

CASE

Optimal Gait

I Found the Optimal Gait for My Horse Through the AMG Muscle Analysis

Karoline Vilderiis, Denmark



It started when my horse twisted its right hock at the paddock. It was given joint treatment and box rest, after which I started to re-train my horse very carefully.

Over the next 6 months it was only trained from the ground and taken on walks. Thereafter it was very carefully and gradually trained with longeing work and a rider. It was only after an entire year that I started to do some harder works with my horse. It was not lame, but I did not feel that the muscles on the right-side were as well developed as those on the left-side of my horse, despite the very careful re-training program.

I had got my horse checked by a chiropractor during the re-training period, but they were not able to do anything further. It was at this point in time that I had the opportunity of having my horse checked out for an AMG (Acoustic MyoGraphy) muscle analysis.

The horse was fitted with AMG-sensors on the back (m. Longissimus dorsi) and was being longed both in a right- and left-handed circle for the three gaits – walk, trot and gallop. The results showed that during walking and trotting,

My horse used its muscles on its right side less than on its left side, irrespective of whether it was a right- or left-handed circle. In contrast, it used its muscles evenly on both sides whilst galloping both in a right- and left-handed circle.

This was a surprising result for me, as it showed that my horse was less prone to injury whilst galloping, rather than trotting, which one would otherwise use as a gentle form of re-training. After this, I started to train more in the gallop after a period of warming up, both in the arena and in the woods.

Gradually, over the next two months I begin to see an improvement in the muscle mass on both the right and left sides, all along the back, the shoulders and the neck. I could also feel an improvement in the stability of the horse during the gallop, with better hind limb action and increased balance. Now it is 3-4 years on, and the injury has not recurred.

I believe that while my horse was ill, it had tried to compensate for the injured side, and had as a result become weaker on that side. However, even after it had recovered and was well again, it continued to use itself in this unbalanced fashion. I really thought that trotting would be the best way of re-training my horse, as it is a more synchronized gait. In fact it was as though my horse communicated with me, through the muscle analysis, as to how best to re-train it.

If I had not been given this information then re-training would most likely have resulted in my horse having a crooked body and musculature.

CASE

Kissing Spine

AMG Muscle Analysis Revealed Kissing Spine Points

Adrian P. Harrison, D.Phil.-Cantab.

Kissing Spine is a back condition common among horses, in which the spinous processes of the vertebrae touch one another. Very often this problem is not caught early in its development as the symptoms tend not to be unique.

Often symptoms occur during physical activity or riding, where a reduction in the horses's performance is noted. Horses can typically present with reduced hind leg action and can be reluctant to gallop or jump.

Horses with this problem are often irritable, especially when a saddle is placed on their back, or when the saddle is tightened, or even when you press gently on the horses back, or are simply grooming the horses back.

In order to better understand the AMG (Acoustic MyoGraphy) muscle analysis in relation to Kissing Spine, a horse already diagnosed (X-rays) with the condition was examined.

The horse was lame in one front leg and refused to take a saddle. AMG sensors were placed on both sides of the spine at locations with and without Kissing Spine changes. The horse was then longed at the trot and results revealed a very high AMG signal amplitude and frequency at locations 2 and 3 (see the picture to the left).

These results indicate that the horse had tense muscles at these particular two locations, where the spinous processes were known to be touching from the X-ray examination. The reason for this localized muscle tension can be that the horse was in pain and tried to compensate by tensing the painful regions of its back to reduce further spinous process contact.

Alternatively, one could argue that the horse had not been in balance for some time and had gradually developed tension and finally Kissing Spine symptoms at the points of imbalance as a result.

The AMG muscle analysis was in agreement with X-ray images of the spine, which had been used to diagnose this horse with Kissing Spine at locations 2 and to some extent location 3.

An AMG muscle analysis of a horses back, taken at critical sites along the horses spine may in this way serve to confirm Kissing Spine cases, but may also serve to help prevent Kissing Spine cases if performed early enough.

