

Saddling the asymmetric horse

In twenty years of researching and designing equine riding equipment it has become very apparent that *“horses do not actually muscle to carry the rider, they muscle to eject the rider!”* Obviously we are not academics and our evidence for such an assertion is anecdotal, it is however, built on decades of saddle fitting records and observation of changes whilst working in cooperation with other equine professionals including veterinaries and therapists. Most importantly the rules and methods we use achieve repeatable positive results.

Food for thought

To bring this to its simplest form *“Every time we sit on a horse we are effectively taking it to the gymnasium”* the problem comes with the fact that the weights the horse uses, the rider, in its gymnasium are not symmetrical! *“It is very rare whether dealing with world class riders or happy hackers to find a rider that sits perfectly straight!”* and you should ask yourself *“If you went to the gym and every piece of equipment you used was unbalanced, say biased with more weight to the right, what would be the result?”*

Visual signs of asymmetry

When assessing a horse for a saddle the first thing to know is where the tree will sit on the horse. The tree point should sit 2” or 5cm behind the scapula, but which scapula? The stronger the shoulder the more backward rotation there is in that scapula. There can easily be a 2” difference in the placement of the scapulae in relation to one another. We do not want to fit the saddle to the weakest shoulder, if for no other reason; it would sit the saddle on to rather than behind the strongest shoulder!

Saddle slip is a sign of hind limb lameness

In recently articles have been seen in the press stating how saddle slip can be a sign of hind limb lameness. Whilst I utterly agree with this statement, I would say that the saddle slipped before the lameness showed it face and is a symptom of asymmetric development, especially of the fore limb musculature, primarily the Serratus Ventralis Thoracic (thoracic sling). It is the strongest muscle of the fore limb and is responsible for the support of the rib cage between the fore limbs.

A young horse grows a wither

Well, no it does not “grow” rather it is pulled up by SVT and in doing so pops the dorsal processes up between the fore limbs. But what happens when a rider sits to the right?

1. The horse has to carry more weight with the right hind.
2. The left lumber, right thorax and left fore have to work harder

I describe these horses as Right Hind Drive. This develops and strengthens the opposing left forelimb and therefore the SVT more on the left. Evidence of this is the rotation of the left scapula, which appears further back and hence why we use this shoulder to measure and place the saddle correctly. But the SVT shortens and tightens with development of the left fore, which in turn pulls up the rib cage more on the left, more so than on the weaker right shoulder.

The rib cage being pulled up more on the left rolls the rib cage to right. The rider that encouraged this muscle development sits to the right!

QED Horse develops muscle to eject the rider.

I honestly believe that this viscous circle is responsible for a lot of associated muscle problems and strains, injuries and lameness.

It is true that the rotation of the strongest scapula does to some extent counteract the shortening of SVT. I believe it goes someway to alleviating the amount of roll we see in the rib cage but not all.

It is also true that you cannot roll the rib cage without causing torsion or twisting in the lumbar spine and a scoliosis throughout the back.

A horse with a rider that sits to the right

The horse will have a better trot to the right, bending better around the riders inside leg with a softer neck bend and it may pop out through the left shoulder on the corners.

- The rider may say that the horse is better at canter to the right, but the horse will prefer left lead canter. The left canter has more energy but lacks balance, the right canter lacks energy but is better balanced, for this reason the rider prefers right canter.
- Lateral work will be better to the left.
- Flying changes are better right to left.
- Jumping the horse will pull left and duck out a jump to the left and will prefer to land left lead canter.
- Canter pirouettes are better to the right.

Interesting observations

Most young horses start work being better to the left at trot and canter easier to the right, the opposite of the above, in other words a Left Hind Drive horse.

Up to 95% of horses I see in the UK are Right Hind Drive once in work for some time. I see between 70% – 75% of horses in European countries being Right Hind Drive. So why the difference? What factor could influence a horse's muscle development differently in these countries?

When we do our promotional activities at shows one of the things we do is sit a rider on a saddle and adjust the balance of it on a static symmetrical saddle horse. We look at the rider and then explain how their horse works for them without seeing the horse! This is a great sales gimmick we have done since we start trading back in 1998, but it has a serious side. When we started we only did shows in the UK and we honestly thought it would be the same percentage of riders that sit one way or the other around the world, like handedness. We were shocked when we went to Germany and found the figures did not stack up. We found 70% instead of 95%! The riders still agreed that we had diagnosed their horse's abilities correctly but the difference was there.

Depending on whom you ask, you can find statistics of human handedness being between 2.5% and 13% and this is country dependent. On average 10% are left handed. So this was not the explanation we wanted as the variance factor was not large enough. The only factor that was different was which side of the road they drove their car on!

I think it would be fair to say that most human therapist agree one of the worst things for human posture is the motor car and dependent on how much and how often one drives it can influence one's body significantly.

The reason for why we sit whichever way we do is not the point. The point is that if one can predict how some ones horse works by looking at **them** rather than the horse, it also follows that one can predict what the horse will look like in terms of muscle development. We have found this to be true also.

Can I learn to sit straight?

A saddle is a tool that allows us to ride a horse in comfort and visa versa. It is meant to balance the rider on a moving horse allowing the rider to ride in sympathy with the movement and be able to influence and command the horse with the subtle changes in weight and pressure.

For this to happen, the rider has to sit as still and quiet as possible. This is the difference between a good rider and a bad one, the good one allows the horse to do the work and the bad one hampers it. Good riders also have something else; a better sense of balance and rhythm. They can stay straighter on a horse than the average rider this is a probable factor of why they are at the top of the sport.

So, "can I learn to sit straight?" is the question most asked by customers and my answer is yes and no. Yes, you can improve your fitness and your posture, if they have the time, but time is a thing most horse owning riders don't have! No, because you sit on your seat bones (Ischium) which are directly influenced by the way the pelvis is held to try to keep our backbone as straight and shock absorbing as possible WHEN STANDING. It is normal to see seat bone impressions on a saddles seat with the right seat bone much more forward than the other. Sitting astride another living creature, whilst balancing on our seat bones was probably not high on God's design criteria.

There are obviously lots of factors that can influence this and as saddler it is not the "why" that concerns me. My problem is making sure that the rider distributes their weight over the horses back evenly front to back and most importantly side to side. For this to happen they have to sit in a three point seat. It would be true to say that most riders have never truly felt a three point seat!

- Men sit on their seat bones and balance on their coccyx. Men normally have seat bones closer together than women and therefore sit more forward to the narrower middle of the saddle dropping the pelvis back to balance on the coccyx.
- Women sit on their seat bones and balance their pubis. Women general sit their seat bones further back on the wider part of the seat than the men but roll forward on the pubis as their coccyx is general being shorter and higher (something about giving birth! This is probably why women look more elegant doing dressage as they sit up and look less collapsed at the waist than a man.)

The seat bones have to be solidly in contact and the third point is used more as a reference. Sit on your coccyx or pubis for any length of time and it will cause you all sorts of problems. With pressure testing equipment shows us that only sitting solidly on one seat bone transfers a rocking instability to the horse via the saddle. A good analogy is the pub garden table on an uneven patio slabs, we all know what happens to the drinks.

Another important factor is that the heaviest part of the human is the head which is also furthest from the horse. The human will do everything possible to keep this bit of themselves in the centre of the horse. The less the rider has a steady level three point seat the worse the contortions of the rider will be, to achieve this.

The key to good riding is a relaxed and balanced rider. Or put another way, the key to efficiently working horse is keeping the load it has to carry in the middle of its back at all times.

So what are we going to do about it?

The saddle is the mortar between two bricks. The mortar is there to take out the discrepancies between the horse and the rider. We know riders are asymmetric. We know horses are asymmetric. The saddle has to be complimentary asymmetric so the discrepancies of both are eliminated from the picture.

We shall be using the patented Flair air flocking system to demonstrate balance. Obviously results can be achieved using other methods but they are not easily quantified or adjustment kept over time.

There are four overlapping points of adjustment in the saddle; 2 front, 2 back. Each air bag can be individually inflated and deflated or each pair of front or back bags can be inflated.

1. Initial adjustment will be the front pair until the saddle just lifts. This cannot be seen unless standing very close to the saddle as the movement is very small. If the saddle tree fits the horse the air in the front will lift the saddle when all the space under the saddle is filled and the maximum contact area will have been achieved.
2. The rear bags will be raised and lowered putting the rider in different balance points. By observation of the horse, rider and pressure testing equipment we shall be able to find the best longitudinal balance point for this horse/rider combination.
3. By the use of individual, air bags asymmetric adjustments will be made of diagonally opposite air bags. If the rider sits right then the air will be put in the right back and left front. Back adjustments will influence the rider more than the horse. Front adjustments will make a difference to the horse's neck and shoulder.

Other factors

Therapists should make clients aware that having their horse treated before a saddle fitting is preferable to the other way round. Horse can change substantially after a therapeutic session. So much so, that the saddle does not fit anymore. Use of the saddle without adjustment can reverse all the good work done in the treatment.

Everyone should be very careful about condemning a saddle fit. I have personally witnessed a horse go from a narrow fitting to medium wide with one 30 minute treatment! The horse was ridden immediately before and after the treatment and the horse stayed at the larger fitting even after being ridden. The saddle was refitted to the horse's new shape after treatment.

Asymmetric fitting

Think of the degree of asymmetry in the horse as ranging from normal to almost lame. The nearer we are to lame the less likely it will be that asymmetric saddle fitting will be beneficial without the potential lameness being addressed first. Most of the time we are asymmetrically fitting horses within the range of, normal asymmetry to horses that have regular treatments for

the over use of the same diagonally opposed musculature. These horses improve in training and musculature very fast and require little or no treatments barring maintenance. If saddle fitting is left unchecked, then a regression will then start up again. Regular checks of the saddle normally result in less and less asymmetry being used although one normally has some residual adjustment left in the saddle for the rider even when the horse is very close to symmetric.

Asymmetric saddle fitting can be a double edge sword. We can get the rider balanced and the horse going nicely only to find that the horse is lame in a very short time period. It is important when refitting the saddle to bear in mind that the asymmetry that was used on day 1 should be less on day 30. The horse should improve in muscle development not degrade. If the amount of asymmetry used is increase on subsequent visits we recommend that a vet is consulted immediately.

The problem here is twofold the rider does not want to hear that the reason the horse is not carrying the rider is that we suspect the horse has a low grade lameness. The rider thinks that the saddle moving is purely the fault of the saddle and fitter not doing their job correctly.

Summary

- Saddle fitting is a moving target
- To get the best from the horse and rider saddles need to be monitored on a very regular basis. Our sponsored riders are seen every 6-8 weeks in the competitive season to maintain the saddle fit as the horse changes in fitness.
- Knowledge of different types of saddle and how they are meant to be fitted is essential
- A good working relationship between Vets, Therapists, Farrier and Saddle Fitter = sounder, happier and better performing horses.