



# Muscle/Ligament Assessment

Date: .....2<sup>nd</sup> July 2019.....

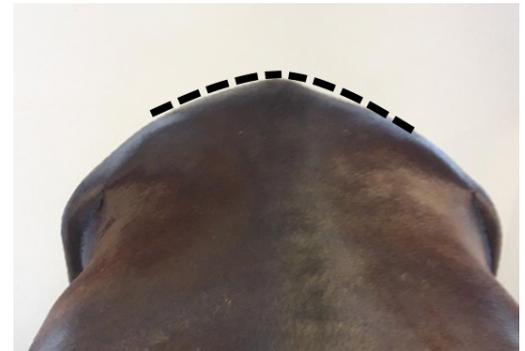
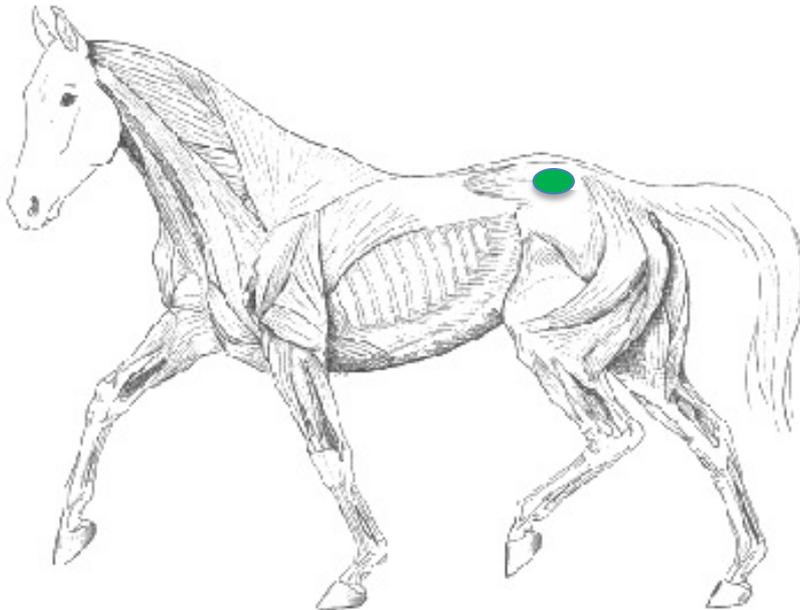
Muscle:

Owner: .....XYZ.....

Ligament:

Horse: .....Case #3.....

Discipline: Dressage



RIGHT SIDE

LEFT SIDE

Note: the loss of muscle mass on the left-side of Case #3 at the level of *m. Gluteus medius* – space under the dotted line

AMG sensors were placed on *m. Gluteus medius* (green oval), for both the left- and right-hand sides of Case #3, and muscle recordings were made in real-time at the walk and trot. Exercise was undertaken in an indoor training arena on a soft surface.

The recorded signals are attached to this report and can be found below. It should be noted that the left-hand side of *m. Gluteus medius* shows signs of muscle atrophy (see inserted Photo above) compared with the right-hand side of Case #3. This unilateral loss of muscle fibres, means that those active fibres remaining on the left-hand side, must work harder than those on the right-hand side, so as to try to match the force produced by the *m. Gluteus medius* on the right-hand side. This is seen as a larger amplitude signal for the left-hand side in the AMG recordings – and a consequence of this overuse of the few active fibres on the left-hand side is early fatigue, pain and lameness.

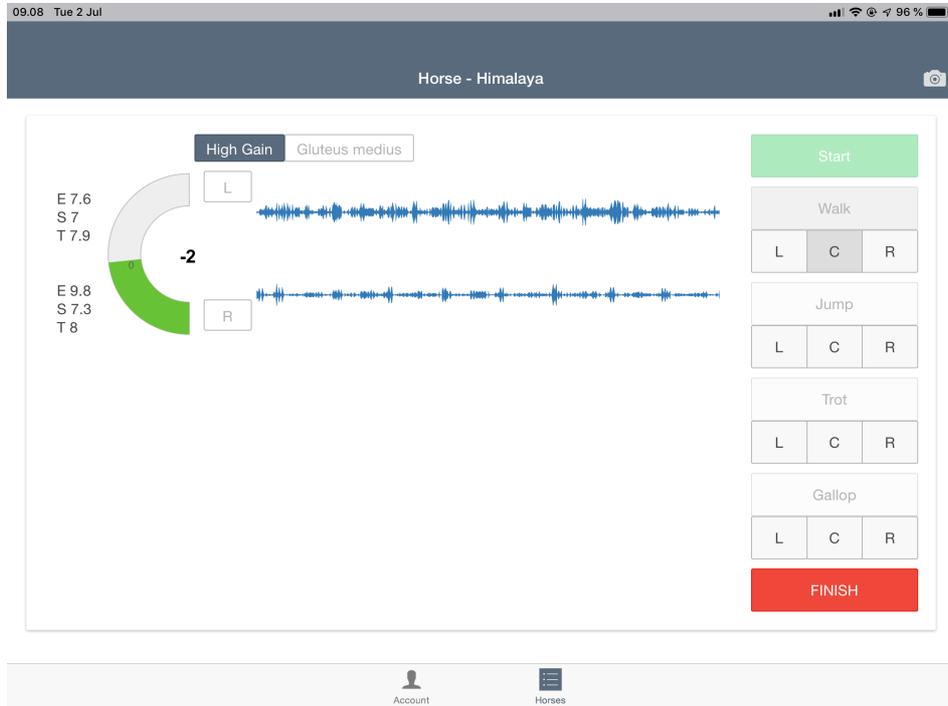
The AMG signals reveal mild signs of left-hand side overuse of *m. Gluteus medius* at the walk and significant signs of overuse at the trot – commensurate with a loss of muscle mass on the left-hand side and over-compensation of the remaining muscle mass as a consequence. These findings are further supported by the AMG signals at the trot for the left-hand and right-hand circles, which show progressively increasing overuse of the left-hand side *m. Gluteus medius* – also with worsening balance scores (-7 to -12, respectively).

It is advised, based on these measurements, that Case #3 be allowed to self-exercise, and that she should not be ridden. These measurements were made in the presence of, and in collaboration with DVM Xyz, Copenhagen, Denmark.

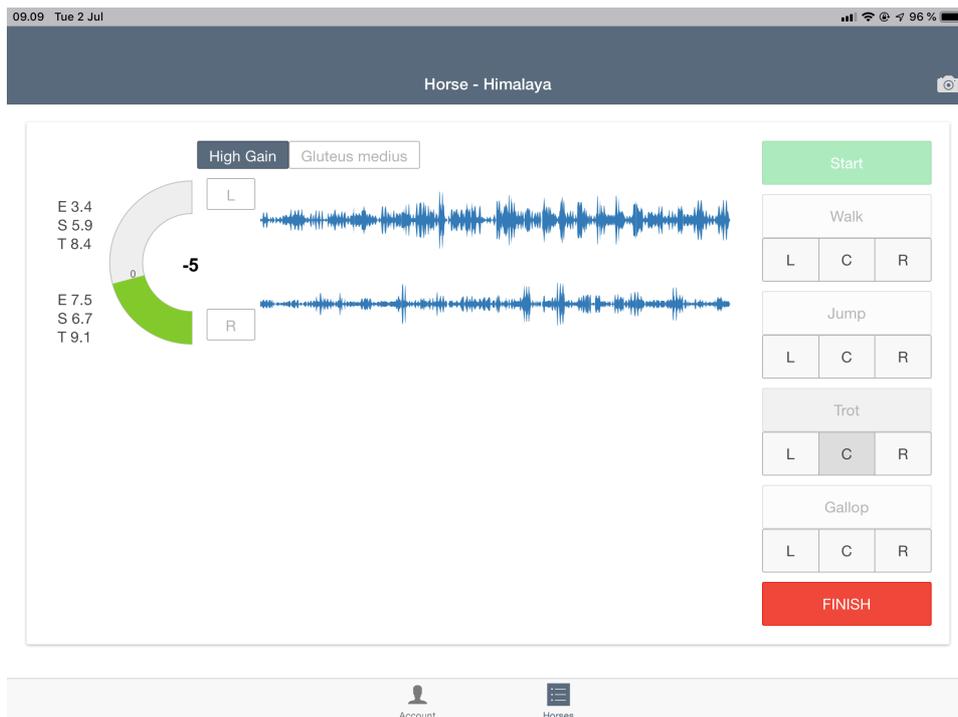


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**Case #3: walk - straight line:** showing mild signs of overuse of the left-hand side of Case #3 at the level of *m.Gluteus medius*- slightly lower E-score (7.6 vs 9.8) and -2 balance.



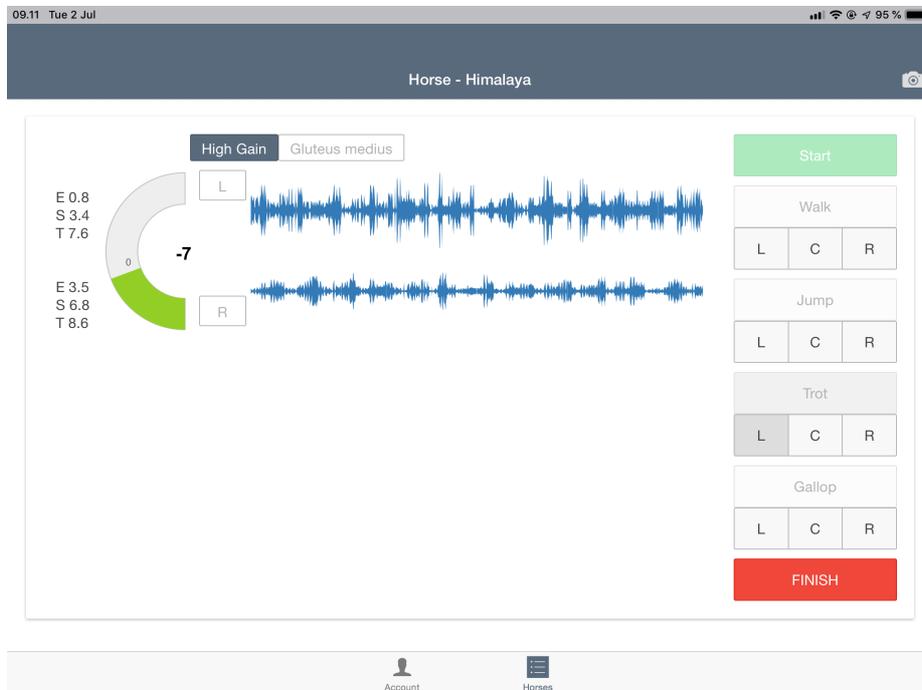
**Case #3: trot - straight line:** showing significant signs of overuse of the left-hand side of Case #3 at the level of *m.Gluteus medius*- much lower E-score (3.4 vs 7.5), slightly lower S-score (5.9 vs 6.7) and -5 balance.





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**Case #3: trot – left-hand circle:** showing significant signs of overuse of the left-hand side of Case #3 at the level of *m.Gluteus medius*- very much lower E-score (0.8 vs 3.5), lower S-score (3.4 vs 6.8) and -7 balance.



**Case #3: trot – right-hand circle:** showing significant signs of overuse of the left-hand side of Case #3 at the level of *m.Gluteus medius*- very much lower E-score (0.2 vs 4.7), much lower S-score (1.3 vs 6.9) and -12 balance.

