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Shock or Electronic-Training collars: Do they work to change a dog's behavior?

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In the United States some people believe electric shock collars are a means to train a dog. Often times this concept is reinforced and agreed upon by people who train dogs as a profession. Should we make assumptions or should we consider science, fact and research? Let's explore the evidence and consider various possibilities in this article.

First, the term electric shock collar is often referred to as *remote training collar*, *e-collar*, *electronic collar*, and *training collar* or other euphemisms, to downplay what the device actually does to a dog - this collar *delivers an electric shock*. So euphemisms aside, it is a collar designed to deliver a remote controlled or remote triggered, electric shock to the dog, causing varying amounts of discomfort. Consider the question, *is the use of this collar humane, safe, and forward thinking?*

Does the use of an electric shock collar equate to Behavior Modification?

Actually, despite claims that major veterinary universities have tested E-collars since the mid 60's (when they were invented), there are not many studies on the *effects* of shock to nerve damage or other fallout that could arise from the use of electricity on a dog. It is important to understand that information from data recently published helps anyone who is interested to understand: (1) the use of shock is NOT TREATMENT for pets with behavioral concerns; (2) the use of shock is not a way forward; (3) the use of shock does *not* bring dogs back from the brink of euthanasia (indeed, it may send them there, and I will discuss this subsequently); and (4) such adversarial techniques have negative consequences that those promoting these techniques either dismiss or ignore. **SEE:** Overall, KL. Why electric shock is not behavior modification. J.Vet. Behav.Clin.Appl.Res. 2007; 2:1-4

So, does an electric collar "work?"

This complex topic has become a *hot button topic* (no pun intended) among many trainers and others - just do a Web search for discussion about shock collars.

Now, to pose an important question: how did the author of the websites you'll find obtain and disseminate the information written? Is the article based in science and published research, or pseudoscience, or simply a "because it works" idea?

The scientific method provides a way to measure and test beliefs, and consists of these seven basic steps that are followed as a standard: (1) Ask a question, (2) Make preliminary observations and formulate hypotheses, (3) Make predictions from hypotheses, (4) Identify which variables need to be measured to test these predictions, (5) Choose suitable methods to measure the variables, (6) Collect *sufficient* data and stop collecting data when you have enough to provide clear answers, (7) Make use of the right statistical tools for testing the hypotheses. **SEE:** Martin, P. & Bateson, P. (1986). *Measuring Behaviour: An Introductory Guide*. Cambridge: Cambridge University Press. Generally, the intent and use of the electric collar is to stop a specific *undesirable* behavior.

Often information found on Web searches indicates the dog became *obedient*. What is *obedient*? Is an *obedient* dog distressed, or does it suffer from profound anxiety? How can we know? We do know that shock, along with other aversion tools, work to teach avoidance and cessation of a behavior. This *extreme form* often examined in the psychological literature is referred to as *immobility*. It is this criteria of *immobility* by which *learned helplessness* is accessed. Additionally, studies have shown that when various behaviors or phobias are diagnosed in dogs (often these dogs present in a reactive, "aggressive" way), and an attempt is made to use shock as a treatment, the dogs' phobias are highly resistant to extinction. This means that if a dog is already fearful, the fearfulness will *not* diminish if shock is used. Consider a dog that is fearful or reactive toward humans, other dogs, objects or environments, on whom shock is used in an attempt to extinguish the fear. The shock will not extinguish the behavior, but instead could increase the fear resulting in increased aggression or increased phobias. **SEE:** Seligman, ME. Phobias and preparedness. *Behav. Ther.*1971;2:307-320.

If the shock and pain are profound enough, it is possible to induce an immediate and long-term potentiation to the molecular changes associated with hippocampal memory that leads to a strong aversion or phobia. (The **hippocampus** is a part of the [forebrain](#), located in the medial [temporal lobe](#). It forms a part of the [limbic system](#) and plays a part in [long term memory](#) and spatial [navigation](#). Humans and other mammals have two hippocampi, one in each side of the brain). The hippocampus is the primary region of the brain where fears and anxieties

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associated with aversive stimuli are thought to originate. A stressful, painful stimulus (like a shock) may cause long-term increased fear, phobias or withdrawal. A study by Schafe et al in 2001 postulates that the use of a shock collar involves learning of contextual fear or *learned helplessness*. Furthermore, we may be unintentionally *changing other desired or undesired behaviors* when we expose a dog to shock. **SEE:** Schafe GE, Nader K, Blair HT, LeDoux, JE: *Memory Consolidation of Pavlovian Fear conditioning: A cellular and molecular perspective. Trends Neurosci, 2001; 24:540-546.* Simply put, when adversarial methods are used on dogs, they may become more anxious, more pathologic, and potentially more aggressive and dangerous depending on their problem.

Does shock work to teach avoidance or cessation of behavior?

Aversion therapy, or avoidance training as it is often called, has been used to teach dogs to avoid certain things: snakes, attacking sheep or other livestock, chasing vehicles, etc., There are no scientific studies on whether use of a shock collar can teach a dog to avoid snakes, partly because data on the range of 'normal' canine responses to snakes is lacking completely.

There is some data on the use of shock to control livestock chasing, within certain restricted circumstances. It is interesting to note that while these experiments were ongoing, there was not any data on the dogs' behavior before the experimental test. The dogs merely had to exhibit certain behavior (not a certain level or any other specificity) to be chosen in the experiment. Additionally, in this study, the shocked dogs' interest in the sheep *increased*. One dog that was shocked consistently for high interest in sheep still attacked sheep in the second year. **SEE:** Christiansen FO, Bakken M, Braastad BO. Behavioral changes and aversive conditioning in hunting dogs by the second year confrontation with domestic sheep. *Appl. Anim. Behav. Sci* 2001;72:131-143.

Does shock change learning on a cellular or molecular level?

In 2004 a study was published on protection-trained German Shepherds, that showed that following the use of shock during training there appeared untoward, negative, long-term effects. Dogs that were shocked in training (but not when the evaluations were made) showed a lower ear posture in free-walking, and more stress-related behaviors than the dogs who had not been shocked in training.

Additionally, other noted behavioral responses associated with stress and distress found in the dogs that were shocked during training included physiological differences - and the dogs' responses were more profound when the person associated with the shock (the handler) was present. Their conclusions were: (1) this type of training, in general, is stressful, (2) receiving shock is painful for dogs; and (3) dogs learn a context-dependent concern: the presence of the owner/handler and his commands announces the reception of shocks. This is the most rigorous study on the responses of dogs to shock to date. It shows that although shocked dogs can excel as guard dogs, their behavior toward humans and work circumstances changed, often indicating heightened uncertainty and reactivity. **SEE:** Schilder MBH, van der Borg JAM. Training dogs with the help of the shock collar: Short and long term behavioural effects. *Appl.Anim.Behav.Sci.*2004;85:319-334.

Shock, Choke or Prong Collars on Dogs: Physical and medical concerns

There are serious medical concerns with using a choke or prong collar on dogs. For years data has been collected implicating these choke and prong collars in causing cervical (neck) instability, degenerative arthritis, and recurrent laryngeal nerve paralysis, which can affect voice, swallowing ability and more. Such concerns are not rare in working dogs and sadly, these concerns are relevant in the pet-dog community as well. There is data showing that the effects of neck pressure by collars increases intraocular pressure - the pressure in the eyes of dogs - in a manner that is injurious to the vision of many dogs over the long term, and in the short-term in a way that puts dogs with thin corneas, glaucoma, or eye injuries including corneal lacerations, etc. at serious risk, especially during exercise or activity. It should be noted that German Shepherds have a relatively high incidence of some of these eye conditions. None of these effects were found when the dogs wore a harness. The pressure changes noted in the eye were the result of increased pressure on the jugular vein and all the veins to the head (and thus the eyes). Furthermore, the effects were more profound with age, so more effects were found to effect the older dog. **SEE:** Pauli AM, Bentley, E Diehl, KA, Miller, PE. Effects of the application of neck pressure by a collar or harness on intraocular pressure in dogs. *J.Am.Anim.Hosp. Assoc.*2006;42:207-211.

Over the past decade, scientists have evaluated the effects of shock, sudden loud noises, the force exerted by tight neck collars (as opposed to harnesses) and numerous other control and treatment issues that now are falling under the growing domain of animal welfare issues. The pertinent question to be asked now

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is, when shock is employed, what information is really being conveyed to the dog? Remember, cessation of one behavior does not mean that the dog was *normal* or that he was rationally complying with the program designed to *eliminate the reason for the behavior*. **SEE:** Overall, KL. Considerations for Shock and 'training' collars: Concerns from and for the working dog community J. Vet. Beh. Clin.Appl.Res. 2007;2:103-107. Your question might be, are there other more effective methods or modalities to teach a dog new behaviors? Only you are able to determine what is "okay" for your dog, no matter our societal pressures.

Correlation between domestic violence and animal abuse:

How should we consider the use of shock collars, prong collars, choke collars and any other type of device rooted in an adversarial, confrontational interaction with the dog? How does that correlate to other relationships? There is sound evidence and solid information relating dog (or other animal) abuse to spousal or child abuse. It is now a well-established fact relied upon regularly. Consider: does the "because we can" attitude toward shocking or choking a dog with these devices make it acceptable? It has been said that a society can be judged by how it treats its animals. How do we break the cycle? The United States lags behind most developed societies, including those in Europe, Australia and New Zealand, and to a lesser extent, Canada in consideration of animal welfare issues. These issues, particularly those of training methods, affect many working dogs as well as pet dogs. Pertinent welfare information should be available and accessible to everyone seeking to train a dog. **SEE:** Ascione, FR, Arknow P. Child Abuse, Domestic Violence, and Animal Abuse: Linking the Circles of Compassion for Prevention and Intervention: In: West Lafayette, IN: Purdue University Press: 1999, p 479; **Also SEE:** Lockwood, R, Ascione FR. Cruelty to Animals and Interpersonal Violence: Readings in Research and Application: IN: West Lafayette, IN: Purdue University Press; 1998; p 452.

Let's return to the original question: *is the use of this collar humane, safe, and forward thinking?* You as the reader and dog owner can draw your own conclusions to this question, as the answer will likely be slightly different for everyone. For many professional dog trainers who possess a thorough understanding of learning theory, the response is that shock collars are *not* successful or effective when training working or pet dogs.

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