Care of the Horse's Back

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Horses are not designed to be ridden. Does that seem a scandalous comment coming from an equine vet? Well, think about it: the horse's back is designed to support the weight of the rib cage and the internal organs in the chest and abdomen, and in mares the unborn foal. That's all. Biomechanically, the horse's spine is not well equipped to support vertical load from above. The fact that it *can* is remarkable.

After all this time, it still amazes me that a horse can learn to ably carry a rider, and even perform some impressive athletic feats under saddle. I'm even more impressed, with both horse and rider, when I find a riding horse who does *not* have at least some degree of discomfort and dysfunction in his back, because in my experience back problems are *very* common in riding horses.

In most cases the discomfort and dysfunction (stiffening or bracing of the back, reduced flexibility, etc.) are mild and don't appear to affect the horse's health and well-being too greatly. But why should any horse have to put up with even mild discomfort when something can be done to make her more comfortable? Besides, horses perform better when they are comfortable than when they are uncomfortable. They also stay sounder longer.

The more that is required of a horse in the way of power, stamina, or precision, the greater the impact even small problems have on the horse's performance and, over the long haul, on his soundness. For example, merely bracing the back under an uncomfortable saddle or a heavy or unbalanced rider alters the biomechanics of the hindlimbs, and over time it can lead to wear-and-tear on the joints, especially the sacroiliac joints and the hocks.

I could go on and on about the "downstream" effects of chronic back problems in horses, but as space is limited I'll just dive right in to the key elements of back care for the riding horse:

1. weight of the rider
2. position, balance, and stability of the rider
3. saddle fit and position
4. training of the horse

1. Weight of the rider.

When I was a kid growing up in Australia and going through Pony Club, attention was given to the various aspects of horse–rider matching. Such terms as overmounted and undermounted were commonly used. If a rider was undermounted, it meant that the horse was too small for the size (height and/or weight) of the rider; overmounted is the opposite mismatch. Of the two, being undermounted was the greater sin, as it meant that the rider was too big for the horse.

There hasn't been a lot of research done on how much weight a horse's back can carry without the load causing damage to the horse's back. No doubt it varies somewhat with the individual horse and with the type of activity being required of the horse. For example, a horse may be able to manage a much greater load when used as a pack horse than as a jumping horse.

For riding horses in most sports or disciplines, the general consensus on weight carried seems to be an upper limit of 25% of the horse's body weight. For a 1000-lb horse, that means a combined weight of 250 lbs (rider, saddle, pad, boots, belt buckle, etc.). Note that that's the *upper* limit. Not to hurt anyone's feelings, but if you're hovering close to that upper limit, then do your horse a favor and either trim down (lose some weight, find a lighter saddle) or find a bigger horse.

And no doubling! Not even if the combined weight of the two riders is only 100 lbs. The horse's lower back should never be required to carry any extra load.

2. Position, balance, and stability of the rider.

The horse's back is best able to support the weight of a rider about halfway between the back of the shoulder blade and the last rib. (To be precise, in the general vicinity of the 12th thoracic vertebra.) If your saddle does not concentrate your weight in this area of the horse's back, then it needs to be repositioned, repacked, or replaced. More on saddle fit in the next section.

As for balance and stability, no matter how experienced a rider you are, you will likely not be perfectly even and symmetrical in the way you use your body. That's because none of us are, unless we've made it our life's work to be perfectly even.

Almost all of us have one "bracing" side and one "doing" side. For me, my left side is my bracing side and my right side is my doing side, so functionally my left side is longer and stiffer and my right side is stronger but shorter. If you're very right-handed like me, you probably have the same basic pattern, although you'll also have specific patterns of posture and movement that are uniquely yours.

The way we sit, stand, walk, and perform pretty much all activities—i.e. the patterns of posture and movement we unconsciously practice throughout the day—we invariably bring with us into the saddle. That means your horse not only has to contend with your weight on his back, but also with the uneven distribution of that weight. In order for him to maintain his balance and move forward with any semblance of straightness and evenness, not to mention ease and efficiency, he has to make adjustments for whatever unevenness you bring with you into the saddle.

If you really want to do your horse a favor and optimize his comfort and performance at the same time, then start getting some regular body work yourself or take some dance or movement classes. Two of my favorite body re-education tools for riders are the Alexander Technique and the Feldenkrais Method. But even a regular massage will bring your attention to your unique areas of tension and unevenness, and sometime just being aware of a problem is enough for you to begin to make positive changes.

And just one more comment on stability: the less you shift around up there, the easier it is for your horse to carry you and do what you require of him. *Stillness,* not stiffness, is the

goal, though. So, whether you just trail ride on the weekends, you're a competitive barrel racer, or you're a dedicated dressage rider, you will be doing your horse a good turn if you regularly have lessons with a riding instructor who is skilled at working on the rider's position, rather than just on making the horse do what you want.

3. Saddle fit and position.

Good saddle fit is *essential* for good performance. A poorly fitted saddle is uncomfortable for the horse, and at the very least it causes a protective bracing response in the muscles along the back which extends forward into the lower part of the neck and all the way back to the pelvis and sacrum. This bracing alters the horse's gait, balance, evenness, efficiency, and ability. Over time, poor saddle fit can even contribute to lameness and persistent behavioral problems. Furthermore, it makes it difficult for you to be comfortable, balanced, relaxed, and effective up there.

Saddle fit is such an important topic that it is discussed in a separate article: SaddleFit.pdf.

4. Training of the horse.

And finally, and alas all too briefly, the horse's training is an essential component of back care. The horse must have good self carriage before he'll be able to comfortably and efficiently carry a rider. "Self carriage" means that the horse has learned to stand and move with balance, poise, ease, and efficiency. (Think of the most naturally elegant horse you've ever seen, and you now have a great visual idea of good self carriage.)

Good self carriage and subsequently the ability to carry a rider well doesn't happen automatically in many horses; it must be carefully encouraged and nurtured with good training. It can easily be undone by careless or inappropriate training or riding; and as with many things, bad habits of posture and movement, learned early in life, can be very hard to undo.

In addition to good self carriage, the horse must be physically fit for the activities required of her. That includes good general fitness (aerobic fitness or stamina) and task-specific training. But that, too, is a topic which deserves much more space.

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