Your Horse's Hamstrings

By: Kathy Duncan

Despite what people believe, there is no such thing as the "hamstring" muscle. The hamstrings is the name for a group of muscles in the rump area called the Semitendinosus, Semimembranosus, and Bicep Femoris. They are the group that extend the hip, or for a better description, they aid the hind legs in extending out to the rear. They are not quite as massive as the opposing muscle group, the hip flexors, or quadriceps, another group, but that alone makes them prone to injury.

An important factor about the hamstrings is that they involve the movement of three joints. This includes the hip, the hock, and the stifle. Like a pendulum, the leg swings forward and backward with the aid of the hamstrings and quadriceps muscle groups in opposing actions. With the force of running, these two opposing muscle groups contract and release in opposite timing causing the leg to go forward and backward with precision speed. In the case of the hamstrings, if one of the joints involved becomes injured, the other joints are affected, and the injured joint cannot be isolated for rest and rehabilitation. The healthy joints must rest too. In addition, if one of the joints becomes overused to due a repetitive motion, the others become involved, as well.

The tensile strength of the hamstrings is generally tighter than the other muscles of the body because they are involved in every forceful movement in sports. When a horse is standing at rest, they must be contracted to allow the leg joints to lock into place. Consequently, the hamstrings are often over developed, and the corresponding joints become stressed, arthritic, and the surrounding fascia becomes adhered. It is not uncommon for a horse to retire early due to stiffness and injury problems in the hind end.

In my opinion, every young horse that is a sports prospect should be started on a balanced hamstring program from the very start of their training. If a yearling is taught to stand for gentle stretching from the start, they can be led into an optimal fitness program as an adult athlete.

Optimal fitness not only includes strength, but flexibility plays an important part of an athlete's regimen. A well designed warm-up, cool-down, and flexibility program will balance a strength workout by possibly preventing injury throughout training. This can significantly extend the career of any athlete. As we all know, this is how top human athletes train.

By including a stretching and flexibility segment to the horse's fitness program, you can enhance the mobility to the three joints in the hind end; the Semitendinosus, Semimembranosus, and the Bicep Femoris. It might be contraindicated to stretch these muscles once the joints are severely arthritic, but this advice would have to come from the animal's veterinarian.

A long warm-up is recommended at the beginning of any exercise, even before stretching. Unlike the cowboys in the movies, if you jump on your horse and take off while his hamstrings are cold, the protective nerve receptors in the muscles might snap and refuse to work at all. This

is where a sudden injury can happen. I have listed some basic suggestions in keeping your horse's hamstrings healthy and pliable for a long athletic career.

1. Begin any exercise with a long, slow walk. This should be at least 10-15 minutes. Once the muscles are warm, then pickup a trot or canter for another few minutes to elevate the heart rate. This will assure that the muscles are warm before you add a more aggressive forward movement.
2. Go ahead and exercise hard, as long as you start over with a nice warm-up each time that you have cooled-down. A roping horse, for example, might cool-down too much while waiting for a turn, so it is important to keep moving.
3. Cool-down the same way that you warmed-up with a long, slow, walk.
4. Effleurage, (rub the area down) after the workout.
5. Stretch the hind limbs for at least 30 seconds in each direction before the cool-down, and before putting the horse away to rest.
6. If there is heat in the joints, or pain is apparent, and stretching is uncomfortable for the horse, ice the area to remove heat and prevent inflammation which can lead to stiffness.

If you need to ice, I recommend icing an inflamed area for 20 minutes, 3 times a day. If you fill small paper cups with water and freeze them, you can peel the paper away as you rub the area in clockwise circles over the affected area. The cup will usually melt away in 20 minutes. That is how I know that I am done. As the ice melts, have a clean, dry cloth to keep the area from becoming a swamp and causing a chill which would contradict your purpose. Be sure that the area is dry before putting the horse to rest.

If the hamstrings are healthy, and no inflammation is present, I would stretch them at the beginning of the workout after the warm-up. This can add substantial flexibility to the muscles allowing for a better range of motion during the workout. Stride length is one of the most important components of speed, so if you're looking to run fast with a good time, as in barrel racing, or bring the legs really far under the body for a nice jump, enhancing the range of the hamstrings will bring the greatest efficiency.

Lastly, water, water, water! It has been proven that many muscle injuries are caused from dehydration. Muscles cannot be supple without plenty of blood in them. Prevention of injury is the key to a long and healthy athletic career.