

Back Study By Anders Hallgren

Background

A common cause of behavioral troubles in dogs is disease or pain. According to those who work with problem dogs, the most usual source of pain or disease is damage to muscles and bones. In 1991, I performed a study in an attempt to map the frequency of back injuries and to trace some of the causes. The study included 424 dogs, 24 of which were dismissed for various reasons, such as incomplete information given in the questionnaire. Dog behaviorists, educated by me, and chiropractors, offered free examinations to dog owners in various dog clubs.

The questionnaire consisted of two parts. The first was filled in by the chiropractor, describing the type of damage, if any, discovered during a chiropractic examination. The owners filled in the other part of the questionnaire anonymously and before they received the results of the examination. This part contained data about the dog, such as breed, sex, age, and status of hip, knee and elbow dysplasia if known. The owners also filled in potential risk factors to which their dogs had been exposed that may lead to back problems.

They were:

- Former joint injury,
- Use of choke chains,
- Excessive walking on steps,
- Jerking and pulling on the leash by dog, owner, or both,
- Rough playing,
- Sudden accelerations and high speed running,
- Outer trauma (anything from human violence to getting hit by cars),

Result

- Excessive jumping,
- Exercise on hard and flat surfaces,
- Food with insufficient nutrients,
- Food too high in protein, and
- Vitamin deficiency.

Result

63% of the dogs had back problems at the time of the examination. There was no significant difference between males and females.

The problems were located in this manner:

- Lumbar (lower back): 72.33%
- Thoracic (upper back): 67.19%
- Cervical (neck): 26.87%

This total is more than 100% because some dogs had injuries in more than one location.

PROBLEM BEHAVIOR

A significant number of the dogs with back problems also had behavior problems (55.33%). Of those with no back injury, 30% had behavior problems.

Of the 55% with back problems and problem behavior:

- 42% were acting aggressively (acting out)
- 13% were reserved (shy).

Of the 30% with problem behavior but no back problems:

- 19% were acting aggressively (acting out)
- 11% were reserved (shy).

On the other hand, if we look at the number of aggressive dogs (those acting out):

- 79% of those have back problems, while only 21% have no back problems

Of the reserved dogs (shy):

69% of those have back problems, and 31% have no back problems.

1. Note: There is no mention of the situations or extent of problem behavior.

Result

POSSIBLE CAUSES FOR BACK PROBLEMS

Earlier joint injuries. Dogs who had growth pain had significantly more back problems (83.33%) than others. Of the dogs with a former joint injury, 71% had back problems. About 75% of dogs that had been limping without finding the cause, also had significantly more back injuries.

The correlation between walking in amble and back problems are inconclusive. Although the tendency was relatively strong (75% had back problems), it is difficult to understand the causes behind the correlation collars. There was no correlation between choke chain collars and back problems. No correlations were found in any of the three parts of the back (lumbar, thoracic, cervical).

Jerking and pulling. On the other hand, there seems to be a connection between how the collar is handled and back problems. Pulling and jerking on the leash affect especially the neck and throat in the dog. As expected, there was no correlation between leash handling and thoracic/lumbar defects. However, one of the clearest correlations in the whole study was between cervical (neck) damages and 'jerk and pull'. 91% of the dogs who had neck injuries had also been exposed to jerking on the leash by the owner or been allowed to pull hard on the leash for long periods of time.

Outer trauma. Injury (history of outer trauma) in this case includes such things as: an attack by another dog, an impact from a car/bicycle, loss of balance and falling while in a car that is stopped too quickly, 'alpha rolls,' and being hit or beaten. In all of these cases, the dog's muscles are tensed and may cause strain. For instance, if a dog has a muscle injury in the leg, the dog may compensate for the injury by overuse of the back muscles, thereby causing injury to the back. Of the dogs in this group, nearly 71% had back problems.

Running and playing. Dogs who were running and playing with other dogs, or simply run a lot, does not seem to cause back problems. No correlation was found.

Jumping. Jumping included going on and off furniture, as well as jumping on people, over fences, agility jumps, etc. No correlation between jumping and back problems was found in the study.

On or off leash. No correlation was found

Going up and down stairs. No correlation was found.

Stretching. Stretching when waking up, getting up from lying etc. It is interesting to see that dogs that stretch frequently often have lumbar defects.

1. Note: A very low percentage of the dogs that had no cervical injuries had been exposed to jerking or allowed to pull for long periods (Author's comment).

Discussion

Exercise. The amount of exercise and the surface on which the exercise take place seem to have no influence on back problems. However, there seems to be a positive correlation between exercising in mixed terrains, mostly woods and grass fields, and back problems. In other words, it was found that dogs exercised in mixed terrains showed less back injury.

Food and vitamins. Some claim that food may also have a bearing on the risk of developing back problems. Dry kibble with low quality ingredients, low nutritional value or too high in protein, has particularly been questioned. No correlation was found between food and back problems. (The different brands of food were not analyzed.)

Different breeds. Dogs of breeds represented by nine (9) or more dogs, were listed in order to see whether some breeds were more inclined to back problems:

(MeG= The mean of the entire group)

- Berner Sennen : under MeG (Bernese Mountain dog)
- Mixed breeds : above MeG
- Boxer : above MeG
- Cavalier King Charles Spaniel: above MeG
- Collie : Above MeG
- Doberman : Slightly above MeG
- Flat Coated Retriever : Below MeG
- Golden Retriever : Below MeG
- Groenendal: Slightly below Meg
- Labrador Retriever.: Slightly above MeG
- German Shepherd : Above MeG
- Tervueren : Much above MEG

Discussion

In a way, it is surprising that back problems in dogs are so common (in this study 63%). Many dog owners probably don't expect their animals to suffer from "civilization defects" to such an extent. According to chiropractors, back problems in humans are distributed like this: 20% have good backs, 40% have problems without noticing or suffering from it, and 40% have pain and need treatment.

That dogs are so similar to humans may come as a surprise to many. It is common knowledge that dogs with long spines (e.g., dachshunds) are highly susceptible to back problems, but now we know that these can strike any dog!

Discussion

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BACK DEFECTS AS IRRITATION

It's well known that dogs with different diseases easily develop problem behaviors. Those with back problems are no exception. Whether the damages cause pain or simply tension, is impossible to tell, but it's certain these injuries are an annoyance to the animal. Most commonly, dogs with back problems are aggressive, stressed, noisy, etc. This gives a good reason to examine an aggressive dog for back injuries as well as for other medical problems.

Early joint defects - a warning sign. Back problems that are caused by joint defects probably aren't news. A dog relieves one leg and overstrains the other. This causes the body to twist and the muscles across the back to strain. Dogs who have suffered from growth pain, injured joints, or have limped for an unknown reason, have back defects more often than others.

It's also common that dogs with thoracic damage walk in amble more often than other dogs. There's a similar correlation between dogs with lumbar damages and frequent stretching.

Cervical damages - from 'jerk and pull'. One of the most common types of collars we use on our dogs is the choke chain collar. Considering it is used as intended, as a training tool, one can easily imagine that it results in damages to the vertebrae in the neck as well as to the soft tissue in the throat. The dogs that pulled hard or had been exposed to jerking had a much higher degree of cervical (neck) injuries. In other words, there is a sound reason to warn against hard jerking, as well as keeping dogs that might lunge at the end of the leash tied up.

There are also grounds to be concerned about dogs that pull excessively. Dogs need to learn to walk on leash without pulling from the start, just as dog owners need to learn not to jerk and pull the dog. This is a touchy subject as most of the training offered in dog classes is based on 'jerk techniques.' [Footnote: The study was performed in 1991 when 'jerk techniques' were still common.]

Injuries - a common cause for back problems.

Another factor that also had a clear correlation to back problems is injury, also referred to as 'outer trauma.¹ If a dog is exposed to anything that causes a loss of balance or physical violence, the risk of later back problems is increased. It doesn't have to be direct trauma to a specific location; we already know from experience that many back problems develop after a period of strain or damages in the muscles.

So, there is good reason to attempt to avoid situations where the dog may be harmed. One simple way is to make sure the dog isn't tossed back and forth in the back of the car - drive carefully! It's not possible to predict and avoid accidents completely, but we can decrease the risk by keeping the dog on a leash near busy roads. The same goes for unprovoked attacks by dogs. Some owners seem to think that fighting is natural and let their dogs off leash even when they might attack other dogs. It's not natural and we should be able to demand that such dogs be kept on leash.

Playing is harmless - but warm up first. Dogs that often run, play with other dogs, jump out of happiness or over obstacles, showed no correlation with back problems. This is encouraging.

However, dogs should be given massage and a chance to warm up before strenuous activities, whether it's before rough playing, hunting or agility.

In the future

On or off leash. Whether a dog was mostly on- or off-leash didn't seem to have any impact on the back. This is encouraging, as we must keep our dogs on leash most of the time, for various reasons.

Stairs. The same goes for walking up and down stairs. They don't seem to make a difference. However, the owners of dogs that have sensitive backs should be more careful about stairs.

Exercise. It would seem likely that dogs who are exercised little are more exposed to muscle and back damages. This is partly because their muscles don't have much strength, something that would otherwise protect the bone structure. Also, they are under stimulated, which may cause them to become more rowdy once they are given a chance to release their energy, increasing their risk of injury. It's also easy to believe the dogs that get a lot of exercise are less likely to become susceptible to back problems. First, dogs that are exercised frequently are in good physical shape. They are also less likely to become wildly boisterous because of under stimulation. Lastly, if dogs are similar to humans in this respect, exercise is beneficial for the back.

This study found no correlation between the amount of exercise and back problems. However, the results do suggest a correlation between fewer back problems and exercise in mixed terrain. The surface (ground) seems to have a certain beneficial effect. This is logical; as a dog moving in a mixed terrain exercises more thoroughly, thus have a smaller risk of injury.

In the future, we would like to see a study on different breeds and back problems, The material collected in this study shows tendencies that suggest certain breeds are more susceptible to back problems than others.