants Linked to Animal Tumors], which showed that less than 1% of 4,279 chipped mice developed tumors 'clearly due to the implanted microchips' ...” (6)

The TIME article continues:

“As for the third study [Transponder-Induced Sarcoma in the Heterozygous p53+/- Mouse] Silverman says it was conducted in mice specifically bred to produce tumors, and was therefore omitted from the sheaf of studies included in the FDA application. Other studies that were sent to the regulatory agency also showed tumor growth, but associated only with vaccination sites.” (7)

Scott Silverman’s comments indicate that VeriChip Corporation was aware of at least two microchip-cancer studies prior to FDA approval of the microchip implant for medical purposes. As Mr. Silverman held key positions at VeriChip, Digital Angel and their parent company, Applied Digital Solutions, during the FDA approval process, it is likely that all three companies were aware of the microchip-cancer studies. (8)

Silverman’s interview with TIME also indicates that the FDA was aware of the microchip-cancer study “Subcutaneous Soft Tissue Tumors at the Site of Implanted Microchips in Mice” by T. Tillman and colleagues. This is revealing because the Tillman report says:

“The neoplasms induced in the present investigation are clearly due to the implanted microchips.

Further information on tumorigenesis induced by microchips, e.g. experiments on their chemical components (glass and polypropylene cap), or the physical presence of the implant alone are necessary.” (9)

If Silverman’s comments are accurate, it means the FDA knew of the microchip-cancer risk and should have done additional research into this potentially lethal health risk. However, as Mr. Silverman has been known to make contradictory statements, the only way to know the truth is to review the FDA file. Although a Freedom Of Information Act (FOIA) request has been filed by both Katherine Albrecht and the Associated Press to determine the specific data reviewed during the FDA approval process of the VeriChip implant, neither has received a definitive response. (10)

Silverman’s comments also indicate that the microchip companies were probably aware of more than just the two microchip-cancer studies that he referred to in the TIME interview. For example, in the 1999 study “Transponder-Induced Sarcoma in the Heterozygous p53+/- Mouse” by K. T. Blanchard and colleagues, the authors reference the 1996, Dow Chemical study entitled “Foreign-Body Tumorigenesis: Sarcomas Induced in Mice by Subcutaneously Implanted Transponders” by Keith A. Johnson – the same Keith Johnson who told Todd Lewan, “The transponders were the cause of the tumors.” (11-13)

In the Dow article cited above, Johnson writes:

“Mice used for oncogenicity studies developed subcutaneous sarcomas that incorporated an implanted glass encapsulated microchip used for individual animal identification ... Investigators using similar types of implanted devices need be aware of foreign-body tumorigenesis when evaluating the results of longterm studies using mice.” (14)

Johnson’s case study is important. As it was referenced by a microchip-cancer study that Silverman admits the microchip companies were aware of, it is highly probable they were aware of Johnson’s study too. The study is also important because Johnson warns that microchip-induced tumours may have adverse effects on study results.

In one of numerous attempts to play down the microchip-cancer risk, the microchip companies sought the advice of Lawrence D. McGill, DVM. (15) Dr. McGill says it is not surprising that rodents develop tumours from implants. He also says, “Even if you put in a bland piece of plastic, it will produce tumors in rats and mice.” (16)

*Although Dr. McGill’s comments are supposed to calm the concerns of those who are aware of the microchip-cancer risk, they actually highlight the lack of common sense, ethics, and vision of those promoting microchip implant technology. As studies involve considerable resources and accurate test results are vital, it is extremely illogical and irresponsible to implant an object in an animal if the implant has the potential to induce tumours and/or compromise study results. Also, using a form of identification that has the potential to induce tumours contradicts the philosophy stated by researchers Ghanta N. Rao and Jennifer*

Edmondson. They state, “The unique identification method must be a humane procedure.” (17) We must therefore ask, *Why are microchip implants being used to identify mice and rats when it is known that the animals are prone to develop tumours from implantable objects?* (18)

As previously mentioned, Mr. Silverman’s exclusive interview with TIME reveals that a microchip-cancer study was intentionally withheld from documents included in the FDA application. He justifies the decision by saying the mice were bred specifically to produce tumours. This comment is incriminating for several reasons. First, companies are not supposed to intentionally withhold data from the FDA, even if the data is unfavourable. Second, we live in a society plagued with cancer. So, even if the mice were bred to produce tumours, this information is a strong warning to those who are predisposed to cancer, who already suffer from cancer, and who do not want to develop cancer. Indeed, this information should be heeded by all of us. Third, although Silverman says the mice in the study were bred to produce tumours, Katherine Albrecht, author of “Microchip Implants: Answers to Frequently Asked Questions,” says the comment is incorrect. She says:

“The p53+/- mice used in the 1999 Blanchard study are not 'specifically bred to produce tumors' as VeriChip has claimed. Rather, they are genetically modified to have an increased susceptibility to cancer only when exposed to genotoxins, or substances that damage genetic material. These mice are not known to develop spontaneous tumors in the absence of genotoxins within the first six months of life, which is when the mice in the study developed the microchip-induced tumors.

The high rate of cancer development in these mice (10.2%) in just six months strongly suggests that implanted microchips may either be genotoxic or may generate genotoxic byproducts in the host that can give rise to cancer. The researchers stated as much, writing, 'the presence of the foreign body [microchip implant] may elicit tissue reaction capable of generating genotoxic byproducts.'

The extraordinarily high rate of cancer in these mice is a disturbing finding that raises a serious red flag about the safety of the microchip.” (19)

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Key points to note: In an attempt to cover up the microchip-cancer cover-up, VeriChip Corporation continuously clings to the argument that the VeriChip microchip implant has been approved by the FDA for human, medical applications. However, upon closer examination it is obvious that the company fails to acknowledge or address important information regarding the approval process. For example:

- *Prior to receiving FDA approval for the microchip implant, Applied Digital Solutions and Scott Silverman erroneously claimed that FDA approval was not necessary to market the VeriChip implant for medical purposes.* (20)
- *When the FDA finally granted approval for the device to be marketed for medical purposes, information indicates that government contacts may have facilitated the FDA approval process.* (21)
- *Although VeriChip Corporation promotes and defends the safety of its microchip implant by touting its approval by the FDA, it appears that rigorous, independent testing was not done on the VeriChip™ Health Information Microtransponder System. Instead, it appears the FDA relied on the microchip company to provide information regarding the safety and efficacy of the product.* (22)
- *Critical microchip-cancer data was intentionally withheld from studies included in VeriChip’s, FDA application – a decision that Scott Silverman justifies by offering more misleading information.* (23-24)

After all is said and done, if the VeriChip™ Health Information Microtransponder System had undergone extensive, independent testing prior to obtaining FDA approval for medical purposes, the specific details would have been flaunted on the websites of VeriChip and Digital Angel, and also via the media. Instead, company press releases and the media were used to discredit Todd Lewan’s “Chip Implants Linked to Animal Tumors” and the scientific microchip-cancer studies.

### **Scott Silverman’s “Myths” About Microchip Implants**

In an effort to convince the public that microchip implants are safe, Scott Silverman wrote the article “Myths About Implantable Chips.” (1) According to Silverman, rodents used in the microchip-cancer studies were exposed to cancer-causing agents. However, Katherine Albrecht says this comment is incorrect. She writes:

“It is clear that the malignant sarcomas that formed around the microchips were caused by the microchips themselves, not by other chemical compounds that were administered to some of the animals. We know this



because both control and experimental animals developed cancers around the implants. In other words, animals that were not exposed to any chemicals at all developed cancer around the microchips.” (2)

Albrecht’s comment is confirmed by the 1998 study “Fibrosarcomas Associated with Passive Integrated Transponder Implants” by T. E. Palmer and colleagues. The authors state, “The tumors associated with the implants were found in control and treated animals and were considered unrelated to the test material.” (3)

Another argument used by Silverman to discredit the microchip-cancer risk is that “none of these studies was designed to investigate the microchip as a cause of tumor growth and the findings were incidental to the research.” (4) However, Silverman fails to address the fact that tumour development at the site of the microchip implant in both test and control animals was so remarkable that the researchers were motivated to document their findings. For example, in the aforementioned 1998 study it says, “Some masses became large enough to inhibit the animal’s access to its feed jar.” (5) In “Tumors in Long-Term Rat Studies Associated with Microchip Animal Identification Devices” by L.E. Elcock and colleagues it says, “Some masses were extremely fast-growing, enlarging as much as 1 cm per week. As a result, the size of the masses often necessitated early sacrifice of the animal.” (6) And, in “Subcutaneous Microchip-Associated Tumours in B6C3F1 Mice: A Retrospective Study to Attempt to Determine Their Histogenesis” by S. Le Calvez and colleagues, it says:

“Most of the animals (33/52 = 65.4%) with microchip-associated tumours died prematurely, 28/33 were sacrificed for ethical reasons due to the size of the masses, and in 5/33 cases the deaths were spontaneous and attributed to the masses.” (7)

Scott Silverman also fails to mention that had the studies been done to test specifically for microchip-induced tumours, more tumours would probably have been reported. Elcock’s report says:

“It should be noted, however, that these tumor incidences only approximated the potential incidence of microchip-induced tumors for these studies ... tissue surrounding the animal-identification microchips was not examined microscopically unless there was a gross lesion. Thus, small pre-neoplastic or neoplastic lesions may have been missed.” (8)

*Scientific reports by Tillman, Blanchard, and Le Calvez also state that had they been studying microchip-induced tumours, more growths would probably have been detected. Thus, the percentage of microchip-induced tumours would have been even greater than reported.* (9)

Scott Silverman also disputes the microchip-cancer news by saying that millions of pets have microchip implants and no significant adverse reactions have been reported. But once again, he fails to mention that *veterinarians are not required to report adverse reactions to microchips, or to any veterinary product for that matter. As a result, few adverse reactions are reported and recorded accurately.* This latter point is confirmed by the British Small Animal Veterinary Association’s (BSAVA) “Microchip Report 2003.” It says, “It is significant that several reports [of adverse microchip reactions] were received from some quite small practices while many larger practices filed no reports at all. This suggests that there is an element of under reporting which may be happening for a variety of reasons.” (10)

Adverse microchip reactions are also unreported because it can be extremely difficult, frustrating, and sometimes impossible to report an adverse reaction. For example, when I tried to report Léon’s adverse reaction, I was ping-ponged from one organization to another. After contacting different organizations in several countries, a representative of the Pharmacovigilance in Lyons, France said that even if he wanted to record an adverse microchip reaction, he had no way of doing it. (11)

*It is clear, therefore, that adverse reactions to microchip implants are not rare; they are rarely reported. In addition, those pushing microchip implants are not providing accurate product information. As a result, important decisions are being made based on incomplete, misleading, and false data.*

### **Microchip Companies Attempt to Dismiss Microchip-Cancer Risk**

Press releases from VeriChip and Digital Angel also deny any correlation between microchip implants and cancerous growths. (1-3) To support their argument, the companies reference two rodent studies – “Chronic Evaluation in Rodents to a Microchip Implant Used for Animal Identification” by D.J. Ball and associates, and “Tissue Reaction to an Implantable Identification Device in Mice” by G.N. Rao and J. Edmondson – in which microchip-induced cancerous growths are not reported. However, it is important to note that Ball’s study lasted for only one year and involved 250 mice and rats. Rao’s study lasted two years and involved only 140 mice. (4-5) It is also important to note that the researchers experienced serious problems with the microchip implants. For example, in Rao’s study three devices failed “due to microscopic cracks in the weld of the antenna leads to the microchips” and another failed due to “leakage of the glass capsule resulting in fluid accumulation around the microchip.” (6) The researchers also report that some microchip implants were found in the abdominal cavity of the animals. The unintended location of the devices was either because of a technical error during implantation, or migration of the device (unwanted, and potentially dangerous movement of the microchip implant from one bodily location to another). (7)

Company press releases also attempt to dismiss the microchip-cancer risk by saying:

“The article [Chip Implants Linked to Animal Tumors] and the alleged research cited make no link whatsoever to malignant tumor formation in dogs and cats but for one unsubstantiated report. It is important to note this report was not a controlled, scientific study, rather it was a report of a single dog that presented with a tumor, and therefore it should not be inferred that the microchip caused the tumor without further study.” (8)

Once again, however, the microchip companies omit essential information. For example, Todd Lewan’s AP report references two scientific studies – not one as stated in corporate press releases – of dogs in which a cancerous growth developed at the site of their microchip implant. Although Lewan does not include the specific titles of the canine studies that he references in his report, one scientific document is entitled “Liposarcoma at the Site of an Implanted Microchip in a Dog.” It says, “The intact microchip was found completely embedded within the mass.” (9) The other study is Léon’s case. It is entitled “Fibrosarcoma with Typical Features of Postinjection Sarcoma at Site of Microchip Implant in a Dog: Histologic and Immunohistochemical Study.” It says, “The microchip was found, not embedded within the tumor, but immediately adjacent to it ... The mass was confirmed as a high-grade infiltrative fibrosarcoma.” (10)

*Note, however, that Léon was operated on within one week of detecting the cancerous mass. Thus, his tumour was detected and removed before it had time to envelop the microchip implant.*

*Also note that both scientific canine cases involve Merial’s Indexel® microchip implants. These microchips trace back to Digital Angel which has supplied the human VeriChip microchip implant to VeriChip Corporation, the Home Again® animal microchip implant to Schering-Plough, and other animal microchips via different brand names and distributors. (11-12)*

Although the microchip companies try to discredit both scientific canine microchip-cancer studies by referring to them as “one unsubstantiated report,” (13) an excerpt of a letter that I received from Dr. Vascellari, co-author of both canine studies, says:

“In our Institute [Istituto Zooprofilattico Sperimentale Delle Venezie] we are carrying out a study on post-injection sarcomas in cats and dogs. Furthermore, last year we diagnosed a liposarcoma in site of a microchip (Merial) implant in a dog. This report [Liposarcoma at the Site of an Implanted Microchip in a Dog] has already been accepted for publication, and is now in press. Therefore, I greatly appreciate to receive more detailed information about Leon’s case and, if possible, the references of the other 5 cases ...” (14)

*It is clear, therefore, that in an effort to discredit the microchip-cancer news, VeriChip Corporation has repeatedly omitted important product information and intentionally misled the public.*

### **FDA’s List of Potential Health Risks Associated with Microchip Implants**

VeriChip Corporation promotes and defends the safety and reliability of its microtransponder system by touting its approval “by the FDA and/or other U.S. regulatory authorities.” (1) However, VeriChip consistently fails to warn the public regarding the FDA’s list of potential health risks associated with the microtransponder system. As stated by the FDA:

“The potential risks to health associated with the device are: adverse tissue reaction; migration of implanted transponder; compromised information security; failure of implanted transponder; failure of inserter; failure of electronic scanner; electromagnetic interference; electrical hazards; magnetic resonance imaging incompatibility; and needle stick.” (2-4)

VeriChip Corporation also fails to mention that the American Medical Association’s (AMA) Council on Ethical and Judicial Affairs’ (CEJA) 2007 report, entitled “Radio Frequency ID Devices in Humans,” says microchip implants “may pose some physical risks, compromise patient privacy, or present other social hazards.” (5-6)

In addition, the CEJA report says, “RFID tags may cause electromagnetic interference, which may interfere with electrosurgical devices and defibrillators. Finally, it has not been determined whether RFID tags might affect the efficacy of pharmaceuticals.” (7) The same report also says:

“The primary concerns surrounding human RFID labeling pertain to their potential impact on patient privacy and security. Physicians must assure patients that their medical information will be held in confidence ... Moreover, maintenance of privacy is required to protect patients from embarrassment, potential social discrimination, loss of health care coverage, or other detrimental consequences ...

Finally, physicians should be aware of emerging non-medical applications of human-implantable RFID devices. For instance, active RFID technologies might be considered for the tracking or surveillance of individuals who pose a threat to others. Although this is only one of many possible uses of RFID technology

in the future, it alerts the medical profession to the need for continuous assessment of the appropriate role of physicians participating in RFID labeling of human beings. Indeed, certain uses could constitute an infringement upon patients' individual liberties, placing physicians in a position to act as patient advocates by promoting the use of other, less intrusive alternatives, when available." (8)

The CEJA report also says, "If objective evidence demonstrates negative consequences that outweigh the benefits in relation to health care, the medical profession will bear an important responsibility to oppose the use of RFID labeling in humans." (9-10)

Interestingly enough, a draft report entitled "The Use of RFID for Human Identification" from the Department of Homeland Security (DHS) Emerging Applications and Technology Subcommittee to the Full Data Privacy and Integrity Advisory Committee says:

"RFID appears to offer little benefit when compared to the consequences it brings for privacy and data integrity. Instead, it increases risks to personal privacy and security, with no commensurate benefit for performance or national security ... we recommend that RFID be disfavored for identifying and tracking human beings." (11-12)

The European Group on Ethics in Science and New Technologies (EGE) also expresses its concerns regarding the use of microchip implants in humans. In fact, the EGE questions the FDA's approval of the VeriChip microtransponder system. In the 2005 EGE document entitled "Ethical Aspects of ICT Implants in the Human Body" it says, "One might wonder that the tests on the VeriChip were authorized for medical purposes in the face of such a detailed list of potential risks!" (13)

In light of the FDA's list of potential health risks associated with the microtransponder system, not to mention the concerns expressed in the CEJA, DHS, and EGE reports, it may not be surprising to learn that VeriChip Corporation does not accept responsibility for problems associated with its product. In addition, the company does not guarantee the accuracy or availability of its website.

VeriChip's "Waiver and Limitation Liability" says:

1. "Patients acknowledge that execution and delivery of this VeriMed Patient Registration Form 'VPR', and resulting registration is conditioned upon the terms of the Conditions of Use. Patient voluntarily registers by executing and delivering this VPR and is fully aware of any risks, complications, risks of loss, damage of any nature, and injury that may be associated with this registration. Patient waives all claims and releases any liability arising from this registration and acknowledges that no warranties of any kind have been made or will be made with respect to this registration. ALL WARRANTIES, WHETHER EXPRESS OR IMPLIED, HOWEVER ARISING, WHETHER BY OPERATION OF LAW OR OTHERWISE, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED AND WAIVED. IN NO EVENT SHALL THE COMPANY BE LIABLE TO PATIENT FOR ANY INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES (INCLUDING LOST INCOME OR SAVINGS) ARISING FROM ANY CAUSE WHATSOEVER, EVEN IF ADVISED OF THEIR POSSIBILITY, REGARDLESS OF WHETHER SUCH DAMAGES ARE SOUGHT BASED ON BREACH OF CONTRACT, NEGLIGENCE, OR ANY OTHER LEGAL THEORY.
2. THE COMPANY DOES NOT WARRANT THE CONTENT OF THE WEBSITE WILL BE ACCURATE, RELIABLE OR CORRECT; THAT THE WEBSITE WILL BE AVAILABLE AT ANY PARTICULAR TIME; THAT ANY ERRORS WILL BE CORRECTED; OR THAT THE WEBSITE WILL BE FREE OF VIRUSES OR OTHER HARMFUL COMPONENTS. UNDER NO CIRCUMSTANCES SHALL THE COMPANY BE LIABLE FOR ANY DIRECT, INDIRECT, PUNITIVE, INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES THAT RESULT FROM THE USE OF, OR INABILITY TO USE, THE WEBSITE. THE COMPANY DISCLAIMS ALL RESPONSIBILITY AND LIABILITY FOR THE ACCURACY, COMPLETENESS, OR CURRENTNESS OF THE CONTENT OF THE WEBSITE.
3. THE TOTAL LIABILITY OF THE COMPANY AND ITS AFFILIATES AND ANY PROVIDERS FOR ALL CLAIMS, WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE AND PRODUCT LIABILITY), OR OTHERWISE, ARISING OUT OF, CONNECTED WITH OR RESULTING FROM THE USE OF THE COMPANY'S PRODUCTS OR WEBSITE SHALL NOT EXCEED THE NET AMOUNT PAID BY PATIENT TO THE COMPANY PURSUANT TO THIS VPR." (14)

#### **A Closer Examination of the FDA's List of Potential Health Risks Associated with Microchip Implants: Adverse Tissue Reaction and Migration of Implanted Microchip**

Although the FDA document does not define "adverse tissue reaction," data indicates that tissue reaction to microchip implants varies from mild to severe. For example, adverse microchip reports by the British Small Animal Veterinary Association indicate that "swelling," "infection," "abscesses," and "tumours" have occurred due to microchip implants. (1-2) Also, whenever a foreign

object is implanted in the body, some degree of tissue reaction occurs. In the case of a microchip implant, additional tissue reaction occurs due to anti-migrational techniques that are used to prevent the implanted chip from moving. One method used is "BioBond." A description says:

"The patented BioBond anti-migration cap is a porous polypropylene polymer sheath attached to RFID microchip implants to impede migration of the device within animal tissue. The use of the patented BioBond cap results in increased retention by promoting the development of fibrocytes and collagen fibers around the implant, thus inhibiting movement of the implant within the animal." (3)

*Use of the Bio-Bond anti-migrational cap is important to note because in order to prevent migration of the microchip implant, intentional tissue reaction is created. It is also important to note because many researchers believe that a foreign object in the body, inflammation and/or cellular changes may cause cancer. Unfortunately, a microchip implant provides all three ingredients together. Why, therefore, are we to believe that microchip implants are exempt from causing cancer?*

In the study "Transponder-Induced Sarcoma in the Heterozygous p53+/- Mouse" by K.T. Blanchard and associates, microchip implants by Biomedic® were used. The small cylindrical glass devices were partially covered on one end with an anti-migration, polypropylene sheath that contained a round hole, barb, extrusion lines, and a sprue (a sprue is at one end of the microchip and looks like a "twisted nipple with jagged elevations"). (4) Interestingly enough, the researchers noticed that the microchip-induced sarcomas began to develop at the end of the chip with the polypropylene sheath and the barb. According to the report:

"Although there was variation in the extent of neoplastic involvement of tissue immediately surrounding the transponder site, it appeared that tumor(s) arose in the mesenchymal tissue surrounding the polypropylene component of the transponder, initially involving the barbed area and then in some cases extending completely around the entire transponder site." (5)

The researchers' observation is fascinating and results in more questions than answers regarding microchip-induced sarcomas. Perhaps one of the most poignant questions is, *Does the anti-migrational sheath – due to its design, composition of material and/or tissue reaction elicited – cause tumours?*

Katherine Albrecht, Ed.D., author of "Microchip-Induced Tumors in Laboratory Rodents and Dogs: A Review of the Literature 1990-2006," says:

"At the present time, there is no definitive, universally accepted explanation for the formation of malignant tumors around implanted microchips in mice, rats, and dogs. The following are among some of the explanations that have been proposed:

(1) **Foreign-Body Tumorigenesis:** The presence of the microchip, a subcutaneous foreign body, may cause cellular changes that can lead to cancer.

(2) **Post-Injection Sarcoma:** Inflammation from the chip-injection procedure may cause cellular changes that can lead to cancer.

(3) **Possible Genotoxic Properties of the Implant:** The glass capsule or polypropylene sheath surrounding it may have carcinogenic or genotoxic properties, or its presence within the host may give rise to genotoxic byproducts.

(4) **Radio-Frequency Energy Emissions from the Transponder or Reader:** The radio-frequency energy involved with the transponder may somehow contribute to tumor formation." (6)

Further research into the reasons that microchip implants cause cancer is necessary.

### **Failure of Implanted Transponder and Potentially Lethal Implications**

The FDA lists "failure of implanted transponder" as another potential health risk associated with microchip implants. This could occur for a variety of reasons. As previously mentioned, Rao and Edmondson report that serious defects – "microscopic cracks" and "leakage" – have occurred with implanted microchips. (1) Rao and Edmondson also report that the devices can be "lost." (2) For example, they state, "One device, lodged in the subcutaneous tissue over the lumbar vertebrae, was pushed out slowly through the scar tissue of the injection site during the 10th month of the study." (3) This is important to note because those who promote microchip implants claim that one of its advantages over traditional forms of identification – for example, a dog collar or a Medic Alert bracelet – is that the microchip implant cannot be lost. Interestingly enough, there is a recorded case of a microchip that fell out after being implanted in a person's arm. John Centola, Atlanta firefighter, was told that in an emergency his microchip implant would be an ideal way to identify him. However, within days of having the microchip injected in his arm, it fell out. Mr. Centola chose not to have another one implanted. (4-6)

Microchip implants can also be lost within the body. Although some brands of microchip implants have anti-migrational features, the chips can still move from the original implant site. As a result, they can be lost within the body and go undetected by the scanner.

Physical trauma to the microchip implant can also result in failure of the device. For example, animals playing roughly or fighting could damage the implant or surrounding tissue. Human athletes such as boxers, rugby players, and football players could also unintentionally damage the microchip implant of an opponent or teammate while training or competing. A battered child or spouse could also suffer due to a violent blow to the area in which the microchip is implanted.

A microchip can also fail to work for the simple reason that the chip is not registered in the appropriate database, or the information entered in the system is not correct. Also, if a company requires a fee to maintain the information in the database, the chip will be useless if the payment is not made on time. (7) If the company goes out of business, the chip will be useless too.

The fact that a microchip implant can fail is a thought-provoking topic and leads to the question, How long does the microchip implant last?

As a microchip implant does not have an internal power source or moving parts, it is often referred to as an "inert" or "passive" device. Thus, the chip remains dormant until activated by a scanner. When a compatible, working scanner (also referred to as a reader) is placed near the implant, the scanner sends a radio frequency signal through the flesh and activates the implant. A code is sent from the chip to the scanner and an identification number is revealed. *It is important to note, however, that although the implant is considered to be inert, we live in a society in which we are constantly bombarded by radio frequencies and other signals. As a result, it is possible that the device is being activated more than we realize. Unfortunately, we do not know the effect that the extra, unwanted activity has on the performance or longevity of the device, not to mention on the surrounding tissue and, ultimately, on our health.* (8-9)

According to pet promotional information, the microchip implant lasts the lifetime of the animal. However, it is a vague answer to a specific and important question. Human data also fails to provide a precise answer. In 2004, Angela Fulcher, vice president of marketing and sales for VeriChip Corporation, said, "We believe the tags can last 20 years." (10) Other reports, however, indicate that the average lifespan of a microchip implant is 10 to 15 years. (11)

Although there is no definitive answer regarding the longevity of the microchip implant, it is unlikely that it lasts the lifetime of a human. As similar chips are implanted in animals who can live more than twenty years (for example, horses, parrots, sea turtles, elephants, and other wonderful creatures) both animals and humans face the dilemma of failed microchip implants. Thus, we must ask:

- What happens when the microchip implant no longer works, or a more sophisticated one is available?
- Is the faulty or obsolete device left in the body and replaced with another implant?
- Do the components deteriorate or alter over time? If so, what effect will this have on the host?
- Is it safe to leave the failed or even functional microchip in the body indefinitely, or should it be removed surgically?
- Is the new microchip implant reprogrammed with the old identification number, or is a new number assigned?
- Who pays for the replacement and/or removal of the implant?

*Although those who promote microchip implants may say it is safe to leave the device in the body indefinitely, experience and scientific data have taught us that unless an implant is vital to our survival we should avoid placing a foreign object in our body, particularly for a long period of time. Also, scientific studies have shown that microchips can cause cancer. This fact alone casts doubt upon the long-term safety of the devices.*

So, what about removing a microchip implant? VeriChip's Scott Silverman says, "It could be equated to removing a large splinter or a piece of glass." (12) However, those who have had their microchip implant removed, disagree. CNN reporter Robyn Curnow says that removing her microchip implant was "serious business." She says that after consulting a general practitioner, she was referred to a plastic surgeon. Curnow explains, "While splayed out on an operating table -- once again anaesthetized -- [Lena] Andersson removed the chip using high-tech sensor X-ray and two monitors to guide her to it. The missing microchip implant was finally located -- more than a centimeter away from where it was inserted." (13) Graphic video coverage of a gentleman having his chip surgically removed confirms Curnow's unpleasant experience. Although he was told the chip was implanted just under his skin, the surgical procedure revealed that it was embedded in his muscle. (14)

Another fundamental question regarding failed microchip implants is, How does one know if a microchip implant has failed? Unlike a safe, external form of identification, it is not always evident that an implant is lost, damaged, or unreadable. Not knowing the working status of a microchip implant is potentially dangerous because the failure of an implanted device could coincide with the “lifesaving” moment of identifying a lost or injured individual. (15)

### Failure of Electronic Scanner

A microchip implant can also fail to reunite an animal with its owner because of problems associated with the scanning device. For example, one of the problems associated with microchip scanners is that they cannot read, or even detect, all microchips all of the time. (1) I first learned of this problem when I took Léon to the veterinary clinic. The attending veterinarian told me that I was lucky their scanner could read his chip. I was taken aback by the comment because I, like the majority of people, assumed that all scanners could read all microchips.

Some time later I read about the “microchip wars.” (2-6) This is essentially the behind-the-scenes bickering and lawsuits between competing microchip companies that want to protect their market share or break into the microchip market. Unfortunately, corporate decisions have resulted in the “intentional incompatibility” (7) of competing microchip-scanner technologies, and, ultimately, the unreported deaths of numerous microchipped animals.

One of the most well-known tragedies resulting from incompatible microchip technology is the death of Hadden, an American Pit Bull Terrier. His story is in the July 2004 edition of *Journal of the American Veterinary Medical Association (JAVMA)*. It is entitled “Pet’s Death Rekindles Electronic ID Debate.” (8) According to the article, Hadden slipped out of his collar and ended up at the Animal Shelter in Stafford County, Virginia. He was scanned for a microchip “but the shelter’s scanners failed to detect the short-range radio frequency emitted by the dog’s microchip.” (9) Sadly, Hadden was euthanized shortly before his owner, Lisa Massey, arrived at the shelter.

Hadden’s death illustrates the inadequacies of microchip implant technology and its philosophy. As people believe the implant will identify their animal and guarantee its safe return home, the device gives them a false sense of security. Dr. Patricia Khuly, VMD at Sunset Animal Clinic in Miami, Florida says:

“... not all scanners are created equal. Some are better than others at reading a wide variety of microchips. That means your pet may get lost, found, scanned and euthanized if the scanner comes up 'empty.'”

Three universal scanners are available which purport to read all three microchip frequencies ... But none came close enough to perfection [in a microchip scanner 'scan-off'] to meet the average pet owner’s expectations ...

Interestingly, none of the scanners had a 100% sensitivity for any kind of microchip, including for the one of its own company’s design.” (10)

In 2006, Hannis L. Stoddard III, DVM and president of Avid Identification Systems, Inc., submitted a lengthy statement to the Department of Agriculture, Animal and Plant Health Inspection Service (APHIS) regarding microchip implants. (11) In order to maintain Avid’s dominance of the U.S. microchip market, Dr. Stoddard used the opportunity to not only promote Avid’s microchip implants, but also criticize some of his competitors. However, in the process of highlighting his competitors’ “greedy desires to destroy the current system, clearly putting their profits over the welfare of American pets,” Dr. Stoddard also highlights many of the pitfalls of microchip implant technology. (12) For example, for many years Avid’s patents and a lack of competition enabled the company to maintain a large share of the American microchip market. However, when competitors entered the U.S. pet chipping business, corporate fighting and lawsuits ensued. Avid sued competitors for infringing upon its patent rights, and competitors sued Avid for using unfair business practices to prevent them from entering the market. (13-16)

Avid also sued competitors for false advertising. The article “Jury Awards \$6 Million Plus in Avid Pet Microchip Trial” states:

“Avid claimed that statements made by Datamars and Crystal in advertising their products were false and harmful to consumers, and Avid sought damages under the Lanham Act. Datamars and Crystal made several false claims in promotional materials including, ‘if your pet becomes lost, any animal care facility can scan your pet,’ despite that the majority of scanners in use in shelters in the U.S. were unable to read the Datamars microchips.” (17)

*Although it is essential that companies are held accountable for false advertising and incompatible microchip technologies, the irony of the lawsuit is that the microchip companies are suing each other. In reality, the public should be suing the microchip companies for false advertising and incompatible microchip technology. (18)*

In addition to the fact that incompatible microchip-scanner technology has prevented all animal care facilities from having a unique scanner that can read all microchip implants swiftly and accurately, all facilities do not have multiple scanners to read different

microchip frequencies. Also, according to Dr. Stoddard, “61.4% of shelter operators will not use two scanners [of different frequencies] because of the lack of staffing or funding required to double scan animals.” (19)

*As a result of incompatible microchip-scanner technology, some animals have been implanted with both an ISO (International Standards Organization) and a non-ISO chip. Although the microchip companies do not seem concerned with “double chipping” animals, this procedure places the animal at an even greater risk of experiencing an adverse microchip reaction. Double-chipping also places an extra financial burden on clients who pay for and maintain multiple chips per animal.*

Incompatible microchip technology has also obliged owners to purchase expensive scanners because some places that mandate chipping do not have the appropriate scanning devices to read all microchip frequencies. For example, the Animal Quarantine Service (AQS) of Japan says, “Dogs and cats must be individually identified by microchip ... If the animal is not fitted with an ISO compliant (11784 and 11785) microchip, please bring a microchip reader with you.” (20) One may therefore ask, What happens to a lost pet in Japan if its microchip implant is not compatible with the technology of the scanning device?

In addition to the problem of incompatible microchip-scanner technologies, there are other reasons that microchip scanners may fail to identify an animal correctly. For example, scanners may not detect a microchip implant because of low or weak batteries.

Varying implant sites also account for missed chips. In fact, Dr. Stoddard says, “Even in a perfect world where all technologies past, present and future were compatible, U.S. pets going to Europe and European pets coming to the U.S. could still risk being classified as 'not identified' because of the different implant sites.” (21)

According to a relatively recent microchip scanner “scan-off,” the weight of an animal also plays a role in detecting microchip implants. Dr. Khuly, VMD, says the results indicate that “for each 5-pound increase in body weight, the odds that a 125 kHz chip would be missed increases by 5% –by 8% for other frequencies. Bigger pets, then, need more assiduous scanning than others.” (22)

Human error, such as scanning an animal incorrectly or simply not scanning an animal at all, also results in unread microchip implants. For example, Dennis Perkins’ yellow Labrador, Murphy, had what Perkins believed was a “fail safe” microchip implant. (23) However, when Murphy escaped from home and ended up at the Genesee County Animal Control shelter in Michigan, he was not scanned for a microchip. According to the article, Chief Officer Lloyd Gerhardt says the shelter does not scan all animals for microchips. In an effort to justify the actions of the shelter, he says Murphy was not scanned because the dog acted aggressively. Gerhardt also says, “Nothing says you have to scan.” (24)

Fortunately, someone recognized Murphy after seeing a notice for the lost dog, and Murphy was safely reunited with his owner. Naturally, however, Perkins was not satisfied with the shelter’s attitude or actions. He believed that scanning for a microchip implant was a routine procedure and said, “If they don’t check for them, what’s the point?” He added, “It makes me wonder how many dogs (with identification chips) have ended up in the incinerator.” (25)

### **Electromagnetic Interference with Microchip Implants and Scanning Devices**

The FDA also lists “electromagnetic interference” as a potential health risk associated with microchip implant technology. In fact, the fine print of a VeriChip document says:

“Areas with ambient radio frequency (RF) emissions, such as mobile transit (ambulances or helicopters), MRI or security scanning equipment (e.g. metal detectors, anti-theft, and X-ray scanners), could interfere with the ability to read the ID number using a hand held scanner (VeriChip™ Pocket Reader®). In such situations the patient and reader should either move away from the area with the high RF activity or, if possible, move or turn-off the other RF equipment, and try reading the ID number again.

Attempting to use the VeriChip™ Pocket Reader® to read the ID# near other RF transmitters that operate in the same frequency range (130 kHz – 140K Hz) could possibly cause interference with the reader.” (1-2)

This information is important because the majority of the time it is neither practical nor feasible for a patient(s) to move away from an area of high radio frequency activity. Moving or turning off other radio frequency equipment is also unrealistic, particularly if the equipment is heavy, immobile, belongs to someone else, or truly life-saving.

Although VeriChip Corporation knows that electromagnetic interference poses a serious threat to the ability of a scanner to read a microchip implant swiftly and accurately, its promotional literature leads customers to believe that their personal information will always be available. For example, promotional literature says, “VeriMed provides important information that is immediately available to emergency department physicians and nurses to provide information in an emergency situation.” (3) It also says, VeriMed “provides peace of mind to both patients and to their loved ones by 'speaking' on their behalf if they are unable to do so.” (4) Clearly this advertising is deceptive, if not false.

The question then arises, Do medical personnel and patients know of and understand the negative effects that electromagnetic interference may have on reading a microchip implant? If they know, it is unlikely they would depend on or waste their time with such an unreliable device. If they do not know, serious errors are inevitable.

Another environment in which electromagnetic interference may prevent microchip implants from being read swiftly and accurately is slaughterhouses. Under the pretext of controlling disease outbreaks, safeguarding the human food chain, and improving national security, the United States Department of Agriculture has been pushing for the implementation of a nationwide National Animal Identification System (NAIS) that uses microchip implants as a form of animal identification. (5-7) However, electromagnetic interference in slaughterhouses may prevent workers from reading the identification devices accurately and efficiently. If this problem occurs, the USDA's alleged objective of tracking potentially diseased animals via implanted chips will be defeated.

In addition to the gaping holes in the microchip system, opponents of NAIS argue that there is no independent scientific data to support the NAIS program. Judith McGreary, attorney and organic farmer asks, "What is the scientific basis for any portion of the program? Where is the evidence that registration, chipping, and reporting will provide benefits above and beyond the existing methods for tracking animals? So far, no one has provided anything other than feel-good claims without support." (8)

Opponents of NAIS also argue that tracking animals via microchip implants does not resolve the problems that underlie disease outbreaks in farm animals. These problems include: an unnatural diet, confinement, poor air quality, lack of sunlight, stressful transportation, poor care, abuse, unhygienic conditions, and massive overcrowding of animals. (9-11)

Disease outbreaks can also occur because of the business practices of pharmaceutical laboratories, research facilities, corporations, and government agencies. For example, in August 2007, there was a foot and mouth outbreak in the United Kingdom. (12) According to reports, the virus that caused the deadly outbreak was the same one that was used in a batch of vaccines made several weeks earlier by Merial Animal Health. The same highly contagious viral strain was also used by the Institute for Animal Health (IAH). Both facilities were located at the same site in Pirbright, Surrey, and both were subjected to biosecurity controls by the Department for Environment, Food and Rural Affairs (Defra). Interestingly enough, IAH received funds from Defra. (13-16)

An investigation by the Health and Safety Executive (HSE) into the foot and mouth outbreak confirmed reports that faulty pipes, which were supposed to be maintained by Merial and IAH, allowed the deadly virus to be released into the environment. Reports also indicate that government officials had known about the faulty laboratory drains for several years and that a virus could therefore escape. (17-18) In fact, the release of a virus from Pirbright was such a concern for Dr. Harash Narang, former government microbiologist, that he wrote to British Prime Minister Tony Blair in 2001. Dr. Narang warned that "live" viruses were being used to make foot and mouth vaccines, and said, "It is easy for a virus to escape." (19)

Unfortunately, the warnings and flaws associated with the drainage system were ignored, and the highly contagious virus was released into the environment. Adding insult to injury, Merial, IAH and Defra denied responsibility for the deadly outbreak. (20-21)

*The 2007 foot and mouth fiasco is significant for many reasons. One reason is that companies and government agencies that are allegedly established to protect humans and animals from diseases not only create but also unleash deadly diseases upon us. In addition, these companies and government agencies refuse to accept responsibility for their lethal actions, yet ironically expect us to trust them with even more power and control over our lives. These latter points are significant with regards to microchip implants because even though an overwhelming amount of data proves that the microchip system is grossly flawed, pharmaceutical companies and government agencies are important forces behind the use of microchip implants. Thus, in order for the public to protect itself, it must reclaim its power and stop putting blind faith and unbridled power in the hands of those who cannot be trusted.*

### **Magnetic Resonance Imaging (MRI) Incompatibility with Microchip Implant Technology**

The FDA lists "MRI incompatibility" as another potential health risk associated with microchip implants and says that certain tests should be performed in order to demonstrate MRI compatibility. The FDA also says it is important to "address the EMC [Electromagnetic Compatibility] concerns for implant exposure to the significant magnetic and radiofrequency emissions from MRI, including concerns for implant malfunction or damage from MRI exposure and the use of the scanner during MRI procedures." (1)

According to the FDA's "A Primer on Medical Device Interactions with Magnetic Resonance Imaging Systems," potential adverse effects associated with implant devices in the MRI environment include, but are not limited to: "device malfunction or failure," "tearing of tissues," "rotation of object in order to align with field," "acceleration of object into bore of magnet 'missile effect,'" and "patient burns (thermal and electrical)." (2)

The FDA document also says:



“Since the likelihood of being recommended for an MR procedure in one’s lifetime is increasing, so are the concerns of potential adverse interactions with implanted devices. Therefore, it is important that manufacturers of implanted devices identify and address any potential adverse effects the implant patient may experience as a result of entering high magnetic field strength areas or undergoing an MR scan. This information should be provided in the device labeling and associated materials regardless of the intent to make MR safety or compatibility related claims. The purpose of this is to inform the clinician and patient of potential concerns with undergoing MR scanning post implant.” (3)

In spite of the aforementioned concerns and recommendations by the FDA, VeriChip Corporation provides contradictory information regarding the compatibility of microchip implants and MRI machines. In its list of frequently asked questions, VeriChip’s complete answer to a question regarding microchip-MRI compatibility is, “Yes, patients with the VeriChip microchip may safely undergo MRI diagnostics.” (4) However, another document by VeriChip lists serious restrictions for microchipped patients who require MRI diagnostics. Written in extra-fine print, the instructions for patients undergoing MRI state:

- “The patient should be monitored continuously throughout the MRI procedure using visual and audio means (e.g., intercom system).
- Instruct the patient to alert the MR system operator of any unusual sensations or problems so that, if necessary, the MR system operator can immediately terminate the procedure.
- Provide the patient with a means to alert the MR system operator of any unusual sensations or problems.
- Do not perform MRI if the patient is sedated, anesthetized, confused or otherwise unable to communicate with the MR system operator.” (5)

The restrictions placed upon a microchip implantee who requires potentially life-saving MRI diagnostics are shocking. Although the chip is advertised as “facilitating appropriate treatment with less delay,” (6) VeriChip’s document indicates that because of the microchip implant, a patient may be denied the right to undergo MRI safely and promptly. (7) It is important, therefore, that medical personnel and patients are informed of the potential problems associated with microchip-MRI compatibility. It is also important to determine what should be done for a microchipped patient who needs MRI diagnostics, particularly if a patient is “sedated, anesthetized, confused or otherwise unable to communicate with the MR system operator.” (8)

Questions that remain unanswered regarding microchip-MRI compatibility include: Does the microchipped patient forgo MRI diagnostics? Does the patient have surgery to remove the microchip implant? Or does the patient undergo MRI and take the chance that the implant does not malfunction or cause any injuries? Also, if a patient decides to have the chip surgically removed, is a new chip inserted after the MRI procedure is done, and thereafter removed and re-inserted every time MRI is necessary?

In an attempt to promote its microchip implant, VeriChip Corporation highlights – in large, bold text – what it considers “inefficiencies” and “problems” associated with other current ways to obtain a patient’s medical identification. For example, it says a MedicAlert bracelet can be removed from a patient, contains minimal medical information, and is not linked to a hospital database. (9) However, VeriChip fails to alert the public to the potential problems associated with a microchip implant, insertion device, scanning device, and medical database. Potential problems include but are not limited to: failure and migration of an implanted microchip, adverse tissue reactions, cancerous growths, loss of the device from or within the body, inability to read the implant swiftly and accurately, cloning the microchip, infecting the microchip or scanner with a virus or worm, and hacking into the database. VeriChip also fails to mention that potential microchip-MRI incompatibility may oblige a patient to forgo MRI diagnostics. Then again, the company fails to mention that a MedicAlert bracelet does not pose all of these problems.

VeriChip also lists health information wallet cards as an inefficient or problematic form of medical identification. One of the reasons given is, “Difficult for hospital staff to locate.” (10) Either the company believes medical personnel are so incompetent that they cannot find a person’s wallet card, or the company is so desperate to sell its product that it resorts to ridiculous statements.

In 2007, VeriChip Corporation partnered with Florida-based Alzheimer’s Community Care (ACC) in a two-year program to study the effectiveness of the VeriMed Patient Identification System on patients with Alzheimer disease, other forms of dementia and their caregivers. (11-12) Concerned about using vulnerable individuals to test microchip implants, citizens organized a peaceful, interfaith prayer vigil outside the Alzheimer’s Community Care facility. The press release “Interfaith Vigil to Protest VeriChipping of Alzheimer’s Patients” says, “Planners hope the event will enlighten caregivers to the serious medical and societal downsides of the VeriChip and encourage them to rethink using elderly dementia patients as research subjects to test the controversial product.” (13-15)

One of the potential health risks for microchipped patients who suffer from dementia pertains to MRI diagnostics. As those suffering from Alzheimer’s and other forms of dementia are often “confused” or “unable to communicate,” VeriChip’s instructions for patients undergoing MRI indicate that these microchipped individuals may be denied the right to MRI diagnostics. (16-17)

Humans are not the only ones affected by VeriChip's list of precautions associated with microchip implants and MRI. Veterinarians use MRI technology to diagnose health problems experienced by dogs, cats, and even horses. Considering that these animals are "sedated" for the procedure, "unable to communicate with the MR system operator," and unable to alert anyone if they are experiencing any "unusual sensations or problems," it appears that animals with a microchip implant may be denied the opportunity to undergo MRI diagnostics safely. So, once again, humans and animals alike are adversely affected by microchip implants.

### **Microchip Implant Technology May Result in Compromised Information Security**

The FDA also includes "compromised information security" in its list of potential health risks associated with the microtransponder system. As a result, it says, "We recommend that your specifications for a compatible database address the following four components of information security: Confidentiality, Integrity, Availability, and Accountability (CIAA)." (1)

According to the FDA's Class II Special Controls Guidance Document, "Confidentiality" refers to "the assurance that no unauthorized users have access to the information." (2) Naturally, VeriChip Corporation assures clients that its database is secure. Its literature says, "Only authorized healthcare professionals equipped with a VeriMed reader will be able to access your information." (3) In addition, Scott Silverman says, "It is impossible to obtain the patient's information unless the person has authorized access to the PHR [personal health record] database." (4)

*Although one would like to believe that it is "impossible" for an unauthorized person to access the database, it is a well-known fact that hackers access top security databases. Why, therefore, should anyone believe that the PHR database cannot be hacked? Then again, why should anyone believe that someone cannot make or steal a scanner in order to read someone's chip?*

The FDA lists "Integrity" as another essential component of information security. It says, "Integrity means the characteristic of data and information being accurate and complete and the preservation of accuracy and completeness." (5) *This is important because VeriChip Corporation expects patients to be responsible for inputting their medical information into the PHR database. Although patients should have access to their medical records, one may question how many patients have the skills to input technical medical information into the PHR database, particularly when they are gravely ill or injured. VeriChip Corporation says:*

"Patients using the Health Link system are responsible for inputting all of his or her information into our database, including personal health records, as physicians offices are not yet typically involved in this process – primarily because of liability concerns and because they are not generally paid for this service." (6)

The FDA's comment regarding the integrity of data is also important because it means the database must be secure and no one – other than the patient or person authorized by the patient – can alter the data. However, if the database can be hacked, the patient's data can be altered with information that could jeopardize the patient's health and safety.

"Availability" is defined by the FDA as "the assurance that the information will be available when needed." (7) Although VeriChip touts the benefit of its product by saying, "VeriMed is always ready to 'speak' on your behalf by quickly providing healthcare professionals with your name and pertinent medical information," (8) its SEC filing for the year which ended December 31, 2008 reveals that the database has been inaccessible. It says, "In the past, we have experienced short periods during which the database was inaccessible as a result of development work, system maintenance and power outages." (9)

The FDA defines "Accountability" as "the application of identification and authentication to assure that the prescribed access process is being done by an authorized user." (10) However, due to the potential of hacking into the PHR database, the patient has no guarantee that this recommendation can or will be fulfilled.

Although the FDA says, "Information security is the process of preventing the modification, misuse or denial of use, or the unauthorized use of that information," (11) it appears that the administration is primarily focused on potential problems associated with the database and has overlooked the possibility that some of these problems may also stem from the microchip implant and/or scanning device. For example, reports indicate that VeriChip's microchip implant can be cloned. Some documents even provide step-by-step instructions that explain how to clone a VeriChip implant. (12-13)

Cloning is not limited to the human VeriChip implant. Barbara Masin of Electronic Identification Devices, Ltd. (EID), distributor of Trovan microchip implants in the U.S., says the ISO chips for animals are easy to clone. In fact, it is reported that she demonstrated how to clone a microchip at a USDA/APHIS hearing. She also demonstrated how to reprogram an ISO standard chip with another number. She says that whether a chip is pre-programmed from the factory, reprogrammable after it is implanted in the animal, or one-time programmable (OTP are blank chips that can be programmed once), all of the chips look identical and are read the same way by the scanner. Thus, weaknesses inherent with microchip implant technology make it impossible to guarantee that a microchip number is unique. (14-15)

Masin says:

"I went to the USDA listening sessions and offered to show them the problem with duplication possibilities, but they didn't want to see it. The situation is very political. There are certain people involved within the USDA who have very close ties to certain manufacturers. There is an underlying agenda, unfortunately, and this is not for the good of the country." (16)

She also says:

"The NAIS [National Animal Identification System] is being touted as an anti-bioterrorism measure, but it won't cut the mustard, especially using these chips. If USDA or our livestock/horse industries tell people this is what they have to use, the first incidence of some serious disease outbreak after the NAIS is implemented will spawn litigation. We have put the USDA on notice, in writing, that this is a problem (so they are aware of it), and if they persist with their plans and use this type of ID anyway, it will be a field day for lawyers." (17)

Masin points a finger at the microchip companies too. When dealing with the ISO microchip flaws, she says companies often adopt a philosophy of "deal with problems later, sell product now." (18)

Dr. Hannis Stoddard of AVID microchip implants also says, "Unencrypted ISO chips can be easily and quickly cloned. These clones can be used to implant identical chips into another pet to avoid liability for a vicious dog or defraud insurance companies." (19)

In addition to the potential damage caused by cloning or reprogramming microchip implants, chips and scanners have the potential to be infected with viruses and worms which in turn may have adverse effects on databases. For example, the authors of "RFID Viruses and Worms" warn, "A completely different category of threats arises when hackers or criminals cause valid RFID tags to behave in unexpected (and generally malicious) ways." (20) They also say:

"Up until now, everyone working on RFID technology has tacitly assumed that the mere act of scanning an RFID tag cannot modify back-end software, and certainly not in a malicious way. Unfortunately, they are wrong. In our research, we have discovered that if certain vulnerabilities exist in the RFID software, an RFID tag can be (intentionally) infected with a virus and this virus can infect the backend database used by the RFID software. From there it can be easily spread to other RFID tags." (21-22)

*Opportunities to exploit weaknesses inherent with microchip implants, scanning devices, and databases are plentiful. As a result, the microtransponder system will not be better than traditional methods of identification. Instead this system will create more problems. We must therefore ask, Why did the FDA approve a system that fails in "the process of preventing the modification, misuse or denial of use, or the unauthorized use" of personal and private information? (23)*

### **More Potential Health Concerns Associated with Microchip Implant System**

In addition to the health concerns expressed by the FDA, there are other serious health-related issues that people must be aware of prior to making the decision to have a microchip implanted in themselves, their loved ones, or their animal(s). For example, in the fine print of a VeriChip document it says, "Note: Patients should consult with their primary care physician if they have impaired wound healing or compromised immune response prior to the insertion procedure." (1) This information is critical. Due primarily to the polluted environment and unhealthy lifestyle created by man, many people have a compromised immune system. However, few are aware that their immune system is compromised, or what it means to have a compromised immune system. Many dogs, cats, and other animals also have a compromised immune system.

One of the largest groups of individuals who currently suffer from a compromised immune system is HIV/AIDS patients. In Papua, efforts have been made to require HIV/AIDS patients to receive a microchip implant. The alleged reason given is that the device will enable the government to monitor these individuals, thereby controlling the spread of the disease. However, it is unclear how the use of microchip implants will control the spread of HIV/AIDS. Instead, it is likely the chips will result in increased discrimination against those with the disease. This may discourage HIV/AIDS patients from seeking medical attention, thereby exacerbating the epidemic. If policy makers in Papua are truly interested in reducing, and ultimately preventing, the spread of HIV/AIDS, they would offer public health programs to educate as many people as possible regarding the disease – they would not legislate microchip implants. (2-5)

The fine print of VeriChip's document also lists other contraindications for microchip implants. It states, "The VeriChip™ Microtransponder should not be used in patients with the following conditions:

- Patient is under 12 years of age;
- Patient is taking or has taken blood thinners of any kind within the past 7 days;
- Patient has not taken required antibiotics as required prior to undergoing any medical or dental procedure;

- Patient is known to have a blood disorder;
- Patient is known to have allergies or sensitivities to the composition of the VeriChip™ Microtransponder (polypropylene and USP type III glass) or local anesthetic;
- Patient is pregnant.” (6-7)

VeriChip's document also says, “It is recommended not to place any tattoo or skin piercing near the insertion site, even after the site has healed.” (8)

In addition to the aforementioned contraindications listed by VeriChip Corporation, there are important questions that must be answered regarding microchip implants used in humans and animals. For example, before administering any injections or performing surgery, shouldn't the location of the microchip be checked to ensure that the implant and the procedure do not interfere with each other? What are potential problems if an individual is injured, bitten, requires surgery, or receives an injection at or near the implant site? Also, what are the potential risks for those who have been, or will be, vaccinated and microchipped in the same or nearby bodily location? As vaccines have resulted in feline sarcomas, and there are also documented cases of vaccination-site fibrosarcomas in dogs and ferrets, aren't we adding fuel to the fire by microchipping and vaccinating at or near the same bodily location? (9-11) This latter question is also important because as microchip implants become smaller and more sophisticated, it is probable that a microchip will be injected in conjunction with a vaccine – one injection for both procedures.

Once we ask the right questions about microchip implants, more unanswered and thought-provoking questions arise. For example, what short- and long-term problems exist when diagnostic tools such as radiographs, ultrasounds, computerized axial tomography (CAT scans), or nuclear medicine are used on those who are microchipped? Also, what happens if therapeutic tools such as laser, light emitting diodes (LED's), or magnetic treatments are used on those who have a microchip implant?

Another unaddressed issue pertains to microchip implants and acupuncture. For example, what happens if the microchip is implanted at or near an acupuncture point or meridian? Will the implant disrupt the flow of energy, thereby causing the body to be weak or vulnerable to disease? Also, are there any health risks for those who use homeopathy on themselves or their animals? Specifically, what happens if a homeopathic remedy is used to expel a foreign object from the body, such as a splinter? Will the body also try to expel the microchip implant?

Another over-looked issue pertains to tasers and shock collars. For example, what happens if someone is tasered at or near the site of the microchip implant? Also, what are the health risks for microchipped dogs that wear shock collars to prevent them from wandering beyond an invisible electric fence? Will the taser or shock collar damage the microchip implant and/or injure the one in whom the device is implanted?

*Yet another serious health risk associated with microchip implants is that the chips can enter the human and animal food chain. In 2004, the USDA's Food Safety and Inspection Service (FSIS) issued a “Class I Recall” because pork shoulder butts may have contained electronic transponders. The USDA/FSIS recall release says, “The devices were inserted in the shoulders of the animals at a livestock production facility and the animals were inadvertently shipped to slaughter.” (12) This error is significant because the USDA lists the recall as a “HIGH” health risk. In fact, it defines a “Class I Recall” as “a health hazard situation where there is a reasonable probability that the use of the product will cause serious, adverse health consequences or death.” (13) This error is also significant because the Sioux-Preme Packing Company had to recall approximately 1,110 pounds of pork products. As a result, the company lost money, time, and perhaps some credibility too.*

*As more animals are chipped, the probability that the implants will end up in someone's meal will increase. Biting into or swallowing either a piece of or a whole microchip implant could have serious health consequences for the individual involved. It could also result in huge lawsuits.*

As microchip implants have entered the human food supply, other problems become evident. For example, birds are eating fish that have been chipped. This is a health risk not only for birds but also for any animal that eats an animal implanted with a microchip. It is also an environmental problem. According to Scott Bettin, a freshwater fisheries biologist with the Bonneville Power Administration (BPA), “Caspian terns eat the tagged salmon and then [excrete] them onto their nests. These islands glisten with RFID tags.” (14)

*The fact that microchip implants can enter the human and animal food chain forces us to examine other health risks associated with implanting chips in animals destined for consumption. For example, what happens if an implant is undetected when scanned at the slaughterhouse? Will extra time and money be spent to find and remove the device, or will the chipped meat be processed and enter the food chain? Also, what if the chip causes an animal to develop a cancerous growth? Will the growth be detected? If it is as small and difficult to detect as Léon's cancerous growth was, it is highly unlikely the mass will be detected. Thus, it is highly unlikely that a cancerous animal and contaminated meat will be culled and disposed of properly. If, however, the cancerous mass is obvious, will that specific section of meat be removed and disposed of safely? Or, will it be processed with the other meat? Also, as microchipped-induced sarcomas have been known to spread to other parts of the body, what measures will be taken to ensure*

*that the contaminated meat does not enter the human or animal food chain?*

*Another serious health concern pertains to the disposal of the chips. As previously mentioned, microchips implanted in fish are consumed by other animals and thus pollute the environment. But what about the disposal of chips implanted in animals destined for consumption? Will all of the chips be discovered, destroyed, and disposed of appropriately? Or, is it possible to reuse the chips that have been removed from dead animals? Unless the chips are destroyed upon removal from the animal, it is possible that microchip implants removed from healthy animals at the slaughterhouse could be collected and implanted in unhealthy animals otherwise unfit for consumption. Not ensuring proper disposal of the microchips could be disastrous because the meat of sick animals could easily enter the food chain. Thus, problems inherent with microchip implants have the potential to weaken, not strengthen, food safety procedures.*

### **Tagged from Cradle to Grave**

In spite of a plethora of serious concerns associated with microchip implants, it appears that the ultimate objective is to tag and track everyone, starting with newborns. For example, XMark Corporation, formerly a wholly-owned subsidiary of VeriChip Corporation, sells the Hugs® infant tracking system to hospitals. The Hugs system uses an ankle band with an ID number and a RFID tag. If the band is tampered with or an unauthorized person takes the tagged infant from a designated area, the system alerts certain hospital staff. XMark also sells the Kisses® component that can be used with the Hugs system. A Kisses tag is worn by the mother so that the mother and child can be matched together. (1-4)

Although it is essential that infants are safe and matched with their mothers, it is also essential that systems established to accomplish this goal do not endanger anyone. David Morrison, author of “Microwave Technology: An End to the Human Race,” writes:

“Infant tracking is a radiation-rich glimpse into the portals of a Star Wars medical world which purports to make newborns 'safe' by blasting them with continuous torrents of dangerous high frequencies. Microwave radiation is classified as a 'chronic' poison by the National Institutes of Health. Yet, Orwellian infant tracking systems such as Halo have been approved by the FDA with neither pre-market health research nor follow-up studies needed to assess the long term effects of such prolonged electromagnetic assault on infant immunity, neurological development and circulatory health.” (5-6)

Another potentially dangerous feature of some infant tracking systems is that they can automatically activate magnetic door locks or hold elevators. (7) Unfortunately, if doors are locked or elevators are immobilized, emergency treatment may be delayed for patients who need to be quickly transported from one area to another. The time taken to re-open doors or re-activate elevators may be detrimental to someone who is in critical condition. Also, automatically-locking doors could be disastrous if there is a fire. Unless the infant tracking system is successfully deactivated prior to removing babies from designated areas, people may be locked in a dangerous environment, such as a burning hospital.

Another problem with tagging and tracking patients as if they were grocery items is that medical personnel may become careless and impersonal with patients. Tagging and tracking patients may also lead to public acceptance of these procedures, which will make it easier for corporations and governments to complete surveillance systems that are slowly but surely permeating every aspect of our lives.

Ominously, VeriChip Corporation refers to a “seeding” process of its healthcare tracking devices. Due to the lack of success that VeriChip has had selling its VeriMed microchip implant system, the company has given scanners to hospitals and third-party emergency room management companies for free. VeriChip’s SEC filing for the year which ended December 31, 2007 says this give-away marketing strategy has been adopted “in order to build out the geographic footprint of the healthcare facilities that can and will use our VeriMed system as part of their standard protocol.” (8) The company also says, “We expect to continue this 'seeding' process for the foreseeable future as we endeavor to build out our network across the United States and overseas.” (9)

As a part of VeriChip’s seeding process and its plan to build its business overseas, the company set its sights on Mexico. In 2003 – before the microchip implant was approved by the FDA for medical purposes in the U.S. – Soluciones de Localizacion Satelital, S. de R.L. de C.V. (SOLUSAT) became the exclusive marketer and distributor of VeriChip products in Mexico. (10-12) Although VeriChip’s literature contraindicates the use of microchip implants in children under 12 years of age, the agreement with SOLUSAT included the VeriKid™ microchip program for children.

As Mexico is reported to have a high rate of missing children, one of the sales strategies used to promote the microchip program was that the device would help to locate lost or abducted children. However, in order to locate a missing child who is implanted with a microchip, scanners would have to be installed everywhere. In addition to the fact that installing scanners at every turn would allow another phase of continuous surveillance to be implemented, implanting children with microchips is potentially dangerous. Once kidnappers know that children are being implanted with tracking devices, knives or other sharp objects could be used to gouge out the implants.

Tracking devices for children are also potentially dangerous because, while some children may become paranoid and believe they are always in danger, others may become complacent and believe that the implant will protect them. In order to keep children as safe as possible, parents, family members, guardians, neighbors, and teachers must provide practical safety tips and a support system for children. Such information allows youngsters to be conscious of ways to protect themselves while also preventing them from living a life shrouded in suspicion and fear.

#### Chipping Employees, Immigrants, and Guest Workers:

In addition to implanting microchips in children, Mexico's former Attorney General, Rafael Macedo de la Concha, and several of his colleagues have been chipped. (13) Workers at CityWatcher.com, a video surveillance company that is no longer in business, have also been chipped. (14)

Implanting microchips into employees provides even more unanswered questions and serious concerns. For example, what happens if a chipped employee changes jobs, the company goes out of business, or the implant is cloned? Does the employee undergo surgery to remove the implant? If so, who pays for the medical procedure to remove the device? Also, who pays for any unwanted side effects associated with the microchip implant?

More questions arise when an employee receives a microchip implant in order to access secure work areas. For example, what happens if a microchipped employee is taken hostage in order to access areas? Or what if someone gouges out an employee's microchip implant? Does the chip know that it has been removed from a person's body and, therefore, automatically deactivates itself? Or can the extracted chip be used to access the secure zone that it is meant to protect? Also, as a microchip implant can be cloned, isn't it counter-productive to use the device for security purposes? (15)

In addition to the potential to threaten security and endanger employees, microchip implants are an invasion of an employee's privacy and the right to protect his or her body. Therefore, what happens if an employee refuses to be chipped? Will the employee be re-assigned to another position, or will the employee be fired? One way or another, a company that requires or makes an employee feel obliged to have a microchip implant makes itself vulnerable to hefty lawsuits.

Although employees who work legally in a democratic society may have the opportunity to seek legal counsel if they are required to receive a microchip implant, employees in a non-democratic society may have no legal recourse. Immigrants and guest workers entering a democratic society may also be stripped of their legal rights. In a 2006 "Fox and Friends" interview on the Fox News Channel, VeriChip's Scott Silverman discusses the possibility of implanting microchips in guest workers. He says, "We have talked to many people in Washington about using it as an application for a guest worker program." (16-17)

#### Chipping prisoners and soldiers:

Among those who are also vulnerable to being chipped via coercive means are prisoners. In fact, the British government is reported to have plans to inject microchips in prisoners and possibly even in those who are on parole and probation. (18) Critics of the idea believe that microchipping prisoners solves nothing. Harry Fletcher, assistant general secretary of the National Association of Probation Officers says, "Treating people like pieces of meat does not seem to represent an improvement in the system to me." (19) Shami Chakrabarti of the civil rights group Liberty adds, "If the Home Office doesn't understand why implanting a chip in someone is worse than an ankle bracelet, they don't need a human-rights lawyer; they need a common-sense bypass." (20)

British prisoners are not the only ones slated for the microchip agenda; British soldiers are too. A 2001 news report says that a spokesperson for British Intelligence informed WorldNetDaily of an experimental microchip identification implant program for military personnel. According to Ministry of Defense officials in London, if the program is successful, the "entire British army could be microchipped by the year 2010." (21)

British Col. M.W. Jones says one reason to use microchip implants "would be to replace the current ID card. This would protect the identity of those in the armed forces and prevent lost ID cards falling into the wrong hands. A continual database would show the whereabouts of every serving member of the armed forces, giving commanders much greater control on the battlefield." (22)

Although replacing ID cards with microchip implants would prevent ID cards from being lost or intercepted by the adversary, unlimited and irreparable damage could be done to the entire British armed forces and its allies if the adversary hacked into the database and determined the location of military personnel.

Another argument used to promote the microchip program for soldiers is that it would enable medical personnel to access medical records of wounded soldiers and, therefore, provide faster and better treatment for them. Col. Jones says, "We could 'swipe' casualties to get their medical records, blood group or next of kin." (23) Unfortunately, however, the enemy will eventually learn how to 'swipe' captured soldiers' information. The consequences are too painful to imagine.

Microchip implants with GPS tracking ability present another potentially serious problem for soldiers. For example, although one of the reasons for using an implantable GPS device is to locate a captured soldier, the device can actually aid the adversary.

Specifically, once the adversary knows that soldiers have implantable tracking devices, ambushes can be set up for the team designated to rescue the captured individual(s). (24)

*Chipping soldiers is not limited to British servicemen and servicewomen. VeriChip Corporation hopes the metal dog tags used by the U.S. armed forces will be replaced with implantable chips. In fact, it is reported that VeriChip has been "in discussions" with the Pentagon to accomplish this objective. (25) However, Joe Davis, spokesman for the Veterans of Foreign Wars office in Washington, D.C. warns that before dog tags are replaced with microchip implants, it is important to know if the chip can withstand an explosion.*

Mr. Davis says two dog tags are issued. "One goes around the neck and the other is laced into the boot. The foot and boot will survive an explosion. DNA from the foot in the boot will survive, plus you've got your metal dog tag right there. What type of survival rate does this little chip have in an explosion?" (26) He also says:

"From what I've read, it sounds like they're trying to push this thing through. You don't push things through when it's new technology. You have to weigh all the pros and cons, and you have to ask the service members 'What do you think of this?' ..." (27)

As a reminder to military personnel and those pushing microchip technology upon service members, Mr. Davis says, "Even though you shelve some of your rights as a citizen (in the military), you don't shelve them all." (28)

Microchip Implants that Monitor Bodily Functions:

In addition to the basic VeriChip microchip implant and the implantable GPS personal locating device, VeriChip Corporation has announced that it is developing microchip implants that monitor human bodily functions. In 2006, the U.S. Patent and Trademark Office granted patent #7,125,382, "Embedded Bio-Sensor System," to Digital Angel Corporation for a syringe-implantable glucose-sensing RFID microchip. (29-30) In November 2008, VeriChip Corporation purchased "all intellectual property related to the human implantable RFID glucose-sensing microchip from Digital Angel Corporation." (31) The bio-sensing device is being developed by VeriChip Corporation and RECEPTORS LLC. The implant is expected to measure glucose levels of diabetic patients and transmit the data to an external scanner. (32)

Although the glucose-sensing microchip implant is still in the development stage, diabetic patients have been injected with the standard VeriChip microchip. In 2007, VeriChip Corporation announced that a small number of diabetic patients were implanted with its microchip. Indeed, a procedure took place in Atlanta and Boston at the Diabetes EXPO, sponsored by the American Diabetes Association (ADA). (33-34)

In order to promote its microchip products to diabetic patients, Scott Silverman says VeriChip Corporation continues to "focus on diabetics" and "enhance" its relationship with the American Diabetes Association. (35) Also, in spite of the fact that the glucose-sensing microchip implant is not even fully developed, the device is promoted as a quick, painless, and accurate way to monitor blood glucose levels. (36)

Other biological applications for microchip implants have also been announced. As a result of the recent swine flu outbreak and acquisition of new patents, VeriChip Corporation and RECEPTORS LLC have joint plans to create an implant that can detect viruses infecting the host. The plan to create such a device is described in the 2009 white paper entitled, "An Integrated Sensor System for the Detection of Bio-Threats from Pandemics to Emerging Diseases to Bioterrorism." (37-41)

Digital Angel Corporation already has a patented, bio-sensing microchip implant. The device is currently named "LifeChip®" and it contains a temperature-sensing feature referred to as "Bio-Thermo®." LifeChip microchip implants with BioThermo technology are currently promoted for use in dogs, cats, alpacas, llamas, and horses. (42-45)

In a 2006 press release entitled "Digital Angel Targets \$100 Million Equine Market," Kevin N. McGrath, President and CEO of Digital Angel Corporation, says:

"Since late last year the California Horseracing Board, a division of the California Department of Agriculture, has been using federal funds to implant all new, incoming young horses entering their racing career, with the Digital Angel Bio-Thermo chips." (46)

However, according to promotional literature by Destron Fearing, a wholly-owned subsidiary of Digital Angel Corporation, the temperature-sensing microchip implant is not accurate. In fine print it says:

**"Conclusion:** The study horse's actual temperature will be 3° higher than Bio-Thermo readings. Knowing this, the horse's manager or veterinarian will be able to quickly and easily identify if the horse's temperature is abnormal by adding 3° to the Bio-Thermo reading." (47)

In even finer print the same document says, "Although some trial horses exhibited wider deviations from their rectal temperatures, these deviations were consistent throughout the course of the evaluation." (48)

Despite the fact that the temperature-sensing implantable chip is not accurate, Kevin McGrath says, "We are confident that nearly every horse in the United States can benefit from our Bio-thermo microchips ..." (49)

Although it is unclear how horses can benefit from a false temperature reading, it is clear that selling, promoting or implanting an inaccurate temperature-sensing device in an animal is illogical, unprofessional, dangerous and unethical, particularly when an accurate, safe, inexpensive, easy-to-use instrument called a "thermometer" is readily available.

In addition to the fact that federal funds have been reportedly used to pay for temperature-sensing microchip technology that does not give an accurate temperature reading, some veterinarians say that it is potentially dangerous to implant a microchip in a horse. According to Drs. E.G.A. Laarakker, C. Willenkens, M. Kelfkens, and F. Kokke of Den Hoek in the Netherlands, horses have experienced serious complications due to microchip implants. For example, in one case they report that "the chipping procedure resulted in nerve damage." (50) They add, "This is not the first time we've seen a horse with problems as a result of chipping. All vets in our clinic share the opinion that chipping horses is anything but safe." (51-55)

Scientific documents reveal that pets have also experienced neurological damage due to their microchip implant. (56-59) In addition, the scientific document entitled "Microchip Insertion in Alpacas" discusses the death of a 6-month-old alpaca due to the microchip implant procedure. "Postmortem examination showed that the microchip was located in the spinal cord between C2 and C3 vertebrae. The resulting neurogenic shock was thought to be the cause of death," write van der Burgt and Dowle. (60) The British Small Animal Veterinary Association's 2004 Adverse Microchip Report also mentions the death of a kitten due to the microchip implant procedure. The document says, "The most disastrous report received during 2004 concerned an attempt to implant a struggling kitten resulting in sudden death. During the post mortem examination the microchip was found in the brainstem." (61)

Night-clubbers "get chipped:"

In addition to testing products on animals and vulnerable groups of people, companies often have the opportunity to test their products on individuals who are willing to experiment with something new and different. In the case of microchip implants, some night-clubbers have been willing to get chipped in order to pay for drinks, spend less time in lines, and gain special VIP privileges. (62)

Nightclubs that offer a microchip implant promote the device as fashionable, cool, and convenient. They also promote it as a way that clients can leave their wallet at home. However, promoting the chip in this manner has negative repercussions because it entices people to embrace an implantable identification system. It also makes cash unnecessary.

*Creating a cashless society and a global implantable identification system would be tragic. All of our movements and behavior could be monitored and tracked, our individuality and freedom could be sacrificed, and even more control could be placed in the hands of the global elite, government, corporations, and unsavory characters. Also, for those who refuse to be chipped, it could be difficult, if not impossible, to buy, sell, perform daily activities or set long-term goals.* (63-64)

The "Mark of the Beast:"

The potential inability to buy or sell without a microchip implant raises a red flag for many of those who are familiar with Revelation 13: 16-17. The passage says:

"And he causeth all, both small and great, rich and poor, free and bond, to receive a mark in their right hand, or in their foreheads:

And that no man might buy or sell, save he that had the mark, or the name of the beast, or the number of his name." (65)

Thus, due to religious beliefs and the potential applications of a microchip implant, many people believe that the chip is the "mark of the beast." Naturally, these individuals strongly oppose microchip implants and refuse to allow themselves, their loved ones, and even their animals to be chipped. (66-67)

Chipping medical devices and corpses:

To date there has been enough resistance to chipping humans that only a small number of people have been chipped. Still, VeriChip Corporation is determined to impose microchip technology upon us and continues to find new ways to integrate the chip into our lives. For example, on March 18, 2009, VeriChip announced that it "entered into a development and supply agreement



with Medical Components Inc. ('Medcomp'), a leading global manufacturer of vascular access catheters, to develop and manufacture a RFID microchip for implantation into Medcomp's vascular access medical devices on an exclusive basis." (68) Welcoming the new opportunity to chip humans, VeriChip's Scott Silverman says, "We also expect to offer the VeriMed™ Health Link patient identification service at a reduced rate to all patients who receive a Medcomp vascular port." (69)

VeriChip is also selling its chips for use in corpses. In the aftermath of Hurricane Katrina, VeriChip's "VeriTrace" was implemented. Since then, it is reported that the chips have been used in lieu of traditional, non-invasive methods to identify corpses. (70-71)

The picture is clear: dead or alive, the ultimate objective is to implant a microchip in everyone. Tragically, the potential to abuse this technology is limited only by the imagination. (72-73)

### **The Holocaust: NEVER AGAIN!**

Although microchip implants are promoted as a way to solve identification, financial, healthcare, and security problems, this technology will give unscrupulous individuals, greedy corporations, and ruthless governments more opportunities to profile, track, harass, and discriminate against law-abiding citizens.

In order to understand the global impact that these seemingly harmless, little microchips can have on mankind, it is important to reflect on the Holocaust and ask, *What would have happened if Adolf Hitler had the technology to tag and track everything and everyone continuously, in real time? Specifically, What would have happened if RFID, GPS and implantable microchip technology had been available to Adolf Hitler during his reign of terror?*

*Although it is impossible to answer these questions, it is possible to understand how Hitler and the Third Reich were able to orchestrate the round-up, humiliation, torture, experimentation, expulsion, and extermination of millions of defenseless men, women, and children. It is also possible to apply this knowledge and understand why we must not allow microchips or similar devices to be implanted in our bodies or in our animals.*

In 2001, Edwin Black's book, *IBM and The Holocaust: The Strategic Alliance Between Nazi Germany and America's Most Powerful Corporation*, was published. (1) Without elaborating on the barbaric details of the Holocaust or psycho-analysing Adolf Hitler and his motivation to annihilate the Jews and other "undesirables," Edwin Black touches the heart of his readers simply by exposing the way in which German troops were able to identify, locate, transport, and eradicate millions of fellow human beings.

Edwin Black, son of holocaust survivors, writes:

"I was haunted by a question whose answer has long eluded historians. The Germans always had the lists of Jewish names. Suddenly, a squadron of grim-faced SS would burst into a city square and post a notice demanding those listed assemble the next day at the train station for deportation to the East. But how did the Nazis get the lists? ...

The answer: IBM Germany's census operations and similar advanced people counting and registration technologies." (2)

Black explains that even though there were no computers in 1933, the precursor to the computer existed: IBM's Hollerith machine, punch card, and card sorting system.

Originally invented by Herman Hollerith to tabulate census data, IBM's seemingly harmless Hollerith system enabled Hitler and the Third Reich to organize World War II. Custom-designed by IBM or its subsidiaries for each application, the Hollerith system could record, count, organize, retrieve, and analyze information. As a result, it allowed the Nazi regime to profile and decimate millions of people not only in Germany but also in other European countries.

Black writes:

"On June 16, 1933, one-half million census takers, recruited from the ranks of the 'nationalistically minded,' went door-to-door gathering information. Cadres of Storm Troopers and SS officers were added to create a virtual census army. In some localities, when recruitment flagged, individuals were coerced into service. The interviews included pointed questions ..." (3)

The information that was gathered was stored on Hollerith punch cards. Arranged in rows and columns, punch holes yielded a wealth of personal data, including a person's financial, medical, professional, and religious status.

Financial data obtained from financial institutions and pension funds allowed the Nazis to freeze or confiscate assets. Homes, land, real estate, bank accounts, cash, gold, jewelry, family heirlooms and more – the Nazis took it all. Stripped of all material possessions, Holocaust victims struggled to survive. The Nazis, however, used their newly acquired assets to perpetuate the war

and indulge themselves.

Medical records, also organized by IBM's Hollerith system, were collected from doctors, medical offices, and insurance companies. This data enabled the Nazis to determine an individual's health status. Driven by a desire to create a master race of physically and mentally superior individuals with blonde hair and blue eyes, medical data helped the Nazis determine who they would experiment on, sterilize, gas, work to death, or shoot.

Knowing a person's professional status was also important to the Nazis. The information enabled them to determine the work skills that someone had and how those skills would be beneficial to their cause. Black writes, "A man's right to live was determined by his net worth to Nazi society." (4)

Information accumulated via IBM's Hollerith system also allowed the Nazis to determine a person's religion. As Hitler wanted to locate and eradicate anyone of Jewish origin, the Nazis examined birth, baptism, death, and church records. The data enabled the Nazis to identify, locate, torture, and exterminate millions of practicing and non-practicing Jews.

*In addition to providing a person's financial, medical, professional, and religious status, Hollerith technology allowed the Nazis to locate, monitor, and track animals.* This is significant because the Nazis were able to confiscate horses owned and cared for by the Jews. Having control over the horses was important for the Nazis because such control provided them with a means of transportation and food. This same control eliminated a source of escape, food, and income for the Jews.

Cows were also counted and tagged. Without livestock, the Jews lost an important source of meat, milk, revenue, and pride.

IBM's Hollerith system was also used to control the railroads, not only across Germany but also across Europe. According to Black's research, the German railway, Reichsbahn, was IBM Germany's biggest customer. Controlling travel by rail was critical for the Nazis. It allowed them to inventory, track and transport merchandise, machinery, weapons, vehicles, spare parts, raw materials, soldiers, prisoners and, much more. IBM's Hollerith system also enabled the trains to run on time.

Automation provided by Hollerith technology allowed Adolf Hitler and the Third Reich to coordinate the war effort. Without an automated system, the Nazis would have found it extremely difficult to identify, locate, transport, and destroy so many Jews and "undesirables."

Understanding the value and potential of the Hollerith system, Thomas J. Watson, president of IBM, took measures to ensure that IBM controlled all aspects of its product. Edwin Black writes:

"IBM NY always understood – from the outset in 1933 – that it was courting and doing business with the upper echelon of the Nazi Party. The company leveraged its Nazi Party connections to continuously enhance its business relationship with Hitler's Reich, in Germany and throughout Nazi-dominated Europe." (5)

Black continues by saying:

"Dehomag [IBM Germany] and other IBM subsidiaries custom-designed the applications. Its technicians sent mock-ups of punch cards back and forth to Reich offices until the data columns were acceptable, much as any software designer would today. Punch cards could only be designed, printed, and purchased from one source: IBM. The machines were not sold, they were leased, and regularly maintained and upgraded by only one source: IBM. IBM subsidiaries trained the Nazi officers and their surrogates throughout Europe, set up branch offices and local dealerships throughout Nazi Europe staffed by a revolving door of IBM employees, and scoured paper mills to produce as many as 1.5 billion punch cards a year in Germany alone. Moreover, the fragile machines were serviced on site about once per month, even when that site was in or near a concentration camp. IBM Germany's headquarters in Berlin maintained duplicates of many code books, much as many IBM service bureau today would maintain data backups for computers." (6)

Printed on paper that was not only patented by IBM but also exclusively available from IBM, Black says:

"IBM had to agree with their Nazi counterparts that Code 6 in the concentration camps was *extermination*. Code 1 was *released*, Code 2 was *transferred*, Code 3 was *natural death*, Code 4 was *formal execution*, Code 5 was *suicide*, Code 7 was *escape*." (7)

In addition to maintaining control of every facet of the Hollerith system, Black says, "IBM distinguished itself as the dominant provider of this special technology and sued any company which tried to horn in on their profit stream." (8)

IBM was extremely clever. It possessed a unique technology, micro-managed its products and services, and dominated its competitors. It also made sure that its technology and resources were available to anyone willing to pay enough money. As a result, IBM and its subsidiaries custom-designed Hollerith systems not only for the Germans but also for the Allies.

By providing important data, coding and de-coding, IBM was indispensable to both sides of the war. As an extra bonus for IBM, its unique situation enabled it to install and control technology in strategic places throughout the world, and firmly establish itself as a powerful international company with powerful international contacts.

World War II was profitable for IBM. The fact that millions of innocent and unsuspecting people were victimized, dehumanized, and reduced to numbers and punch cards was just a part of doing business.

*IBM's conscious involvement in the Holocaust is significant not only because of its behavior in the past but also because of its continued obsession to track people everywhere. Specifically, IBM has U.S. patent #7,076,441 entitled "Identification and Tracking of Persons Using RFID-Tagged Items in Store Environments." The Abstract of the patent says:*

"A method and system for identifying and tracking persons using RFID-tagged items carried on the persons. Previous purchase records for each person who shops at a retail store are collected by POS terminals and stored in a transaction database. When a person carrying or wearing items having RFID tags enters the store or other designated area, a RFID tag scanner located therein scans the RFID tags on that person and reads the RFID tag information. The RFID tag information collected from the person is correlated with transaction records stored in the transaction database according to known correlation algorithms. Based on the results of the correlation, the exact identity of the person or certain characteristics about the person can be determined. This information is used to monitor the movement of the person through the store or other areas." (9)

IBM's human tracking patent also says:

"Due to the recent development of RFID tag technology, RFID tags can be manufactured inexpensively and in non-conspicuous miniature sizes, so that they can be integrated into products during the manufacturing process of the products, rather than being attached to the packaging of the products." (10)

Because RFID tags are so small and inconspicuous, IBM's objective is to conceal the tags in items that customers wear or carry on a daily basis. According to the patent, "Any item can include a RFID tag and may be a hat, watch, belt, shoes, scarf, purse, wallet, clothing, briefcase, jewelry, or any other item that can be 'carried' on or by a person." (11)

Unfortunately, IBM's human tracking device is not limited to use in retail stores. The patent says the device "can be applied to other locations having roaming areas, such as shopping malls, airports, train stations, bus stations, elevators, trains, airplanes, restrooms, sports arenas, libraries, theaters, museums, etc." (12)

As if the latter features of the tracking system aren't disturbing enough, IBM's patent also says:

"In another embodiment, in addition to scanning RFID tags carried on a person, the system 100 or 200 can be configured to access shopping lists, product preferences, or any other information stored in a wireless communication device carried by the person (e.g., a Personal Digital Assistant--PDA, a mobile phone, a two-way pager, etc.) to augment the information collected by scanning the RFID tags on the person. The augmented information can be used to further enhance the application of the present invention." (13)

In addition to owning a patent that allows IBM to monitor us continuously, the company has had a financial stake in microchip implants. As previously mentioned in the section entitled "Financial Instability of Microchip Companies," IBM Credit Corporation was a major creditor of Applied Digital Solutions Inc., which was the creator of VeriChip Corporation and is currently known as Digital Angel Corporation. Also of interest is that in 2005, VeriChip announced that "its implantable RFID healthcare system, VeriMed(TM), is now a component of the Hospital demonstration area of the IBM Solutions Experience Lab located in Austin, Texas ... The Hospital area demonstrates currently available technologies compatible with IBM healthcare solutions ..." (14)

Besides having a patent for human tracking and a financial interest in microchip implants, there are symbolic ties between IBM and VeriChip Corporation. For example, both Dehomag (IBM Germany) and VeriChip have incorporated the all-seeing eye in their artwork and advertising. In fact, at the front of Edwin Black's book, *IBM and the Holocaust*, there is a reproduction of a Dehomag poster, circa 1934. It depicts a large eye floating high in the sky. The eye projects a wide light beam over all of the buildings below. Behind the buildings is a large punch card, also illuminated by the ominous eye in the sky. Below the buildings is the word "hollerith." The letter "i" is capitalized by a Dehomag symbol, and above the symbol is a tall smoke stack with smoke billowing out of it. According to Black, the approximate English translation is, "See everything with Hollerith punch cards." (15)

Black also says Dehomag had another promotional poster. It depicted "a giant punch card hovering over a factory beaming its X-ray-like searchlights into every room of every floor. The caption read, "Hollerith illuminates your company, provides surveillance and helps organize." (16)

The current logo of VeriChip Corporation is also rather foreboding because it looks like an eye. In fact, when a French reporter

and his cameraman entered VeriChip's office in Florida, the reporter says their attention was immediately drawn to the company logo. Translated into English, he says the logo "resembles an eye facing in our direction." (17)

Also of interest is that one of the previous banners on VeriChip's website showed a blue-coloured, human eye in the top, left corner of the computer screen. The eye was designed in such a way that it sent a clear message to the viewer that VeriChip's objective is to see and control everything. (18)

Another observation that is rather symbolic and worth noting is the placement of the Jewish armband during the Holocaust and one of the current injection sites recommended for a microchip implant. The locations are the same: on the arm, between the elbow and the shoulder.

*Patents for human tracking, credible reports, logos that incorporate the all-seeing eye, and statements made by those interested in tracking humans and animals alike, indicate that the ultimate objective is to tag and track everything and everyone, everywhere, in real time. History, however, proves that this is an extremely dangerous objective.*

*Thus, it is essential that we learn from the role that IBM and its Hollerith system played during the Holocaust: a role that provides a shocking history lesson of how a greedy corporation, diabolical individual, and savage government collaborated and produced pure evil simply by combining seemingly harmless census and registration data with an automatic tabulating system. It also provides a strong warning of what can happen if we allow ourselves or our animals to be tagged and tracked with RFID systems and microchip implants, particularly because today's technology is far more advanced and powerful than the technology available to IBM and Hitler during World War II. (19-22)*

## **Get Involved**

Although this paper may initially appear to be one of doom and gloom, there is hope.

There is hope because there are many things that can be done in order to prevent people and animals from being chipped.

The following examples indicate how to be involved in this endeavor. Although some suggestions entail time and effort, other suggestions do not require any effort. There is an opportunity for everyone to participate!

1. Educate yourself regarding microchip implants, RFID, and other tracking methods that threaten health, invade privacy, infringe on legal rights or erode freedom.

Remember: Do your homework, cross-reference information, think "outside of the box," and use common sense. (1-3)

2. Share your knowledge with as many people as possible.
3. Share this document and the name of Léon's website, [www.noble-leon.com](http://www.noble-leon.com), with as many people as possible. (4-5)
4. Encourage your children to write school papers and engage in healthy debates about microchip implants and RFID.
5. Contact government representatives and ask them to explain their position regarding human and animal microchip implants.

Remember: These individuals have been elected into office by the public. They can also be removed from office by the public. Your voice and your vote count!

6. Work to enact laws that ban mandatory human microchipping.

*Note: Because the threat of mandatory human microchipping is so serious, some U.S. states have already passed laws against mandatory human microchipping. These states include Wisconsin, North Dakota, California, Missouri, and Oklahoma. (6-16) Other states, such as Pennsylvania, are working to ban mandatory human chipping. (17-18)*

7. Work to repeal current legislation that requires animals to have a microchip implant. (19)
8. Work to enact laws that ban mandatory microchipping of animals.

9. Report all adverse and all suspected adverse microchip reactions. Always keep an accurate record of all documentation so that your claim cannot be disputed, and keep a duplicate copy of the data in a safe place.

*Remember: Unless adverse microchip reactions are reported, the myth that “adverse reactions to microchip implants are rare,” will be perpetuated. The fact of the matter is that adverse reactions to microchip implants are not rare; they are rarely reported. (20-21)*

10. Work to enact laws that require the reporting of adverse and suspected adverse reactions to microchip implants, along with mandatory reporting of adverse and suspected adverse reactions to all veterinary products.

Adverse reports should be maintained by an independent, professional, reliable organization that allows the data to be accessed by everyone for free.

*Red flag: In some areas there are laws that require pet owners to microchip their animals. Ironically, however, there are no laws that require the reporting of adverse reactions to microchip implants, or to any veterinary product.*

11. Avoid doing business with individuals, companies or organizations that promote RFID and microchip implants.
12. Demand clear, visible labeling that indicates if a product contains a tracking device. If you purchase an item that contains an unwanted tracking device, ask the store management to disable it before you leave the store.

13. Demand clear, visible labeling regarding the health risks associated with microchip implants.

The information should also be provided by all individuals, companies, and organizations that promote, sell or implant microchip transponders.

14. Support individuals and groups that are working to prevent humans and animals from being microchipped.
15. Participate in, and/or organize, a peaceful anti-microchip and/or anti-RFID protest.
16. Use cash and encourage others to do so as well.

Remember: We are moving towards a cashless society where every transaction is recorded and monitored. Ask yourself, Do companies, governments or other nosy individuals need to know the type of undergarments that you purchase or where you are?

17. Challenge mainstream media to speak and write the truth about the dangers associated with microchip implants.
18. Learn the facts about microchip implants before making the decision to microchip your animals.

Instead of microchipping your pet, use a safe collar that fits well and has a contact number on it. A reflector strip on the collar is a nice feature too. If your dog is prone to slip out of its collar when going for a walk, use a safe harness. The added benefit of a harness is that it reduces the strain on the dog's neck when it pulls on the leash.

Horses should wear a safe halter. In case of inclement weather, such as a hurricane, a contact name and number can be added to the halter.

Tattoos and brands done safely, professionally, and on a voluntary basis, are additional forms of identification for pets and livestock.

Safe fencing and closed gates also help to ensure the safety of animals and prevent them from getting lost.

Work with your neighbors to safeguard your animals and your children.

19. Learn the facts about microchip implants before making the decision to microchip yourself or someone in your care. If in doubt, review this paper again, along with the data provided via the “References” section. (22)
20. Have fun and be creative:

- a. Design, wear, and/or sell anti-microchip/anti-RFID clothes and accessories.
- b. Create an anti-microchip/anti-RFID website.
- c. Create an educational video regarding the problems associated with microchip implants and RFID technology.
- d. Write an anti-microchip and/or anti-RFID song.

21. Write an essay or a book regarding microchip implants and RFID. For example:

a. Review the law of the country in which you live, or of any country that you are interested in writing about. Document how microchip implants and RFID violate the legal, ethical and/or religious rights of the citizens of the country.

b. Take an in-depth look at the companies, families, and individuals that are driving forces behind RFID technology. Focus on the names that keep occurring. Expose their true intentions and help to terminate their unsavory activities.

Of interest: In addition to VeriChip, Digital Angel and IBM, investigate companies such as Wal-Mart, Proctor & Gamble, Auto-ID Center, Checkpoint Systems RFID, NCR, and Siemens. (23)

Also of interest: Aaron Russo, film producer and politician, says that Nicholas Rockefeller of the Rockefeller banking and business dynasty told him that “the ultimate goal is to get everybody in this world chipped with an RFID chip ... if anybody wants to protest what we do or violate what we want, we just turn off their chip.” (24)

And: According to Dr. Patricia Khuly, VMD, questions surround the way in which databases may be linked. She says, “We have a bit of an issue with how Shering-Plough would link its database to ours. Not only would they have access to all our microchipped pets’ information, they’d also—effectively—have access to all our patients’ records ... Data mining is an excellent source of income in online commerce ... Apparently the folks at Shering-Plough couldn’t understand this. When we questioned them at length about this [obvious] ploy to take over our clients’ information (and charge them for it, to boot!) they treated us like paranoid conspiracy theorists.” (25)

c. Delve into the pathological behavior of those who have an insatiable desire to tag and track others. Also, examine why the perverse obsession to track our every move is allowed by companies, governments, and the global elite, yet if you or I behaved in this manner, we would be arrested, sued, and labeled a pervert, psychopath, predator, terrorist, and/or a menace to society.

d. Whenever proponents of microchip implants claim the device will prevent or solve a problem, ask yourself, What is the source of the problem? Then provide safe, enduring solutions that solve the problem rather than create more of them.

For example, advocates of microchip implants claim that people are less likely to abandon microchipped pets than non-microchipped pets because the owner can be identified via the implant. However, a person that does not want to be identified via an abandoned pet’s microchip implant is likely to find a way to deactivate the chip. Advocates of microchip implants also claim that it is safer to microchip a pet than to tattoo its ear because people have been known to cut off the tattooed ear before abandoning the pet. However, a person that cuts off an animal’s ear is just as likely to gouge out the microchip before abandoning the animal.

So, write an essay regarding the reasons that pets are abandoned, suggest ways to prevent this problem, and offer solutions so that owners have the option to safely relocate their pet to a loving home.

Remember: Do not give up when those who promote microchip implants ignore or criticize your solutions. Be persistent.

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Remember: Your voice can make a difference. Here’s proof!

As a result of Léon’s case, the scientific paper entitled “Fibrosarcoma with Typical Features of Postinjection Sarcoma at Site of

Microchip Implant in a Dog: Histologic and Immunohistochemical Study” was written by Vascellari, Melchioti, and Mutinelli. It was published in *Veterinary Pathology* in July 2006. (26)

Todd Lewan, AP reporter, wrote the microchip-cancer news story entitled, “Chip Implants Linked to Animal Tumors.” It was released in September 2007 and brought worldwide attention to the microchip-cancer risk. The news report was so powerful that it resulted in a substantial decline in the value of the stocks of VeriChip and Applied Digital. (27-29)

In addition to Mr. Lewan’s microchip-cancer news report, he has written several other important and insightful articles regarding microchip implants and RFID.

Also inspired by Léon’s story, Katherine Albrecht, Ed.D., wrote two extensive reports regarding the scientific microchip-cancer studies and other problems associated with microchip implants. Her papers are entitled “Microchip-Induced Tumors in Laboratory Rodents and Dogs. A Review of the Literature 1990-2006” and “Microchip Implants: Answers to Frequently Asked Questions.” (30-31)

Earlier this year, the residents of San Marcos, Texas were faced with legislation that would require their pets to receive a microchip implant. With the help of Dr. Albrecht, they organized a large, peaceful protest and expressed their concerns regarding microchip implants during a March 2009, City Council meeting. (32-33) At the same time, they showed their respect for little Charlie Brown, a long-haired Chihuahua who bled to death in January 2009, just hours after receiving a microchip implant that is mandated by law in Los Angeles, California. (34)

The San Marcos case is important because it demonstrates that when people are educated regarding the risks associated with microchip implants, they will unite and reject the technology. The case also highlights the complete disregard and disrespect that those pushing microchip implants show for the rights and opinions of the public because even though opponents of mandatory microchipping were initially able to prevent mandatory pet chipping in San Marcos, the controversial proposal of mandatory microchipping resurfaced a few months later. (35)

Please get involved. Educate yourself and your loved ones regarding the health, privacy, legal, ethical, religious, and environmental concerns associated with microchip implants, RFID technology, and other tracking modalities that are currently in place and/or slated for the future. Look at the big picture. Ask the right questions. Speak for those who are unable to speak for themselves because one day, for whatever reason, you may not be able to speak for yourself.

Conclusion

It’s been several years since the passing of little Léon. Still, I think about him every day and every night. Sometimes the memories make me laugh. Other times they make me cry. In between the laughter and the tears, I am filled with gratitude and pride because my four-legged companion enriched my life.

I know that Léon doesn’t want me to be sad. And I know that he doesn’t want me to chastise myself for allowing him to have a microchip implant. Instead, he wants me to learn from the mistake. He wants others to learn too.

Because of Léon’s death and my desire to write this document, I have become more knowledgeable about microchip implants and RFID technology. I have also become more aware of the selfish, incompetent, and ruthless behavior of corporations, governments, and regulating agencies. As bonus, I have gained a greater understanding and appreciation of ways in which animals try to protect and educate us. Unfortunately, we rarely heed the lessons that we can learn from the animals. Instead, we continue to make the same mistakes over and over again.

In 1962, Rachel Carson’s eloquent yet tragic book, *Silent Spring*, sounded the alarm regarding problems associated with pesticides, herbicides, insecticides, and other chemical toxins. She was able to warn the public about the short and long-term problems of many man-made chemicals because she had the common sense and intelligence not only to observe but also to learn from the animals. (1)

Carson’s research revealed that birds, fish, pets, livestock, and wildlife were becoming sick, sterile, deformed, paralyzed, exhibiting odd behavior, and dying because of toxic chemicals. Her research also demonstrated that humans were experiencing similar problems. She amassed an overwhelming amount of scientific data to prove her case. Tragically, however, the truth was squashed by powerful corporations and corrupt government agencies. Equally as tragic is that instead of learning the facts and preventing the onslaught of chemical contaminants that have polluted the soil, air, and water in every corner of the Earth, the public was pacified with sugar-coated, “tranquilizing pills of half truth” and lies by those with a vested interest in the toxic products. (2) Writes Carson: “For the first time in the history of the world, every human being is now subjected to contact with dangerous chemicals, from the moment of conception until death.” (3)

Now we are confronted with another major threat: microchip implants and the ways in which RFID technology can be used by unscrupulous individuals, powerful corporations, corrupt governments, and the global elite. The question is, Will we allow ourselves to be pacified with more sugar-coated half-truths and lies by those who profit from this invasive and potentially lethal technology, or will the knowledge gained from the journey with an extraordinary French Bulldog named Léon, inspire people around the globe to examine the truth, fight for their rights, and say “NO” to microchip implants and other tracking modalities?

Only the future will reveal the answer. In the meantime, this research demonstrates that there are serious health, privacy, ethical, religious, and environmental concerns associated with microchip implant technology. In spite of these concerns, however,

corporate documents, corporate statements, SEC filings, patents, media reports, and other sources of information reveal that the objective is to implant microchips not only in animals but also in humans.

As governments, microchip companies, regulating agencies, and adverse reporting agencies are doing little, if anything, to warn or protect the public from dangers associated with microchip implants, it is imperative that the public educates itself about these devices. It is also imperative that the public takes this opportunity to break the vicious cycle of placing unbridled power in the hands of those who are untrustworthy, incompetent and unaccountable for their actions.

Microchip implant technology is not about the safety and well-being of humans and animals. Microchip implant technology is about making money and controlling people. Clearly, the grave problems posed by this invasive and potentially lethal technology cannot be ignored. The microchip menace must be faced head on and it must be faced now.

Legislation that requires animals to be microchipped must be repealed. Legislation that prevents mandatory microchipping of humans and animals must be enacted. And any attempt to create a society in which people are penalized or discriminated against because either they or their animal(s) are not microchipped, must be thwarted.

Please say “NO” to microchip implants, and remember: After all is said and done, an individual must maintain the right to refuse to have a microchip implanted in his or her body, and in the body of any creature in his or her care.

Thank you.

[Wishing you love, light, courage, honour and integrity.](#)

Jeanne, on behalf of, and in memory of Léon, the fearless French Bulldog who fought until the end.

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#### **References:**

*NOTE: Due to the length of the References section, a separate document has been created. Please click [here](#) to visit the [complete References](#) section of “Microchip Implants: Technological Solution or 21st Century Nightmare?”*

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