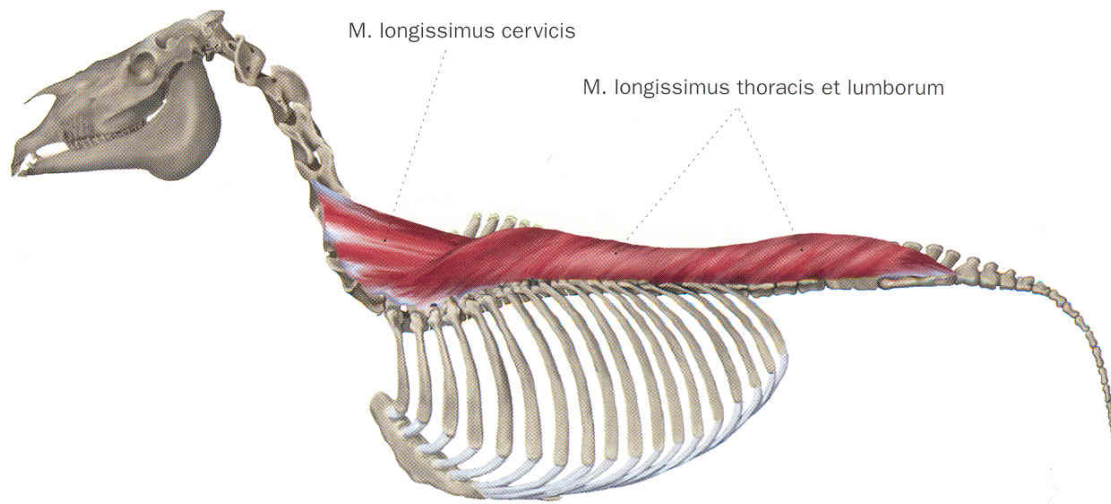


The Equine Back and Saddle Fit Issues

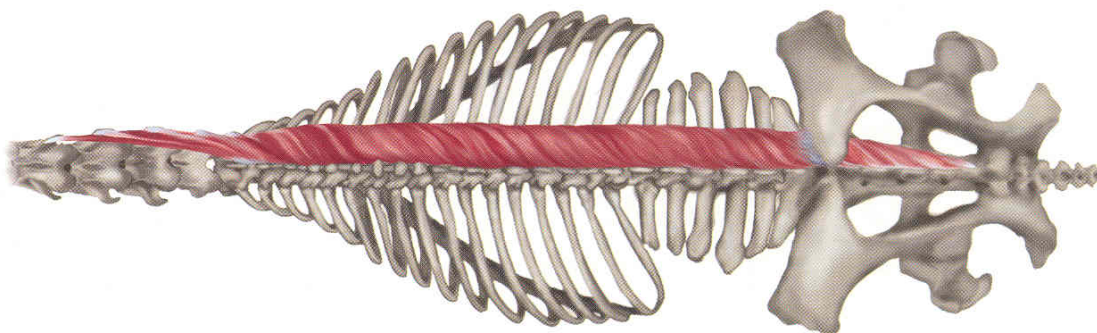
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The Longissimus Dorsi is the main muscle that stabilizes the spinal column and supports the back. This muscle originates from the spinous processes of the sacrum (the croup area) and inserts into the last 4 cervical vertebrae of the neck.



Side View

This powerful muscle spans the Lumbar-Sacral joint, the most flexible portion of the back. It extends about 4-5 inches laterally off the spinous processes.

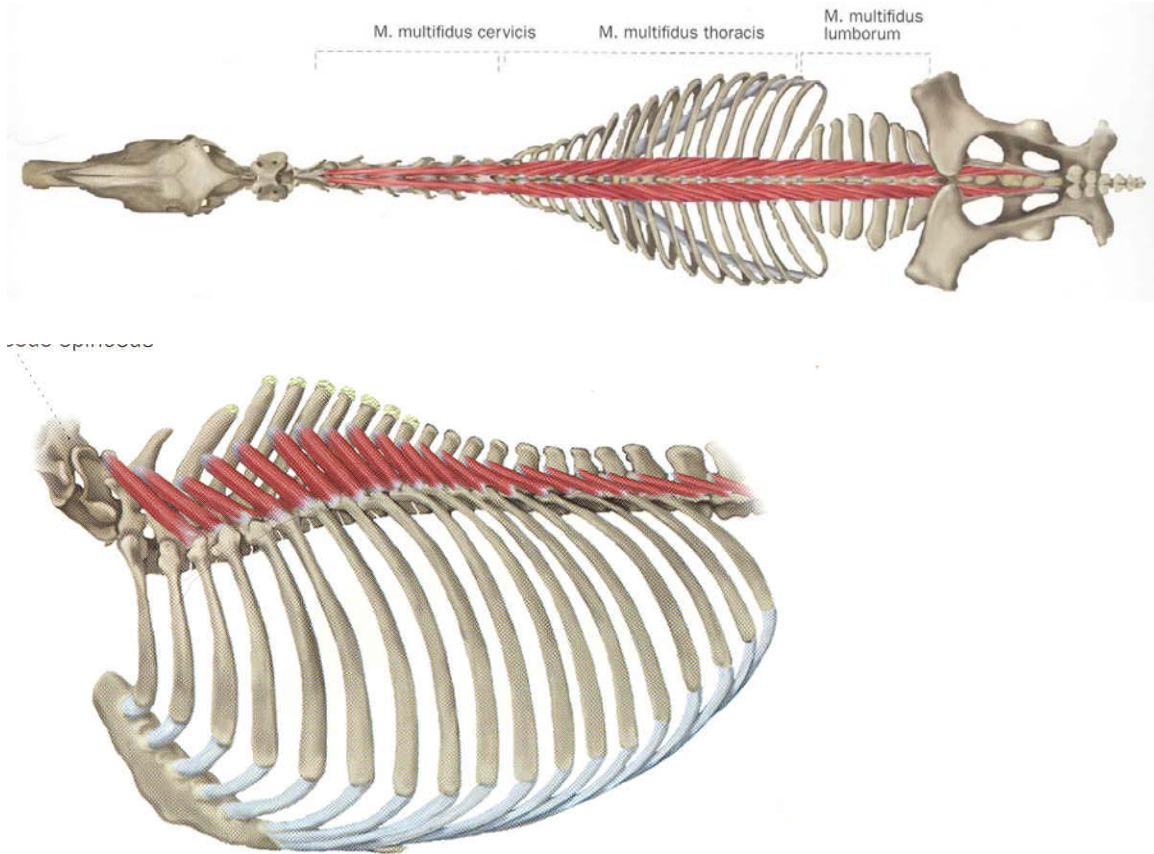


Top View

This is the main muscle that will take the brunt of improper saddle fit, Western or English. (Bareback, treeless and flex trees too!)

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Improper saddle fit also affects the Multifidicus muscles which lie deeper under the Longissimus Dorsi. Long term stress of the Multifidicus muscles have a direct affect on the alignment of the spinal column.



Excess pressure beyond 2-3 pounds per square inch (psi) will result in these muscles contracting or tightening up to protect the integrity of the spinal column (which houses the spinal cord) and the basic integrity of the back.

Long term pressure on these muscles (day in and day out riding) will change the memory pattern of these muscles and they will stay contracted and tight. In the massage world, this is call co-contraction of the muscle; we also use the term “locked-up” muscles. The constant co-contraction of the Longissimus Dorsi, at the Lumbar-Sacral junction creates the “roach back” confirmation. When the Longissimus Dorsi is co-contracted (locked-up) at the Lumbar-Sacral Junction, it draws the spinous processes of the Lumbar and Sacral spines together. This action creates the exaggerated hollow at the croup, and the results in the “roach backed” conformation.

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Here is a view of the “normal” position of the lumbar and sacral vertebrae



Here is a view of the “abnormal” position of the lumbar and sacral vertebrae that is commonly called a “roach back”



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Here is a view of the “normal” position of the pelvis (illum, sacrum,lumbar)



Co-contraction of the Longissimus at this junction also creates ventral (downward) and lateral (offset) constriction of the sacrum wings and lower lumbar vertebrae.

This ventral constriction/flexion of the sacral wings will create stress tearing damage to the deeper sacroiliac ligaments which attach to dorsal wings of the sacrum and ventral wings of the Ilium. This deep seated ligament pain (which is literally a major pain in the ass) will result in restricted movement of the joint (any collected work, which relies on suppleness & flexibility at the LS joint) and constant pain at a deep level.

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This co contraction of the Longissimus (dropped back) will result in lack of use, and eventual atrophy of the medial Gluteal muscles, resulting in a flat ass or lemon ass look of the hind quarters through disconnection.

As the problem progresses, these horses will tend to over utilize their middle hamstring muscle, the semitendinosus, to propel themselves. This muscle will eventually become very pronounced behind the poverty groove affecting the hip joints. Overdevelopment of this muscle is often mistaken for fitness.

This domino effect results in lack of stabilization of the hip joint; with resulting hip pain as the co contracted stabilizing muscles are constricted and not strong enough to stabilize the hip joint at the trochanter. Horses with this problem will usually favor one side over the other in movement in order to accommodate the deep pain of the SI ligament. Movement problems can be evident at transition to canter (asking for more power from the lumbar sacral), Rushing in uphill work, collection, and inconstant work behavior.

Hollow back can come about through any excess pressure on the Longissimus. However my experience when presented with this type of conformation is that it is usually due to some or all of the following primarily, bridging of the saddle, pressure at the lumbar region, improper bar/panel angulations, constriction at the spinous processes in the thoracic or lumbar region and riders without any core balance. The resulting dropped back and stress on the abdominals, winds up affecting the Ilium through the abdominal tendon and it's attachment at the tuber coxae. This creates restricted arching of the back and more stress at the SI ligament through torque of the Ilium.

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Here is a “poster child” that depicts the issues I have discussed above.



Unfortunately massage alone will not correct the deep underlying problems and bring the back up. Rule # 1 in any therapy is to get the individual out of pain or relief and healing will not happen.

In our work, properly identifying the underlying structural problem, correcting the problem, and most importantly of all, strengthening the back and abdominal muscles with ground exercises prior to adding a saddle and riders weight.