

Detecting Subtle Injuries, Dr. Chris Zink at APDT

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October 23, 2017

Years ago I was chased by a bull. A ground-pawing, snorting, massive animal right out of a cartoon who drew a bead on me and began to attack from about 30 yards away. The gentleman I was with ran too, passing me in a heartbeat, and yelling “Pick up a stick!” over his shoulder. I glanced at the ground to find nothing bigger than a twig on the ground, decided through careful deliberation that it probably wasn’t going to stop a fifteen-hundred pound animal charging at full speed, turned and ran as fast as I could toward the fence. At the last moment I made it through, where I and my hero stood panting in relief. We turned to walk away, and my right leg collapsed underneath me while I shrieked in pain. I’d sprained my ankle. Badly. But I hadn’t known it until I began to calm down, because one of the functions of adrenalin is to mask pain.

This is one of the reasons why veterinarians often don’t spot injuries when dogs are brought to their clinics. Nor do we see injuries while our dogs are performing, and are high on adrenalin. That knowledge was but a small part of one of the best talks I saw at APDT 2017 last week. It was given by **Dr. Chris Zink** and focused on detecting and treating subtle signs of injury in active dogs. Dr. Zink is a DVM, PhD, Board Certified Almost Everything and was instrumental in establishing the American College of Veterinary Sports Medicine and Rehabilitation. As if that’s not enough, she is one of those people who is so knowledgeable, practical, and accessible that you’d do anything to bring her back to your own house for two weeks, because you’re pretty sure it would change your life. (Not to mention being incredibly fun.) Certainly it would improve the lives of many of our dogs. I’m guessing that just the one talk I heard on Saturday will do that on it’s own. I can’t begin to replicate all the information she provided, but here’s a summary:

1) Undiagnosed injuries are common in active dogs. Most of these injuries involve soft tissues—one study found that 87% of injuries in agility dogs involve tendons, ligaments or muscle strains. There are several reasons that these injuries can plague a dog for years without anyone knowing. Not only does adrenalin mask the perception of pain (both at a vet clinic and during an activity like agility or sheepdog competitions), but many owners and veterinary practitioners are not trained to detect subtle signs of injury. Pain and injuries are the cause of a tremendous amount of performance problems, although they are often assumed to be training or behavior problems. (I can attest that is also true of family dog behavior issues, including “aggression” and “disobedience”.)

Dr. Zink backed this up by showing us multiple videos of dogs, most running agility courses. The dogs looked to be sound and healthy, until you played the videos on slow motion. What an eye opener! This should not be a surprise to me, trained as I was as an ethologist in analyzing behavior in micro-second units. But it was still shocking to see how many dogs looked “fine” in real time until you slowed down their action to see that they were avoiding fully using one of their limbs. They might avoid leading with the correct leg on turns because it hurt them to do so (easily seen while moving through weave poles), or simply shorten the stride length of one leg while trotting beside their owners.

Every one of us should video our dogs on a device that converts to slow motion (most new iPhones do by the way). Ideally we do it when they are 100% healthy for a comparison, but slo-mo videos of dogs at any stage of life are invaluable. (Don’t put the movie on Youtube and expect an expert to be able to analyze what she sees—Youtube movies are too low resolution.) After videoing we need to learn what to look for, including using the correct lead leg on turns (the inside leg) and equal stride length of both legs. Ideally, you can find a certified veterinarian or canine rehabilitation specialist in your area to analyze your dog, because it takes no small amount of experience to see some of the subtle signs of imbalance or discomfort.



2) Many injuries are caused by over exercise rather than an injury from a fall or other discrete event. Soft tissue injuries are often the result of “repetitive strain” which can damage tissues and create scar tissue, which can never function as fully as before. Dogs also need to be warmed up before hard exercise and cooled down afterwards. They often aren’t. That’s certainly been my experience at sheepdog trials—the primary concern at trials appears to be giving your dog a chance to potty and letting her watch a few runs beforehand so that she sees

where the sheep will be set out. I asked Dr. Zink to define “warmed up” and she said your dog is warmed up when she begins to pant lightly. (It turns out “warm up” is not just a metaphor, the muscles actually do warm up.) I’ve always had my dog stretch before my runs, and cooled Maggie down after her runs, but I know now to warm her up more thoroughly before she competes.

Question for you: What’s common at agility trials? I’ve seen plenty of dogs go straight from the crate to their run, but I don’t go to many anymore, so if you compete, tell me what’s common.

Slippery or inconsistent surfaces can create a lot of problems too. This makes perfect sense, and is something you can control when practicing or even competing. This reminder, however, causes me no small amount of angst, because working sheep dogs like Willie and Maggie have to bring the sheep in for their evening grain no matter the weather. But we can all be more mindful of what we are asking our dogs to do, and the potential risks associated with it.

It’s also beneficial to massage your dog after extreme exercise, including their feet. Willie and Maggie say yes to this. Stretches are good before and after too, and it’s best if your dog does active stretches (ie, does a play bow rather than you stretching a leg for them).

3) Make friends with your dog’s muscles. All of us should evaluate our dog’s muscles once a week with the dog in a standing position. Get familiar with your dog’s muscles, especially the hamstrings, quadriceps, paraspinals, lateral and ventral abdominals, and shoulder muscles. Are they firm or soft? Larger on one side than the other? Don’t stop with your own dogs, feel the muscles of as many dogs as you can to begin to get a feel for the range of possibilities. Note that a dog’s muscles should not shrink in old age—contrary to what we might assume, it is not normal for a dog to get weaker as it gets older.



4) Recognize all the possible signals that a dog is in pain. Besides changes in movement, we should also look for “calming signals” like yawning, stretching, looking away, etc. Refusals to sit are often a sign that it hurts a dog to do so (fyi, don’t try to get a puppy to do a “straight sit” until he is over 6 months old). In general, any reluctance to train or a change in a dog’s performance should be first addressed by asking if the dog is in pain. I don’t begin to have the eye that Dr. Zink does, but I can tell you I have had many clients whose dogs made it clear to me that their behavior was related to pain. I’ll never forget a dog who was about to be euthanized because he’d bitten several people. He’d been a social butterfly for years, but lately had growled, snapped or bitten people reaching toward him. His vet said he was “fine”, but even I could see he seemed to hold his head slightly tilted to the right. It wasn’t extreme, it was actually quite subtle, but no matter which way the dog moved, his head was always held in a slightly unnatural position. The client, bless her, took my advice and got a second opinion. After medical treatment for a neck injury that had never been treated, the dog went back to being a model citizen.

5) People involved in high powered dog sports don’t need reminding how important it is to get exercise, but it’s good to know that aerobic exercise (dog is panting or we are slightly out of breath) **increases neurogenesis** or cell division in the hippocampus, increases the plasticity of the brain as well as over all longevity. I will remind myself of that when the days get darker, the wind comes up and the couch is seductively soft and cozy.

6) All active dogs should get 3 supplements: 1) Joint protective supplements, which I presume to mean some combination of glucosamine, chondroitin and/or MSM, 2) Probiotics made especially for dogs in capsules that stay solid until reaching the gut. (She mentioned **Geneflora** as one of her favorites), and 3) Omega 3 fatty acids, which must provide 15mg per pound of DHA.

7) Be sure that you and your vet are a team. Here are some of her suggestions for choosing a new vet:

- Schedule an appointment when your dog is healthy, bring or send videos of activities you will be doing with your dog.
- Bring a written document including the dog’s diet, supplements, and complete history of your dog’s health, injuries etc.
- Discuss your expectations, saying something like “I am committed to my dog’s health. I am a careful observer, and because I live with him every day, I know him better than anyone else. I need someone who will trust me. You okay with that?” (Not bad advice for picking a physician either, hey? Except the dog part...)

8) If you suspect an injury, go to an expert in canine structure or sports medicine. Ideally, we would all have Dr. Zink's clinic next door, because her credentials include: Veterinary Pathology (DACVP) and Veterinary Sports Medicine and Rehabilitation (DACVSMR), Canine Rehabilitation (CCRT), Veterinary Spinal Manipulation Therapy or Chiropractic (CVSMT), and Canine Acupuncture (CVA). Most of us don't have the luxury of living next door to Dr. Zink, but I've benefited more than I can say from the care of Courtney Arnoldy at UW-Madison. I know I am lucky to have someone so close, but if you have to, I'd say it's worth it to travel to an expert if you possibly can if you have a dog with a suspected injury.

None of this begins to compare with the information that Dr. Zink provided at APDT on Saturday, but I hope it's helpful. I would say that if you can get to one of her seminars, I'd move heaven and earth to get there. (Of course she's coming to Milwaukee in two weeks, and I'll be giving a talk myself that weekend. Sigh.) This was just one of the great talks I saw at APDT in Richmond; I'll be writing about some of them in weeks to come.