

# Saddle Fit and Back Lameness

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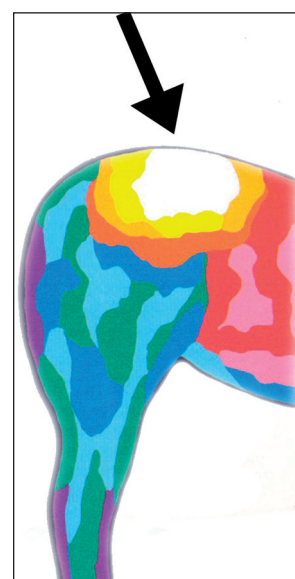
Often times the veterinarian will be called to the barn to address an ongoing issue of symptomatic lameness of a horse, e.g., manifested in the right hind leg. Without watching the rider ride the horse in his usual saddle, the logical conclusion might be that this is due to any number of 'organic' reasons and will be treated with either an injection, an application of an anti-inflammatory, or possibly chiropractic adjustment at the SI joint. What is actually needed is observation of the rider on his/her saddle in various gaits to determine the possibility of a different cause.

A basic assumption is that this particular horse with a lameness in the right hind falls into the majority (about 70%) of horses which are asymmetrically muscled stronger on the left side.

This unevenness could be further contributing to or supported by the skeletal asymmetry of the horse, and is easily established by viewing the horse over its rump.

What does this mean for saddle fit? If the rider is using a generic, 'straightly' adjusted English saddle, it may seem to fit properly while the horse is on the cross-ties being saddled up. The issues begin once the horse begins to move – which initiates a chain reaction beginning with the scapular rotation upwards and backwards, anywhere from 4" to 8" during movement. If the tree points are too short, facing forwards, and evenly adjusted, i.e., fit to the smaller, right shoulder, then the tree points will continuously hit the cartilage on top of the scapula and the larger shoulder will cause the saddle to twist to the right.

**Cause and effect** – once the saddle starts twisting to the right, the left panel will begin to impinge on the spinal processes and the longissimus dorsi on the left rear. This impacts the freedom over the

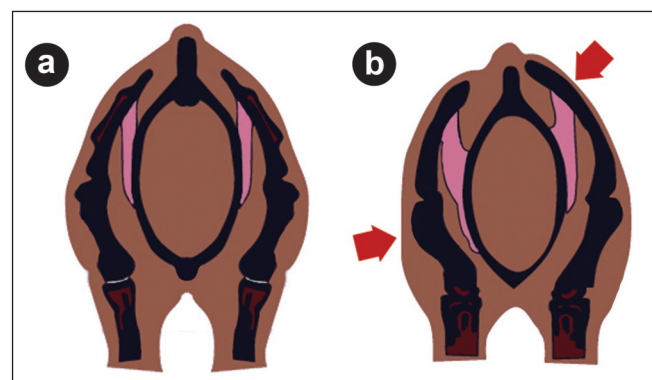


vertebral column, with its nerves and ligament system, and will cause inflammation over the right hind lumbar area (shown as white with increased heat in the thermographic image).

This is where the dif-



**This rider, seen from behind, is sitting crooked to compensate for the fact that her saddle has shifted to the right.**



**The cross section above shows: (a) an even skeletal structure; (b) a distinctly higher, left shoulder blade, with a stronger humerus on the right.**

ficulties begin all the way down the sciatic nerve to the right hind leg. To compensate for the saddle twisting to the right and going over the front right shoulder, the rider leans more heavily to the left in order to keep her balance. This not only causes pain and possible long term damage to the rider's back, but increases the pressure even further on the left side of the horse's back.

This may eventually result in subluxation at the sacro-iliac joint and pelvic intersection, causing a misalignment of the horse's back.

There are key points to recognize when making a diagnostic evaluation of saddle fit - basics that can help determine the cause for symptomatic occurrences of lameness, and for behavioral issues. Most important are the tree points and the saddle support area of the horse. Although 'everyone knows' there needs to be 2-3 fingers clearance at the withers, there also needs to be sufficient clearance all around the withers. The tree point angle at the gullet plate needs to be parallel to the shoulder angle – not the withers angle – in order to allow the shoulder to properly move. The cartilage will protect the shoulder bone as it moves between the deep-lying spinalis, rhomboid and longissimus muscles and the superficial trapezius during motion of the horse.

**The question remains** – does lameness

cause the saddle to twist, or does the saddle twisting cause the lameness? We believe it is the latter, but either way, the following facts are true:

- Saddle fit must include fitting the rider correctly
- Saddle twisting is due to asymmetries of the horse, the rider or the saddle
- Rider crookedness is often more likely a result, than a cause, of saddle twisting
- Frequent saddle fit evaluations are needed because a horse's back changes with seasons, body weight, and workload
- Riders need good core strength and should be symmetrical in order to make their horses symmetrical
- Early detection of saddle twisting is important.

Lameness is often blamed for saddle twisting, rather than what we see in saddle fitting, which is that natural asymmetry in the horse causes this twisting, which in turn causes the saddle to ride on reflex points. This then causes lameness because

the horse hollows its back and cannot engage its hind or lift its front end. Therefore the horse is being ridden on the forehand and is more likely to remain asymmetrical and have joint issues.

If a horse is asymmetrical and the saddle fitter is able to open the gullet plate on the larger side to accommodate the larger shoulder, the saddle will stop slipping (twisting/rotating) and won't ride on the horse's spine. The rider can now be straight. If the riding is correct, the horse will bring his back up and use it, engage his hind end, and begin to lift his front end. Now the rider can help make the horse straighter, and when the horse is measured and found to be even, the gullet plate is brought back to symmetrical, where it can stay as long as the horse remains even. (Please note that this cannot be done with every English saddle; many have limitations in their adjustability at the gullet plate due to the materials used in manufacture). More often than not, asymmetry causes both a twisting (yaw) and a rotation (roll).

Riders should watch for rub marks on hair coat, dry spots within sweaty areas, or wavy hair as signs that something is wrong. While these can signal a saddle fit issue, by the time those signs are visible, too much damage may already have been done. There are behavioral signs that the horse is trying to tell us that the saddle does not fit. Horses which are resistant, hollow, head-up, tail-swishing, girthy, have gait abnormalities, are 'cold-backed', rushing, bucking, stumble frequently, and have overall poor work attitude, are trying to tell us something and we should not wait until we see the physical signs that the saddle we are using is causing pain and dysfunction.

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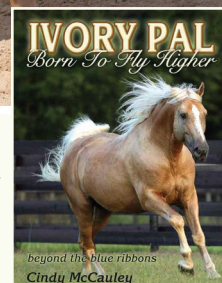
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