

That “Girthy” Horse is Suffering Pain, Not Just Behaving Badly.

Girthy horse = girth pain + reactive behaviour.

Personal clinical experience is that girth pain is extremely common in horses, so common that in most cases the horses’ reactions to girth pain are considered by the public, horse trainers and the veterinary profession, to be just bad behaviour. Preliminary scientific investigation of “girthy” horses has helped to sort out more clearly whether horses are suffering pain, or just reacting badly. The sad part is that most “girthy” horses appear to suffer pain, as well as behaving “badly”. Some appear to suffer very mild pain, not seeming to be troubled much at all, and some suffer extreme pain, to the point where fastening a girth causes them to collapse on the ground shaking. Very commonly horses appear to suffer moderate pain, and just learn to accept it.

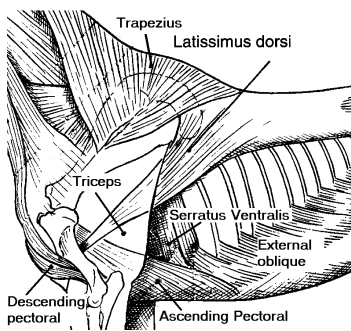


Figure 1. Girth Pain Syndrome involves the shoulder girdle and rib cage under the girth.

Adapted from Denoix and Pailloux, Physical Therapy and Massage for the Horse.

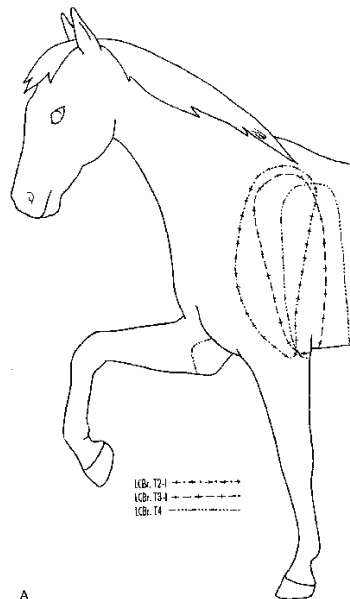


Figure 2. Spinal nerve innervation of the girth region - involves T2, T3 and T4 spinal nerves.

Adapted from Blythe and Engel Neuroanatomy and Neurological Examination.

The Origin of Girth Pain.

The origin of this girth pain is unproven. In most cases, from a chiropractic point of view, it appears to originate from dysfunction of the joint, or joints, between the vertebrae of the highest part of the wither, and of the ribs that attach to them. It is possible that joint

malfunction upsets the nerve that passes between the affected vertebrae, producing the pain reactions we frequently detect along the course of the nerve down between the associated ribs. Horses usually react as though the nerve path between the affected ribs is very tender, with this tenderness being palpable from the border of the shoulder blade all the way down to the pectoral muscles, near where the girth is placed at the bottom of the chest. The intercostal muscles between the ribs, the serratus ventralis, or fan muscle, and the pectoral muscles appear to become tender, and so one would expect that with the girth squashing these muscles would create discomfort or pain. At the same time the trapezius and spinalis thoracis muscles under the point of the saddle tree are often found to be tight and tender – they are fed with nerves from the same vertebrae – and thus pressure from the saddle could be made more uncomfortable as result. The horse with severe problems may to feel like it has a broken rib, as is felt by humans with seemingly similar vertebral problems. This would explain why some of the horses lie down, or go into a crazed fit of bucking, on the fastening of the girth. Luckily for most horses the pain and muscle tightness associated with this girth pain appears to dissipate with about 20 minutes exercise under saddle (often just lunged). The exercise under saddle may help by loosening up the joints, and perhaps via the release of natural morphine like substances, enabling the moderate to badly affected horse seem to stretch out better and stop bracing their chest.

Symptoms clinically associated with rib pain

□ On fastening of the girth include-

- Slight change in facial expression, often a partial closing or tightening of the eyes or a frown.
- Grunting.
- Lifting the head, swishing the tail.
- Inflating the chest to fix and splint their ribs. Also prevents the girth being applied very tightly, and may brace the horse to protect from pain.
- Attempting to bite the handler. Often repeated at each stage of tightening the girth. This is the most common and most obvious symptom.
- Kicking at the girth.

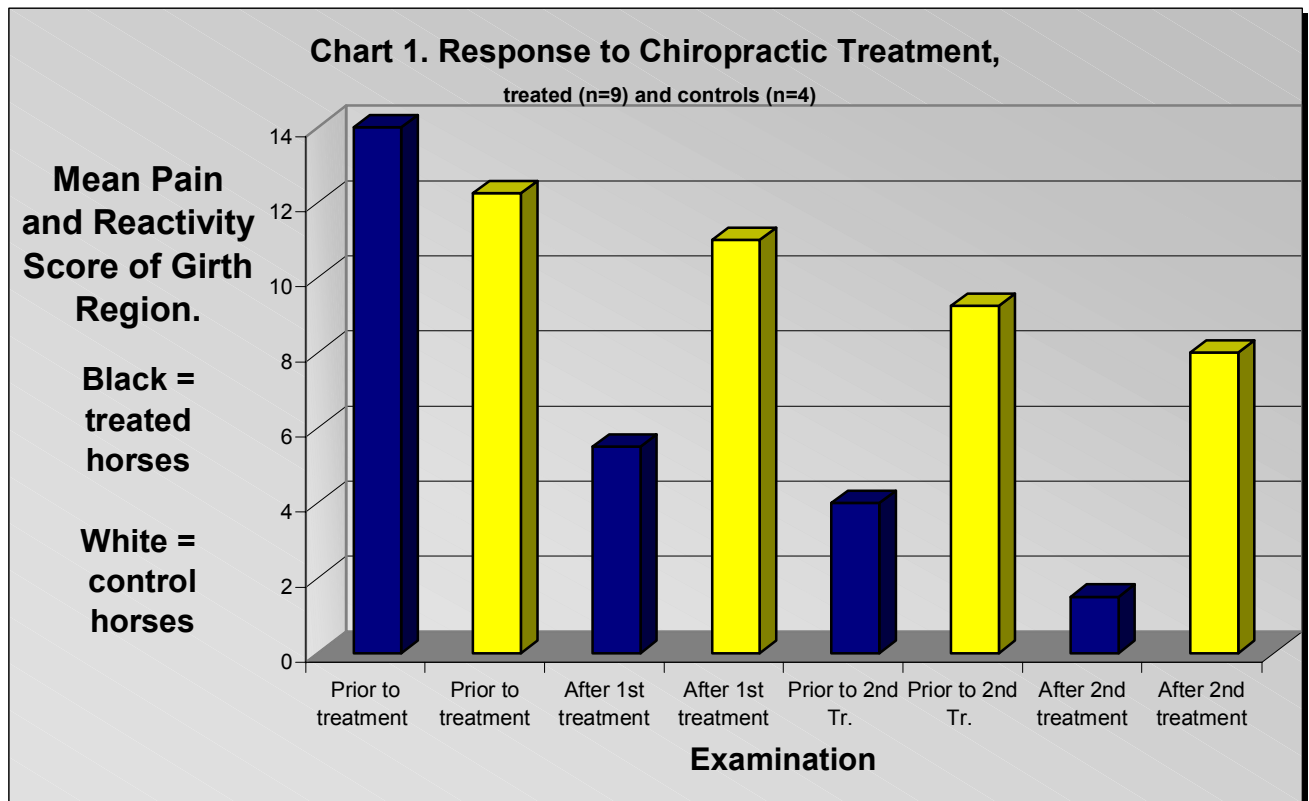
□ Once girthed up the symptoms include –

- Grunting while being ridden, especially when going down hill.
- Short stepping, refusing to move forward freely for 10-20 minutes after being saddled.
- Swishing the tail, laying ears back and shortened foreleg stride until warmed up.
- Commonly “humping up”, pigrooting or bucking at the start of a ride, then settling as though nothing had ever been wrong.
- In extreme cases violent bucking and/or pigrooting and /or lying down for a short spell after being girthed up.
- Generally being unhappy and piggy through the ride.
- Rushing jumps.
- Hurrying after being turned for home.

- Resisting leg aids.
 - Resistance to turning sharply.
 - Readily developing girth sores.
- **Signs of rib pain as a response to touch –**
- The skin of the girth area of most horses is ticklish behind the elbow, however, gentle stroking should remove any reaction. If the skin remains jumpy when touched after gentle stroking then there is probably an active problem.
 - When tapping or prodding the skin behind the elbow, the muscles all jump, including the muscles of the leg above the elbow.
 - Tightness and tenderness of the muscles under the girth.
 - Tightness and tenderness of the muscles above the shoulder blade.
 - Uneven shoulders with saddle slipping to the lower shoulder.

Results of Girth Pain Syndrome Research.

Preliminary experimental work, conducted for Ian Bidstrup's research thesis into the response of girth pain syndrome to Willoughby Chiropractic, illustrated how changes in pain and reactivity scores for horses occur with Willoughby Chiropractic treatment. Below is a graph of the changes that occurred over four examinations, including two treatments, with treated horse scores being shown alongside with untreated, or control, horses. Pain scores were generated from the sum nine different subjective measures.



Other problems that appear to be associated with “Girth pain syndrome”.

- Restricted vertebrae and restricted ribs make breathing harder – likely to reduce performance of racehorses, and possibly increases the chance of horses bleeding into the lungs.
- The triceps muscles of the legs are often tighter, reducing the ability of the horse to cushion its stride and so increasing leg concussion. This could potentially lead to an increased incidence of lower leg injuries.
- The muscles under the tree point of the saddle are tighter and increased in tenderness. Tightness decreases blood perfusion and thus increases the susceptibility to damage caused by the saddle.
- The hoof of the most painful side of the ribcage is generally smaller and more upright, perhaps as a consequence of the horse favouring this leg. Generally the horses are also reluctant to take this lead.

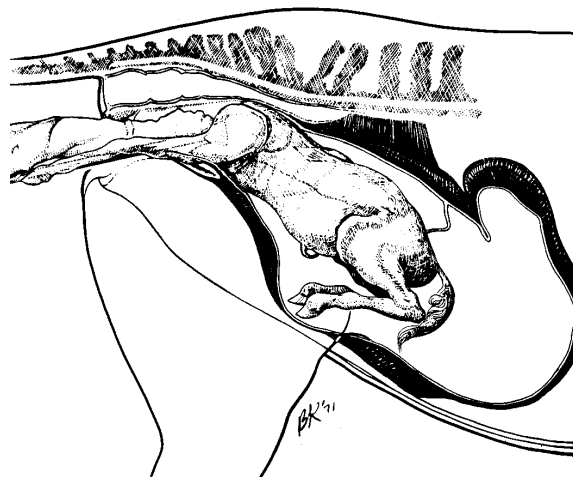


Figure 3. Ribcage trauma is a regular feature of birth, both natural and assisted. Adapted from Roberts, Obstetrics of the Domestic Animals.

Causes of girth pain.

This area is still under debate. It is highly likely that this rib problem starts at birth. Recent research into birth trauma in foals revealed a 5% incidence of broken ribs, and a 20% incidence of rib cage trauma in newborn foals. The problem area corresponded with the highest part of the wither and overlaps with that of the rib pain described here.

How does this problem develop?

It appears that most of the time the chest pain is there, but is low grade. Horses, I believe learn to live with it, become habituated to it, as behavioural scientists say. When you're broken in, you get a saddle and girth on, and it's a bit uncomfortable, but it is made clear that you're not allowed to complain by biting or carrying on, so you don't – well not unless you've got “attitude” and you have to let every one know about it. Humans must sometimes look dumb to horses. The horse, with considerable discomfort or pain, has to either brace itself and put up with the problem, or get more aggressive to get its message

across. We also have those individual horses that will complain about any minor discomfort. When a horse goes over backwards, falls on its shoulder, or trips badly with a saddle on, or is girthed up roughly, the problem that perhaps started at birth, can be activated. As a result a good horse can quickly or gradually turn sour, something we have all seen time and time again.

Alternatively, it appears that the horse favouring one fore or hind leg, or leaning may activate tenderness of the girth region. Doing so produces a postural twist of the ribcage, something that would affect both rib and spinal movement. This probably initially causes low-grade discomfort, and with time is likely to become a major source of pain.

Treatment Options.



Figure 4. Using Willoughby Chiropractic to free up the motion of the upper chest and ribcage.

- Willoughby Chiropractic. The most effective and long lasting treatment that I have seen is Willoughby* chiropractic adjustment of the joints between the affected vertebra and the vertebrae and rib. It appears to work at the heart of the problem, not just the symptoms. (Using true bony chiropractic to “adjust” only the affected joints, and not leg pulling or massage “chiropractic”). Results are usually immediate, and at times nothing short of spectacular. See Chart 1 for experimental results.
- Acupuncture is very effective in settling down the affected joints and associated muscle knots, and so the combination of these therapies give a much enhanced result. (Chronic foot problems, hoof imbalance or favouring one leg, pelvic twists and falls etc may cause the problem to return.)
- Massage of the girth and wither area is helpful and will, where tolerated, at least give temporary relief. Some skilled massage therapists claim to produce long-term alleviation of the signs of girth pain.
- Postural adjustment via rider balance, and training under lunge and on the arena, can also reduce the twist of the ribcage, and thus alleviate the problem. Usually one lead, or foreleg, is favoured when there is girth pain.
- Behavioural modification. Years of suffering from pain in the girth region leave an ingrained perception that girths are evil things – such a perception does not always change overnight. Retaining, of minor or major extent, is likely to be necessary, even if all pain in the girth area is overcome.

Management Options and Self Help.

- TENS or Faradic machines may be used to break the pain cycle associated with the affected nerves. These often give considerable relief if used under appropriate instruction. The results, however, are removal of the obvious symptoms, rather

than the cause. Thus the overall benefit is less, and the symptoms are more likely to return.

- Mounting from a block, or some other support, is mandatory for the health of the wither area, no matter how light the rider is. Where a block cannot be used, it is best to practice getting on from each side.
- Saddles that are tight over the wither should be avoided – they make the wither component of the problem worse, as well as crippling the wither of the horse.
- Using a broad, cushioned girth, that has 10-15cm of elastic at each end, can increase your horse's comfort and reduce the chance that an underlying problem will be aggravated if the horse has a fall when being ridden.
- Stretching out each foreleg of your horse, after it has been warmed up a little, can help alleviate the tension in the triceps, sub-shoulder blade and girth muscles. The stretch should be similar to the movement used to free the skin from under the girth, but it should be held for 20-30 seconds. As with all horse stretches, make sure you support your own back when doing so. Caution – do not overdo this stretch or you could actually exacerbate the problem.
- Use of "Mirotec" bibs can help to keep the vertebra and rib problems more comfortable.

Note : Some horses react badly to being saddled up because they are sore from the saddle itself. The saddle is forced onto sore muscle of the wither or back as the girth is tightened, causing the horse to react in a very similar way to one with pain involving the girth region. Thus "girthy" behaviour may not be the girth at all, or a combination of saddle and girth area soreness.

Conclusion.

"Girthy" behaviour is only the tip of the iceberg. I believe this is a major problem of horses. Horses appear to be suffering pain, their performance appears to be affected, and certainly at times their behaviour can be dangerous. For the sake of both the horse and rider, this problem needs treatment and not just behavioural management.

*Dr Sharon Willoughby DVM, DC is the founder of the American Veterinary Chiropractic Association, and a pioneering developer and teacher of veterinary chiropractic.

To contact a Willoughby chiropractic practitioner in America e-mail the American Veterinary Chiropractic Association : AmVetChiro@aol.com, or in Australia check the practitioner lists of the Australian Veterinary Chiropractic Association on the website: www.chirovet.com.au

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