Are Shock Collars Painful or Just Annoying to Dogs? A 2004 Study Reveals Some Answers

by Sophia Yin, DVM, MS
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Trainers often debate about the use of electronic shock collars. Some trainers find these collars unethical and unsafe. The pro-collar camp takes a different stance. Some say it just distracts the dog, calling it "tap technology" and others say it may be painful at the instant but then the dog learns to behave and there are no lasting negative effects.

In 2003, researchers from the Netherlands, Matthijs Schilder and Joanne van der Borg, assessed the short and long term behavioral effects of dog training with the help of shock collars. They wanted to know three things:

1. Do shock collars cause pain and fear or just cessation of a behavior? This could be evaluated by looking for signs of fear and pain when dogs receive a shock.
2. If the shock collars cause pain and fear, do the signs of fear fade afterwards such that the dog is completely normal or do signs of fear and anxiety persist? For instance, if dogs have received shock on the training ground do they show more signs of fear during non-training times in the same area when compared to dogs that have not been shocked?
3. And lastly, the researchers wondered if they could distinguish shocked from non-shocked dogs by fear/anxiety responses outside the training grounds. That is, are dogs who have been shocked more fearful in non-training locations? If so, it indicates they associate the handler or being given commands with the reception of shocks.

The Study Group

Schilder and van der Borg used Malinois, Malinois crosses, German Shepherds and one Rottweiler from a group of dogs being trained for their official (IPO) certificate as police dogs as well as dogs being trained for standard watchdog training for a comparable (VH3) certificate, which is the highest possible in this type of training. Because these were working dogs they differ from the general population of dogs in that they are higher energy, higher drive, and have a higher tolerance for the correction-based training for which they are bred.

The 32 shock-collar group dogs (S-dogs) received shocks during training. The control group received no shocks but did receive other harsh methods including choke chain corrections, pinch collar corrections, other physical corrections (C-dogs). The researchers had no influence upon the methods and aids used, rather they just observed the trainers during the routine training sessions and "free walking" sessions in which the dog was not being trained or given corrections.

Overall they observed 32 shock collar-group dogs receiving 107 shocks and 16 control dogs who received other types of corrections instead. They evaluated control and experimental dogs in three situations:

- First a free walk on the training grounds in which the dog was walked on leash but no orders were given to the dog. This was to see if there was a behavioral difference between the non-shocked vs the shock collar dogs and whether the type of correction had a lasting effect outside of the correction-situation.
- An obedience work session on the training ground which included the following commands—sit and down in motion, heeling in slow, normal and fast walking speed with changes of direction, and recall to the handler. This situation was to determine whether the S-dogs showed signs of fear or pain when corrected.
- A protection work session on the training ground in which the dog performed a number of exercises such as search for criminal, hold and bark at criminal, escape and defense, followed by attack by the criminal, and finally transport back.
- They also filmed the dogs during a "free-walk" session at a park (a new location) and then an obedience session at the park. This was to see whether there was a difference between control dogs and S-dogs and whether S-dog associated the shock correction with the handler.

The Effects of Shock-Collar Corrections on Body Posture

The study found that in the 32 dogs that received a total of 107 shocks, there was an immediate direct effect in which the dogs most commonly:

- Lowered their of body posture (22 of 32 dogs)
- Gave high-pitched yelps (17 of 32 dogs)
- Gave tongue flicks (18 of 32 dogs)
- Lowered their tail (13 of 32 dogs)
- Squealed (13 of 32 dogs)
- Turned their head down and to the side to avoid the shock (7 of 32 dogs)
- Moved away (avoidance) (14 of 32 dogs)
- Gave a barking scream (5 of 32 dogs)
- Crouched (6 of 32 dogs)

Dogs also lifted their front paw, lowered their back, jumped, licked their lips, circled, trembled, and sniffed the ground. All of the listed behavioral responses are signs of fear, pain, or anxiety and stress. Seven dogs showed no reaction.

The Effects of Previous Shock-Collar Corrections on Behavior at the Training Ground

Dogs that had been shocked previously showed more signs of anxiety and fear then the control dogs during free-walking on the training grounds as well as when they were being trained. During the free-walking and obedience work, S-dogs exhibited significantly more lip licking and lower ear positions indicating lasting effects of shock on overall fear and anxiety. During the protection work they showed more paw-raising.

The Effects of Previous Shock-Collar Corrections on Behavior in a New Setting (The Park)

Dogs that had been shocked previously showed more signs of fear an anxiety in the park situation than the control dogs. They showed a higher frequency of low ear position during the free walk than the control dogs and lower ear position and tongue flicking during obedience exercises in the park.

Behavior on the Training Ground *v.* the Park and When Being Trained *v.* on Free Walk

Dogs that had previously been shocked were more frightened on the training ground than in the park. They carried their tails lower on the training ground than in the park and lifted their paw more. They were also more frightened during training than when being walked—ears and tail position were lower when being trained. However, non-shocked dogs also showed more signs of fear when being trained than when being walked.

The Take Home Messages

Overall the researchers concluded that even when compared to working dogs trained using choke chain and pinch collar corrections, dogs trained with electronic shock collars showed more fear and anxiety behaviors than those trained by other traditional police dog and watchdog methods. They concluded that:

- Avoidance behavior and fear postures during the shocks indicated that the shock elicited both pain and fear and, therefore, were not just a distraction or nuisance.
- The fact that the dogs showed more fear than control dogs both in the non-training situations in the familiar training grounds as well as in the park indicates that dogs are learning to associate the shock, not just with the unwanted behavior, but also with the location/environment as well as the trainer. The researchers found some evidence that some dogs had also learned to associate commands with shock. For example they state that one dog, shocked immediately after getting a “heel’ command, yelped after getting the next “heel” command without being shocked. The authors point out that the dog was not given a chance to respond after given the “heel” command. Rather, the command was immediately followed by the correction, hence, increasing the likelihood that this type of aversion association would be made.
- The researchers state that in the presence of the handler, the dog has learned to expect something aversive. “The enormous rewards the dogs experience during training, i.e., chasing down, catching a criminal and winning the sleeve, do not counter the negative effects of getting shocked. This is in spite of the fact that handlers of non-shocked dogs admitted that they use prong collars and that their dogs experienced beatings and other harsh punishment, such as kicks or choke collar corrections.”
- Both dogs trained using electronic shock collars and those trained with other traditional coercive methods (choke chain, pinch collar, physical punishment) showed more signs of fear and anxiety when being trained than when on a free walk.

Interestingly, the results did show that 7 dogs out of 32 (22%) showed no signs of fear or pain while actually receiving the electronic collar shock which indicates that some dogs bred for high drive and to withstand the demands of the coercive-type training appear to have no pain or fear of the shock. The study does not indicate whether these 7 dogs failed to show fear and anxiety in the other test situations though.

Their final thoughts—it would be interesting to see whether the shocked dogs also show more signs of fear with a different handler and the next step is to compare protection and guard dogs in a more “friendly” way.

Schilder, M., Van der Borg, J., 2004. Training dogs with the help of the shock collar: short and long term behavioural effects. Appl Anim Beh Sci, 85, 319-344.