

AVOIDING SOFT TISSUE INJURY

In The Canine Athlete

by Anne Everett

Introduction:

The need to do warm ups for our canine athletes before they actively compete has been recognized positively for a number of years. During this time we have had conversations about avoiding injuries to our Golden Retrievers with veterinarians, sports physiologists, chiropractors (human and canine), as well as with human athletes. These exchanges have indicated that many of the techniques utilized by human athletes to maintain an injury free status can be related to our canine partners as well.

In this article the causes of performance-related soft tissue injuries will be discussed. Pre- and post-performance routines will also be outlined that will assist us in keeping our dogs injury free and competing well into their senior years. (see photo 1)



Photo 1: A healthy older "Breeze" brings "grey power" to the line.

How Does Soft Tissue Injury Occur?

First of all, of what does a typical training session in the field or on a test day consist? The answer is generally long periods in a crate or vehicle, interspersed with intense bursts of activity, then back into the crate again. (see photos 3 and 4) It is common knowledge among human athletes that aerobic exercise (i.e. sprinting) should be preceded by a warm up and followed by a cool down period, specifically stretching and

jogging. When a proper warm up and cool down schedule is not followed, temporary muscle soreness may persist for several hours immediately after exercise or residual soreness may appear later and last for three to four days. In either case, at least one of any four of the following factors may be the cause:

1. Tiny tears in the muscle tissue
2. Retention of fluids in the surrounding tissue caused by loading of metabolites
3. Muscle spasms
4. Overstretching and perhaps tearing of portions of the muscle connective tissue support system. Studies have indicated that connective tissue damage is often involved in exercise induced muscle soreness.

Based on the above, the answer to the question "should we warm up our dogs before we run them in the field or jump them in obedience or agility?" seems to be a resounding Yes!

How to Avoid Soft Tissue Injury

There are six possible ways that a proper warm up should improve performance and help prevent injury. Specifically, a warm up will:

1. Increase the speed of contraction and relaxation of muscles
2. Increase mechanical efficiency because of lowering resistance within the muscles
3. Facilitates oxygen utilization by the muscles, as hemoglobin releases oxygen more readily at higher temperatures
4. Facilitates nerve transmission and muscle metabolism at higher temperatures – a warm up may also facilitate the recruitment of motor units required in subsequent "all out" activity
5. Increase blood flow through active tissue

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Photo 2: As "Arnie" advances to full speed, he demonstrates rapid acceleration. This is typical of field events and training. Note the power generated from the rear of the dog and the developing full body extension.



Photo 3: "Red's" rapid deceleration puts other stresses on the canine athlete's body.

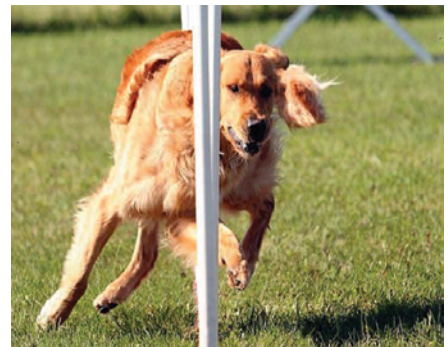


Photo 4: "Clever" demonstrates that a properly warmed up dog has a greater chance of successfully completing a demanding task requiring speed such as going through weave poles.



Photo 5: Stretching exercises that limber up the spine can aid in obedience, agility, and field work. "Story" is pictured bending.



Photo 6: Stretches that target the front limbs, spine and rear of the dog can also prepare the dog for physically demanding activities. "Story" in a play bow.

Photo Credits:

Arnie, Red and Breeze – Evan Graham
Story – Anne Everett

Thanks to the dogs "Breeze" (Can GMH Coppertops Wind In The Taiga WCX**, Can ***); "Arnie" (UH HRCH Heads Up Running Man Can MH, WCX**), "Red" (HR Watermarks Red Dog SH; Can MH, WCX), "Clever" (MACH2 Heads Up Coming Through JH, OF), and "Story" ((HIT) Heads Up Away We Go CDX, JH, WCX) for agreeing to the photo shoot.

In a nutshell, what this means is that a warm up will increase blood flow to the muscles, limber a dog up after a long period in the crate, subsequently will make it easier on the dog, both structurally and physiologically when asked for any type of high energy activity, i.e. a triple retrieve or negotiating a demanding agility course. (see photo 4)

So how do we apply this to our canine partners? Here are some ideas that we have come up with over the years to minimize the risk of activity related soft tissue injury in our own dogs. The sky is the limit in terms of warm up regimes. One point is recommended; that your warm up includes exercises that target specific muscles in a way that mimics the anticipated activity and brings about a full range of motion.

1. Avoid long periods in the crate during training or test days. Take advantage of tie outs when training, both before and after running your dog. On a test day when tie outs are not practical, try to get your canine partner out and moving for 5-10 minutes each hour spent in a crate.
2. Approximately 15 minutes before your time at the line, go for a walk with your dog. Incorporate some stretching exercises in the walk and finish it by having your dog go out and retrieve a bumper. (see photos 5 and 6, Story) Usually a handler is able to throw a bumper for warm up purposes on the test grounds.
3. After your dog runs, don't forget a cool down walk and make sure your dog is dried off before being crated. Being crated wet can be dangerous both in cold conditions and in very warm ones.

Photos 5 and 6 show a couple of stretching exercises that we use to help warm up our dogs before performance events. Start with your dog in standing position for both of these exercises. Photo 5 shows Story bending, which limbers up the spine, neck, side and shoulder musculature. This stretch is easily taught by placing your left hand just in front of the left rear leg of your dog and using a cookie in your right hand to bend the head and body of your dog to the right. Keep your cookie hand parallel to the floor at head height for the dog for maximum effect. Your left hand prevents forward movement by the dog, which enables the stretch. This exercise is then repeated on the other side.

Photo 6 shows a front and rear limb stretch, together with a stretch of the muscles along the spine. This stretch is taught by placing your hand in front of the hind leg and slightly forward so it lightly supports the belly if needed. Bring the cookie to the floor right in front of your dog (straight down in between the front legs). Be careful to keep the cookie moving downwards in a straight line. Movement back into the dog will probably result in a sphinx or fold back down, which is not what you want. As your dog gets more proficient at this you can move the cookie further away along the floor. I have found that it is easiest to teach this kneeling beside the dog at right angles to him or her. As with any stretching or athletic program start slowly, particularly with an inflexible or older dog.

Conclusion

Just a few simple procedures can make a huge difference in maintaining the physiological and structural health of your dog. Proper warm up and cool down procedures, coupled with good nutrition and care, can add years to the competitive life of your canine athlete.

Anne Everett, M.Sc. has a degree in Biology and has taught Biology, Physiology, and Genetics at the University of Victoria for 11 years before retiring to devote her time to her dogs. She breeds Golden Retrievers under the "Heads Up" kennel prefix and can be reached at www.headsupkennels.com.

Article provided by the FEC