



## Stretching

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It's the middle of show season, what can I do to help my horse?

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Stretch, stretch, stttrrrrrreeettccchhh

Why do we stretch?

Back in our school days before gym class it would be common to see all of the kids on the floor half-heartedly reaching for their toes. Times have certainly changed since then and we now have a lot of research that indicates stretching should only be done with warm tissue. Without getting too deep into physiology, we can briefly talk about what muscle really is. Muscles are comprised of a series of fibres that have been bundled together by connective tissue.

The job of these fibres is to contract – not actually to expand or lengthen. This is a big misconception that many people have about the function of muscles. The only way a muscle gets longer is through a passive process. The force of gravity or the actions of an opposing muscle are the primary ways for this passive process to happen to a muscle.

As an example, if your bicep on the front of your arm closes your elbow joint, to open that joint the triceps on the back of your arm have to contract, rather than the bicep itself lengthening. This sounds simple, and in a perfect world it is, however when stress, fatigue, and overuse come into play, this simple system becomes plagued with problems.

In our example, for the elbow joint to move with its full range of motion and to have no stress on the joint, the muscle that is relaxing and allowing the antagonist muscle to contract has to be healthy, and free of any tightness. There are a few major factors that can lead to muscle tightness: the presence of wastes in the tissue, tears in the fibres, spasming, fibrosis, and other muscle pathologies.

Waste products can be present in tissue if they aren't being cleared out properly due to overuse, a diet that is too high in sugar, a sluggish lymphatic system, or a lack of enough body work and physiotherapy.

Micro or small muscle tears can occur during exertion, especially when the body is not in its optimal condition or fitness level.

Muscle spasming can be caused by poor diet, bad posture (of horse or rider), poorly fitting saddle and tack, among several other possible reasons.



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Fibrosis in the muscle tissue can occur in an effort to splint an area of minor trauma or strain. There are many other muscle pathologies that can create a situation where the body is not able to elongate a muscle to its full range.

Picture a body builder that has built the bicep tissue to the point that he can no longer straighten the elbow and you see him walk with the arms always flexed. That tissue has been torn enough to gain bulk that it is no longer healthy enough to hold its full range of motion in the joint.

If a joint is not able to operate in its full range of motion and is forced to stop part way through its normal flight path, there will be abnormal wear on this joint. The antagonist muscle, in our example above it is the triceps, also has to work harder to open the elbow joint. As it works harder to create that movement, it experiences more stress within its fibres, which leads to pathology and certainly compensation in other areas of the body when exertion is needed.

So as the days of a competition move on, and the horse is getting fatigued but the performance level is expected to stay as elevated as the first few days when muscle tissue was working well, the rider asks for more and pushes harder. The body has had no help to release the stress situation in the muscle; the muscle is not able to fire at the strength level, leaving the body to compensate in some way.

In the above example of the elbow joint opening, if the bicep has pathology of some kind and can't release all the way, the triceps are trying their best but they too are now fatigued and not performing, the body will use the rotation of the shoulder and gravity to snap the elbow open to its full range of motion. Note the term 'snap' here. The bicep and tricep tissue are both tighter than ideal, but the force created must be dissipated somewhere, but where? It is slightly dependant on the individual and how much other body parts are compensating or if the force is just staying localized, but for simplicity let us focus on the most common place – the joint.

At this point it may be worth taking note of those times you get on your horse and say, "He is a little tight today." It seems like such a simple thing, and most horses may warm up out of that tightness and feel and look ok. However, we are using up our horse's soundness by not paying attention to that stiffness, soreness, and feeling of short stride.

To help cope with these stresses, massage and body work are both a must, as is the case for all performance athletes. There is not a human athlete out there that would even think to perform without regular body work, knowing all the research and findings on muscles.



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For your horse, a professional body worker will have left you a stretching program that is specifically designed for your horse's needs and current pathologies. This stretching program will help immensely. Stretching helps to elongate the fibres in the muscle, breaks up some of the adhesions created, and realigns the muscle fibre striations. As the wastes and adhesions are broken up in the muscle fibres, the lymphatic system has a better chance of cleaning and clearing old wastes from the tissue. Stretching also creates circulation which brings about healing, and with the greater flow in the tissue again pulls out more wastes. For micro-tears stretching helps to re-matrix the tissue, elongating the connective tissue running through the muscle and bringing more healing to the area with the micro-tear. Stretching done correctly is an invaluable tool to keep your horse healthy and strong.

Stretching done well is a wonderful thing for your horse's health, but stretching done wrong can actually hurt your horse. I have had people ask how their small 110lbs frame can do any damage to a 1200lbs horse. When a muscle is broken down to the cellular level, we are all on a pretty level playing field, and it is these little tiny cells that we are affecting when we stretch. Stretching your horse with speed is certainly out of the question, and there has been plenty of research done to back this up. Those peculiar old moves that you may have been taught years ago, such as to vigorously poke your horse to elicit a ballistic response from them, need to be stripped from your mind. Long slow range of motion, where the tissue has time to elongate, the connective tissue has time to release, circulation has time to come and break down wastes for removal, is more of what is desired in stretching. For sure there are some stretches and moves that, when you and your horse are trained to do them properly, have benefit with speed, but for the most part the turtle principle is the safest. That is, slow and steady brings home the red ribbons!