



Oh, That Flexible Neck

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Example of correct neck posture – all eyes and hips are level and even.

In part one of this series, [What is Posture and Why Should We Care about it?](#), Drs. Karen Gellman and Judith M. Shoemaker explored posture and why standing up is so important for animals and people. So, what are some of the reasons our dogs have trouble standing comfortably or “stacking” correctly? The upper neck, the feet, and dentition/skull shape turn out to be the biggest players in abnormal posture, because they are areas rich in nerve cells that report on the body’s relationship to gravity, especially that of the head and neck. And they are vulnerable to changes caused by domesticated life. When these anatomic regions become distorted or damaged, the information from their local nerves is also distorted or damaged. Bad information generates bad posture. But there is good news! When you can normalize the information, or mitigate its effects, the dog’s posture will return to healthful neutral stance, like resetting an electronic device to its “factory settings.”

Restraint and Force

Aside from carrying ID and vaccination tags, dog collars are mainly used to control a dog’s movements: keeping them close on a walk, holding them back from jumping on a houseguest, and for training. Why don’t we use bracelets, or belly bands? Because controlling the neck and head is the most effective-- the animal will always go where its brain goes. There’s been awareness in recent years that damage can be caused to the delicate structures of the neck by dogs pulling against their collars. One result is that some of the worst leash-pulling culprits get put into harnesses, some of which are ineffective -- so they can really pull their owners around! Another has been the introduction of more sophisticated head collars and better training techniques.

Since head position is critical for all animals, the small muscles that control the head are loaded with sensory nerves that report on position--500 times more sensors than in limb muscles! The joint capsules and ligaments of the neck vertebrae are also “hard-wired” to provide intensive information about their position. When excessive force is exerted on the neck, whether from a leash, a kennel chain, or from an accident, there can be damage to those muscles, joint capsules, and nerves. For instance, a dog that always cocks his head to one side can be demonstrating distorted neural information. Sometimes the impairment is more subtle, as in a dog which only retrieves a Frisbee in one direction. Ever known a dog that lies down on one side only to sleep? All



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animals have to bend their necks in order to get up from lying on their side. If bending their neck is difficult or painful, dogs will avoid lying down on the side hardest to bend away from when rising.

While the most common cause of neck injuries is restraint, some dogs suffer trauma during athletic performance or rough play with their canine friends. Dogs with a strong play or prey drive may successfully suppress signs of a problem at the time of the trauma, but later adapt their posture and gait to compensate for the pain or dysfunction. Their restriction in movement or gaiting can become exacerbated over time, or only revealed in extreme athletic challenges. Meanwhile, compensatory posture can cause overload damage in joints that are inappropriately bearing excessive weight.



Some ways in which neck alignment can be distorted or hindered to cause compensatory posturing.

Juvenile intervention

Some dogs are never quite right from earliest life because of injuries during whelping. The most common example is a very large first born puppy that causes even a mild dystocia or birthing delay, especially in a primiparous or “maiden” bitch. The pressure on the pup’s neck can be more than enough to damage its neck or overly compress its skull. This is the puppy that is the biggest in the litter, but the last to open its eyes, walk, run, and always seems a little dopey and uncoordinated. Some puppies can be injured post-birth with large litters, poorly designed whelping boxes, or inexperienced bitches. Many of these dogs can be helped with an early juvenile intervention.

If you assess each puppy’s ability to initiate and maintain an appropriate relationship with gravity at the critical time, you will often see a wide variation in developmental levels. This is best done between 3-4 weeks of age, when they are able to thermo-regulate on their own, and are starting to become mobile, but not walking well yet. This window in time will give the best therapeutic results. Manipulative therapy and Postural Rehabilitation exercises can help train the poorly developed pup to use its body more correctly and more symmetrically. By intervening early, you can give each dog the best possible chance to live up to its potential--making a dys-coordinated dog into a normal one, or making an average dog into a great one.

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Example of incorrect or compensatory neck posture – all sets of eyes and hips are uneven and not level.

The meaning of pain

We humans give a great deal of meaning to pain, and have a thriving pharmaceutical industry devoted to pain avoidance. For animals, mild to moderate pain is a physiologic signal that the painful area is damaged and needs to rest and heal. Except under extreme circumstances, it is not possible to completely avoid moving one's neck during normal life processes. If it is not possible to avoid using the damaged tissue, healing will be delayed, because both normal wear and tear and the injured parts will need to be repaired. Neutral posture and proper compensation for pain are designed to be the best way to heal. So, there are times when giving your dog pain medication for a limp can cause more harm than good-- if you make the pain go away, he will use the leg more and delay healing. It is imperative that the cause of the pain be treated, not just the pain and that normal posture be restored. Judicious use of pain control is appropriate.

Neck injuries and distorted nerve signals from that area can often be treated effectively with manipulative therapy. By restoring full range of motion, and resetting joint capsule position and receptor function, correct neurologic communication about the dog's head position and support relative to the ground can be re-established. The body puts such a high priority on keeping the brain and brainstem safe that other parts may suffer to accommodate it. It can be surprising how much lameness that appears to be in the hind end is "fixable" with neck treatment only!

This article is the second in a four part series featured in The American Kennel Club, Canine Health foundation Journal.

Segments in this Series:

[Feet On The Ground](#)

[It's More Than Just Bite!](#)

[What is Posture and Why Should I Care About It?](#)

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