



HealthEquine Therapies

EQUINE HAMSTRING

This handout is not to replace regular veterinary care. Always consult your veterinarian before starting any treatment plan for your horse.

Muscle Information

The horses' hamstring group of muscles is comprised of the *Semimembranosus* and the *Semitendinosus* with some literature stating that the *Biceps femoris* is included in this group – for easier understanding we will not focus on the *Biceps femoris* in this handout.

- * *Semimembranosus* & *Semitendinosus* - When active it extends the hip joint and adducts the hindlimb. It retracts the hindlimb. "The hamstring muscles flex the stifle joint during swing but constrain extension during the first half of stance due to the antagonistic action of rectus femoris and the cranial position of the vertical ground reaction force vector" (Clayton et al. 2001).

Muscle Function

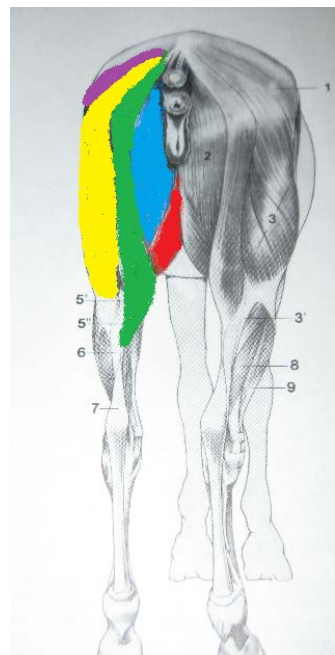
The hamstrings primary action is to draw the leg back by extension of the hip but also assists in flexing the stifle, extending the hock, aids in lateral movement and kicking.

Muscle Issues

When the hamstring group of muscles are tight, sore or in spasm, there will be an effect on the structures of the horse's pelvis, therefore affecting the biomechanics of movement of the hind limb and rounding of the horse's back. Inflexibility within a muscle or the muscle group increases the risk of injury, causes a shortened forward stride, a resistance to lateral work and joint discomfort in the hindquarters. A horse may pull its weight off its hind leg early thus weighting and stressing the opposite shoulder.

Massage

Massage is a powerful tool in maintaining and increasing your horse's potential. A regular program of massage will create built in flexibility to the muscle as it is strengthened. Massage stretches the muscle fibers and fascia through manual squeezing and kneading. The use of direct pressure into the muscle will release the knotted fibers and the fascia. Freeing up an inflexible muscle increases the flow of oxygen rich blood to the area.



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Equine Hindend Muscles

- **Gluteus m.**
- **Biceps femoris m.**
- **Semitendinosus m.**
- **Semimembranosus m.**
- **Gracilis m.**



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Ultrasound Therapy

A form of acoustic energy used to treat musculoskeletal injuries, including inflammation and wounds. It offers deep heating without excessive heating of the skin. Ultrasound can also be used to decrease pain and muscle spasm, promote wound healing, aid re-absorption of hematoma, reduce swelling, and reduce scar tissue.

Exercises

- Long and low on the flat– Avoid collection
- Transition work
- Ground pole to raised poles
- Minimal amounts of lateral work
- Hill work

Stretches

- * Perform these stretches AFTER the horse has worked so muscles are warm
- * Must be carried out in a calm & relaxed manner
- * Do not move leg out laterally as this will affect joint structure and/or ligament injury

HIP EXTENSION

- 1) Lift the hindleg and flex the limb
- 2) Grasp the behind the fetlock and gently move the leg forward in its natural line of movement - Do not interlock the fingers – can also hold at fetlock and hock joint if you wish
- 3) Gently and slowly apply slight forward pressure; allow the horse to give the leg - Do not force
- 4) Hold for 15 – 30 seconds (can be increased over time)
- 5) Release and praise horse
- 6) Conduct 3 repetitions on each leg

QUADRICEP

- 1) Grasp the rear foot on the opposite side of the horse and bring the leg under the belly and slightly toward the opposite front foot
- 2) Secure your grip with both hands, holding at the pastern
- 3) Gently and slowly apply slight pressure- Do not torque or force by stretching this way
- 4) Hold for 10 – 15 seconds (can be increased over time) being cautious to horse's comfort
- 5) Release and praise horse
- 6) Conduct 3 repetitions on each leg

When performing these stretches, there will also be a stretch on associated muscles in the hindquarters such as the *Biceps femoris* and *Gluteal* group of muscles, all important in hip extension, forward movement, impulsion and also helps to mobilise the lumbosacral junction, important in the rounding of the horses back.