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Problems Encountered When Shoeing Shire Horses For Showing

When I was first asked to shoe Shires for showing, I had no experience at all of working on heavy horses. The customers were well known in my area and were quite successful in the show ring. Eager to expand my knowledge and experience, I accepted the work of shoeing heavy horses believing they would direct me in the correct method of shoeing this type of horse. At first, I shod to their instructions and carried them out to the best of my ability - because the horses were winning in the show ring, I assumed they must have been correctly shod.

After gaining further experience and knowledge in farriery, I began to realise that it was not in the best long term interest for the welfare and soundness of these horses. I now have great difficulty in convincing the owners of this, but very slowly, I am having some success.

As I understand, years ago these were working horses - as well as being shown. Owners could not afford to keep them just for showing.

Therefore bevelled shoes were put on their feet, which were then dressed to the normal proportions. These shoes were used only for showing purpose; after showing, normal working shoes were fitted. If the feet of a working horse were allowed to become too large, problems could arise; such as treads to the other horse when working in pairs, or to the contralateral limb when worked single, particularly when turned too sharply; these could result in false quarters - a permanent defect to the wall from injury to the coronary band; also quittor - necrosis of the cartilage of the distal phalanx. High or low ring bone - exostosis of the phalangel bones. The increased length and width of hoof would result in fatigue because of the increased weight and delayed breakover horses may stumble or start forging.

A major problem with the fore feet was the amount of horn that I was instructed to leave when dressing in order to make the foot as large as possible. I believe that when this type of horse was worked on roads, the toes of the shoes wore out quickly: to combat this, the toes of the shoes were made square in order to put more metal into the toe and increase wear.

Today, the toes are made even more square to make the feet appear wider. This makes the feet wider than the length, when in fact, they should be slightly longer that their width. I dress the toes back in order to accommodate the square toe. This helps maintain the foot postern axis although it is still "broken back". With the foot encouraged to grow so large the angle the wall makes with the ground is more acute than a more upright foot, therefore the wall is thicker. The bevelling should be a continuation of the slope of the wall and be a parallel line with the wall; today this is carried out of proportion and is much wider. Because of the wide bevel on the shoe, the nail holes have to be punched so coarse in the shoe that the inside border bulges out. This has to be done in order to secure the nails up the wall. With such long feet, good strong nailing on is important; even with such coarse nail holes it is impossible to start the nail near the white zone - it can sometimes be as much as a half to three quarters of an inch from it.The nails should enter the wall near the outer border of the white zone: because the stratum medium is made of tubular and intertubular horn, the tubular horn near the epidermal lamina are round and less dense, as they approach the external surface they become flatter and closer together. This means that as the moisture content of the wall is obtained from two sources - systemic 60% and environmental 40%, the inner layer is more elastic and damaged less when a nail passes through it. As the nails cannot be placed there, more damage is done to the harder horn fibres and results in the weakening of the wall. As I was not allowed to lower the wall, the old nail holes were very slow to grow out, thus making the wall very weak and brittle. When I suggested the use of wider iron to help this problem, I was told that the wider iron would make the foot look smaller when the horse walked away from the judge. A narrow web shoe does not give the sole any protection, a wider web shoe would also dissipate the compressive forces. A lot of shires have a flat sole which are inherited. A flat sole cannot be cured - only prevented from getting worse.

This type of shoeing only makes matters worse and would often cause a flat sole in an otherwise normal hoof.

The bars of the wall normally run almost parallel to the frog. These feet have been encouraged to spread so much that the bars are at an angle to the frog. One of the functions of the bars are to limit expansion and contraction: in an acute angled position they cannot work

properly and over expansion will occur. This can sometimes be found when you remove one shoe, the horse will be unwilling to lift the contralateral limb to remove that shoe. When the shoe is replaced then the horse is happy to lift it. The excessive growth of the wall which flares out puts excessive strain on the union between the epidermal and the dermal lamina. With the over large hoof there is also a tearing effect on the lamina and white zone when the foot breaks over the toe when in motion. In action, the extra length of hoof with a shoe placed on the end creates more leverage on the distal end of the leg. The weight tends to hold the foot on the ground longer, resulting in a slow breakover but increasing the height and length of the stride, it also increases concussion. The excessive strain, the tearing and the concussion can cause inflammation on the lamina and result in a mechanical laminitis. The flaring of the wall can cause stress related sand cracks, also the stretching of the white zone may allow infection to enter the foot; causing lameness and result in seedy toe separation and degeneration between the lamina layers. Should a horse lose a shoe, the excess growth is broken away or curls up the foot causing the horse to be very sore and lame.

Hind Legs

Most shires when they were worked had strong, well developed and muscular hindquarters and normally stand base narrow. This transfers most of the weight on to the lateral wall, which would be low while the medial wall is high. The lateral branch of the shoe wore out more quickly. To combat this, the lateral branch of the shoe is made wider than the medial and fitted full in order to move the weight bearing more central to the leg. Sometimes the heel was thickened or donkied out to give more support to the lateral heel. The weight and donkied heel delayed breakover and helped prevent forging. The donkied heel contacted the ground first and shortened the length of the stride. The horse is so conformed that the forelegs bear more weight than the rear legs - 60% to 40%. The hind legs are the levers which propel the body forward. The most effective conformation for the hind legs to work efficiently is a line dropped vertically from the tuber ischii should just touch the point of the hock, pass down the planter aspect of the metatarus and meet the ground two to three inches behind the heels.

This can be confirmed by examining a transverse section of the metacarpal and

metatarsel bones. The metacarpel is oval shaped with the cortical bone thicker dorsally and medially. The thicker part of the bone being under the body weight, also the scapula is only attached to the spine by muscle. Whereas the metatarsal is round with the cortical bone thicker dorsally, indicating the need for strength in that area. The 1973 text for the conformation as regards the hocks states, "when in motion he should go with force using both knees and hocks which latter should be kept close together. He should go straight and true before and behind".

I believe the reasoning is that the hocks move apart as the horse pulls; the closer together they are the less outward twist and strain will be on them. So a horse with hocks close together is said to be able to pull more than a horse with bow legs.

To get the hocks close together for showing purposes, the medial wall was over lowered and the lateral left untouched far more than to achieve normal balance. After a time the lateral wall would become very long and sloping with wings at the quarters difficult to control. These sometimes cause quarter cracks and even when this does not happen you find that you cannot rasp under the clench of the quarter heel nail because you cannot get the rasp flat on the wall. The medial wall because of the extra weight bearing on the unbalanced hoof becomes upright or even slopes under. The effect of this treatment is to turn the toes out and attempting to get the hocks together. The shoe on the lateral branch is bevelled and has the nail holes stamped coarse. The medial branch is made thinner and because of the upright medial wall the nail holes have to be stamped straight. The medial branch does not usually have much of a bevel on it. Having said that, because of the hoof shape, it has to be fitted full to meet an imaginary line dropped from the coronary body, the lateral branch of the shoe is also donkied out to make the foot look bigger. This is very detrimental to the horse as the donkied heel forces even more weight onto the medial wall. When the foot lands the donkied heel catches the ground and turns the toe out even more.

This type of shoeing bends the metacarpel phlangel joint inwards and affects all the joint surfaces up as far as the hocks, thus causing extra strain on the medial colateral ligaments at their insertions, causing periostitis and eventually ring bone, more concussion on

the lateral aspect of the joints and bone column resulting in degenerative joint disease. Cow hocks tend to cause bone spavin - osteoarthitis form of ankylosing ring bone of the dorso medial aspect of the distal intertarsal and tarsometatarsal joints. Curb sprain of the planter ligament - these injuries are more likely to occur in the cow hocked horse than the normal because they are under more stress from the abnormal position. The lateral heel can also suffer from being sheared; structural breakdown between the heels and bulbs caused by a disproportionate use of one heel which is out of balance by being too long. The heel is pushed up and bulges at the heel bulb and coronet at the quarters but appears level on the ground surface. This can lead to chronic heel soreness, hoof cracks, bar and quarter cracks, deep thrush in the central sulcus. This type of shoeing was also carried out on young and immature animals.

To add to the problems of the strain to the feet, joint tendons and so on, shires, as with other horses, are in my opinion shown far too fat and over weight. When I ask for an explanation, I am told it hides a lot of faults in the conformation. Fat is not fit and when these horses were worked they had to be fit.

I am sure my task of persuading the owner to convert to conventional methods of trimming and shoeing would be made a lot easier if they were not so successful in the show ring because of the way they were shod. I cannot see how horses shod today the way I was expected to shoe them for showing could ever work hard and stay sound.

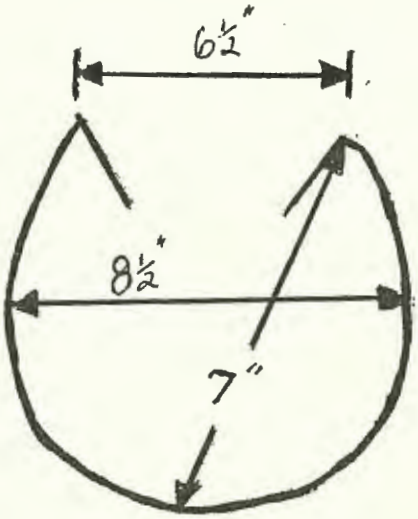
A shire was a working horse; surely they should be shown with a working potential in mind and not on looks alone. The shire horse society standard of points for shires states,"feet,deep, solid and wide with thick open walls. Coronets should be hard and sinewy with substance". I believe this refers to natural feet and not artificial ones.

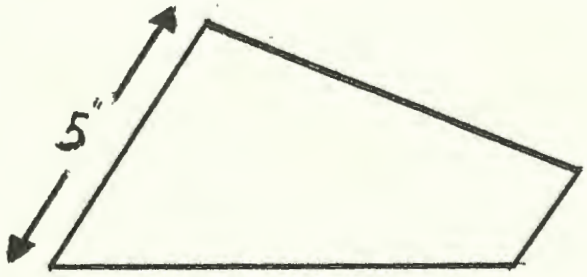
The following diagrams are examples of how much the feet were allowed to grow over a period of three to six months. First measurements were taken when the horses had been without shoes for several months, the second measurements were taken before bevelled shoes were put on for the show.

Stallion 4 Years Old

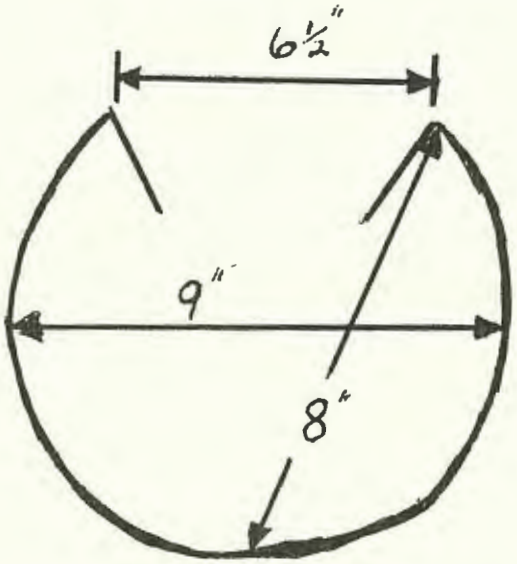
Left Fore Foot

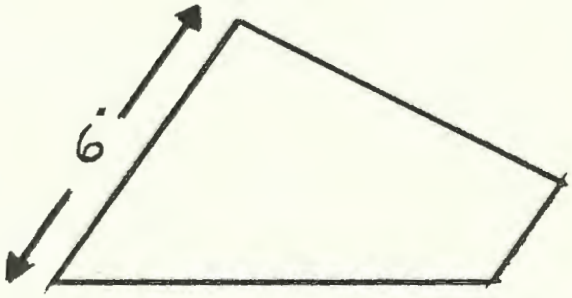
November 23rd





March 10th

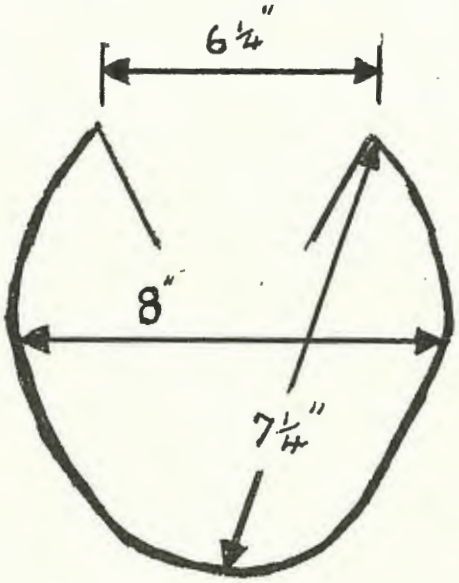


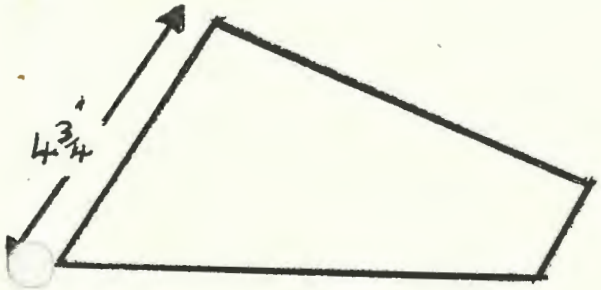


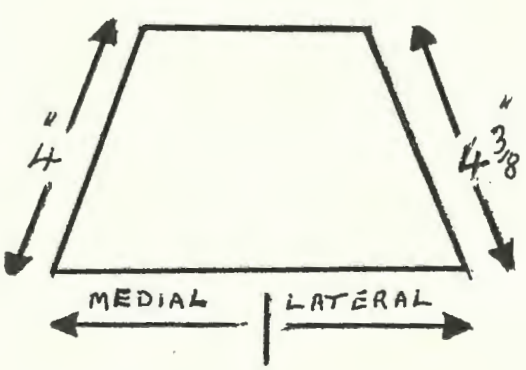
Stallion 4 years old

Left hind foot

December 1st







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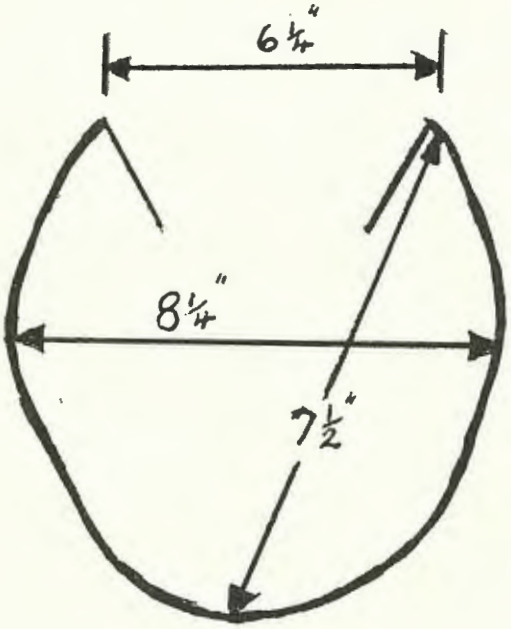
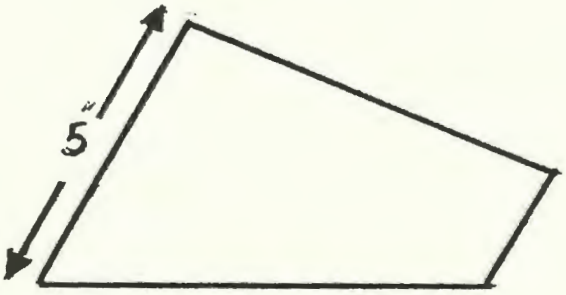
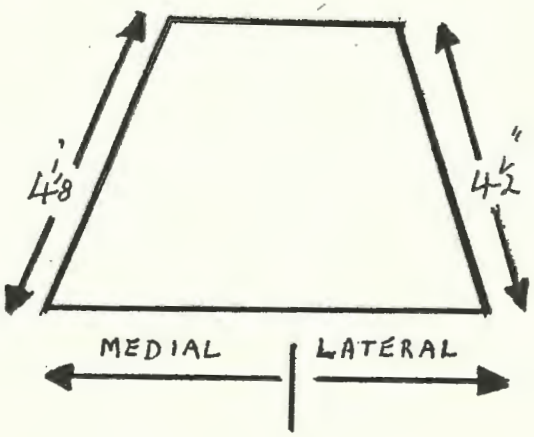


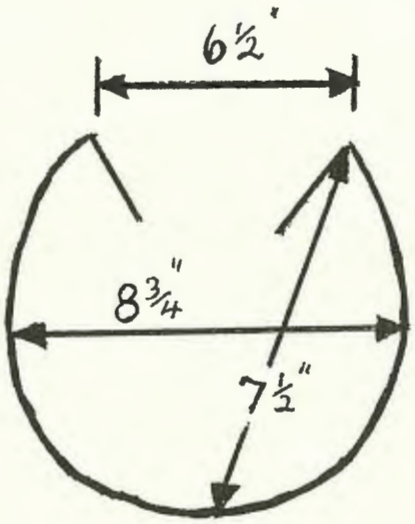


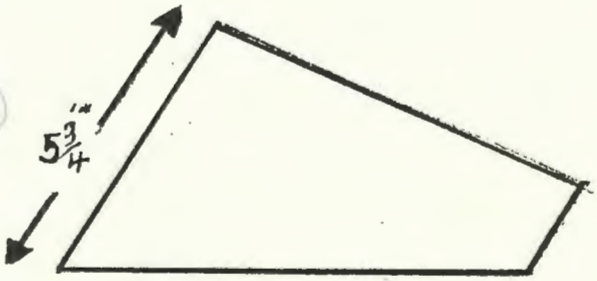


Stallion 7 years old

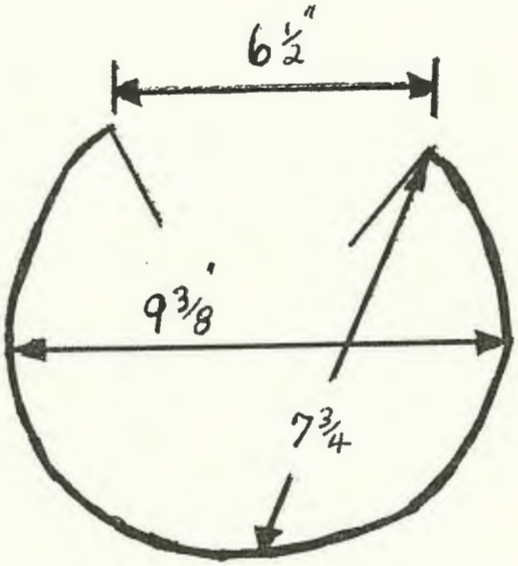
Left Fore Foot

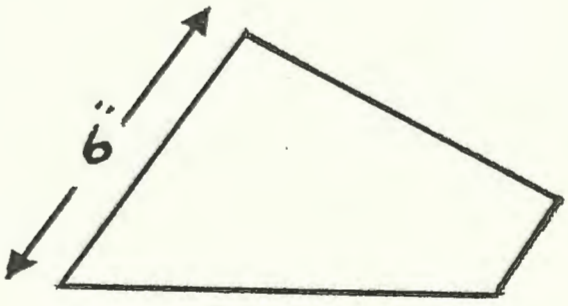
December 15th





March 9th

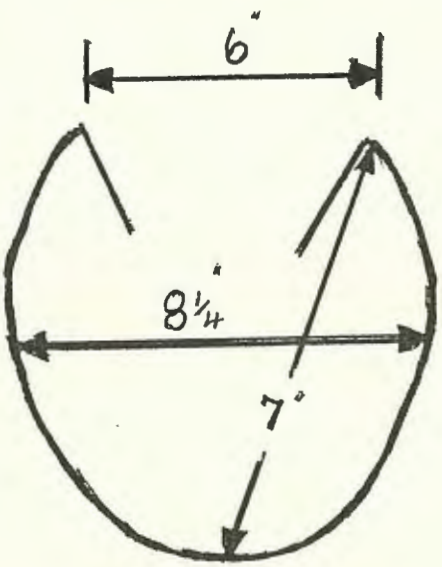


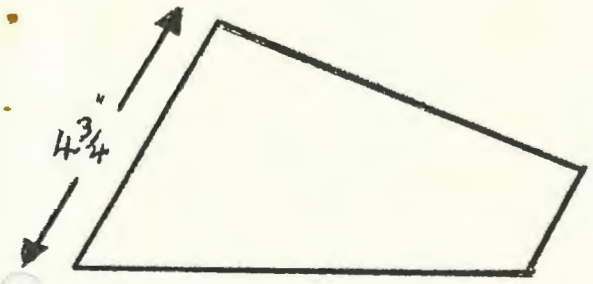


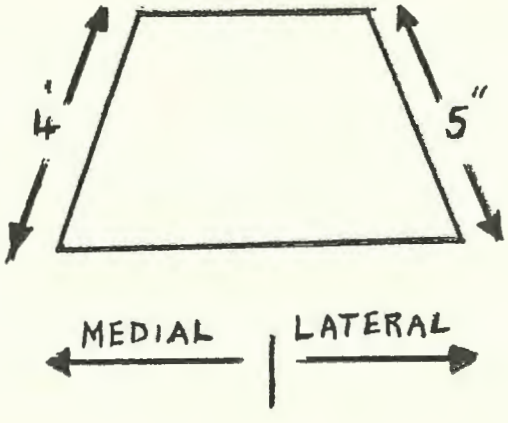
Stallion 7 years old

Left Hind Foot

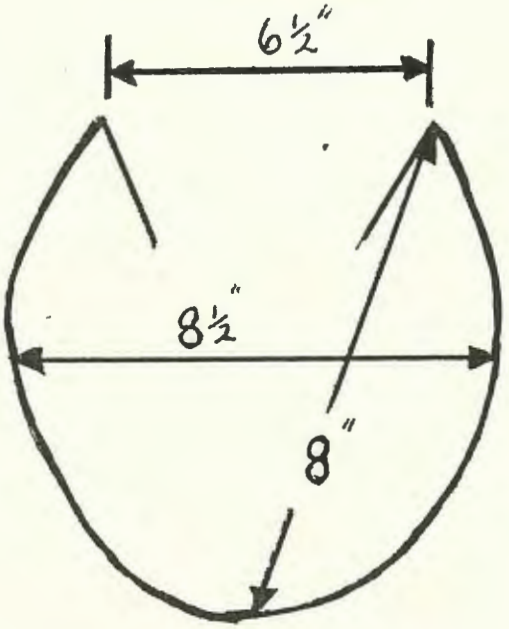
October 29th

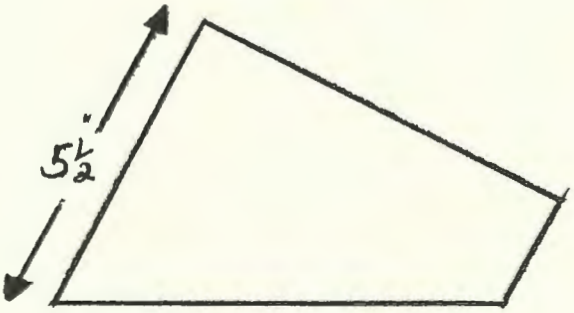


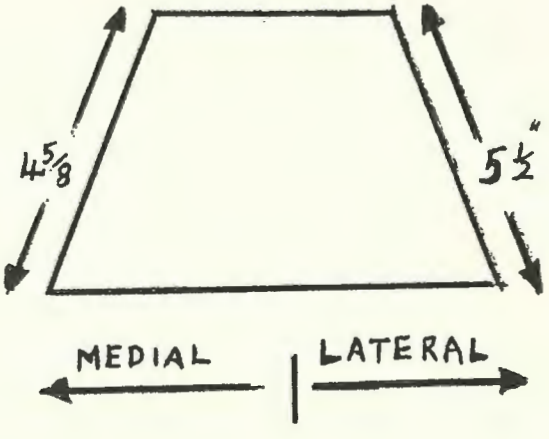




March 9th







Example of horse with long feet and bevelled shoes

Example of a horse with normal feet and shod with working shoes

Lateral view

Lateral view

Example of a bevelled shoe on a long foot. The white zone can be seen well inside the shoe. Bars are angled. Frog trimmed off centre.

Normal foot shod with working shoe

Example of a bevelled shoe on a long foot. The white zone can be seen well inside the shoe. Bars are angled. Frog trimmed off centre.

Normal foot shod with working shoe

Example of lateral wall at the quarters being as long as the wall at the toe

Example of excessive length of lateral wall causing proximal displacement of the bulb of the heel which could lead to sheared heels

Example of base narrow

Example of toes turned out

Example of excessive bevel on lateral branch. Normal bevel on medial branch

Example of a flared foot and small coronary band

Shoeing Horses That Are Known As Shiverers

There seems to be very little written about horses which are shiverers and I can find nothing to tell you how you might tackle the job of shoeing one. Unfortunately, what will work with one horse will not necessarily work on another. If faced with the problem of shoeing a shiverer, it may be worth a lot of trial and error approach to find the best way to lift the leg on different horses.

I have had experience of working on three affected horses:- One carriage horse, seventeen hands, affected quite badly on only the right rear leg, one thoroughbred of sixteen two hands not so badly affected on the right hind leg and one cob of fourteen two hands mildly affected on both hind legs.

There is no known treatment for a shiverer and they are said to get worse with the passing of time. There is no evidence of any problem if a postmortem is done on these animals. Also it can not be reproduced experimentally. The cause is said to be unknown although some say it is hereditary and a nervous disorder.

Shivering normally affects the hind legs, but can also affect the fore legs. Shivering is defined as involuntary muscular movements of the limbs and tail. Tests for detecting a shiverer are:- Forceably backing a horse over rough ground, turning in small circles and moving the animal from side to side in a stall.

When shoeing a shiverer, as it is regarded as a nervous disorder, any sudden movement can sometimes cause a reaction. It is best to allow plenty of time for the job. If in a hurry and trying to rush will only make matters worse, work as quickly and quietly as possible; be patient. The horse has a condition and cannot help how it reacts. It is as much an ordeal for the horse as the farrier. Most farriers have suffered with a bad back at one time or another and can appreciate how the horse is feeling.

Shiverers are much harder to shoe than normal horses. When the affected leg or legs

are to be picked up for shoeing the horse is very reluctant to lift that leg and when it is lifted, it is jerked up suddenly and shakes violently whilst abducted from the body. The tail is also raised and held out from the body. Sometimes they lift the leg very high and lean too far over to the opposite side and have to hop over to keep it's balance, throwing a lot of weight onto the farrier and in extreme cases can fall over. This can be overcome by standing the horse adjacent to a wall which will add some support to the animal. Personally, I have not come across a shiverer that kicks.

When actually shoeing a shiverer, have the owner exercise the horse and warm it up, rather than trying when the horse is cold and stiff. Shoe the worst leg first before the horse cools down. On the worst horse we have given Phenylbutazone (Bute) the day before shoeing, but obtain advice from the Vet. This does seem to help. However there is a risk when a horse is on Bute as it is a painkiller. The farrier should be aware that a close nail or nail prick may not show up until the effect of the Bute has worn off.

Before lifting the leg, rasp the clenches off when the horse stands on the leg. This way you will not have to hold the leg up so long. Lifting the leg is difficult. As soon as possible place the leg in the shoeing position and not holding it too high. When you find the right position, the horse will relax and stop shaking. Sometimes it will be found easier to get the leg up by making the horse stand back a step and as it lifts the leg itself, move in and place in shoeing position. Have all necessary tools easily to hand, or better still, have someone to pass them to you.

The horse will not be able to stand for more than a minute or two; when the horse tells you it wants to put the leg down it is much better to let the horse do so and let the horse and yourself have a rest. The temptation to hold on to the leg and finish the job off in one go is great as it is a problem to lift the leg again. If you do not let the leg go, the horse will probably put it down with such a force that you could end underneath the horse or get your legs or feet trampled on.

On severely affected horses do not attempt to pull the legs forward to the clenching

position as the horse may fall on top of you. Turn the clenches over whilst the horse bears the foot on the ground with the fore legs on the same side being held up. I have found all the ones I have dealt with stand well and let me finish off this way. Obviously not the same finish to the job but better that getting hurt yourself.

Remember, make it as easy and as comfortable as possible for the horse; as the easier it is for the horse, the easier it is for you to do the job.

Other conditions that can be confused with shivering are:-

Ossifying Spondylosis - Ricked or Jinked Back

Ankylosis of the vertibrae, signs are - objects to backing, lacks co-ordination on turning, sways from side to side when trotting in a straight line, difficulty in raising hind legs.

Straw

Thin skinned horses when turned into a stable with fresh straw bedding. The straw irritates legs, horse raises leg and shakes to relieve irritation.

Upward Fixation of The Patella - Straw Cramp or Slipped Stifle

Stifle and hock are rigid while the foot is turned back with its wall on the ground. Horses in poor condition with straight hind legs more prone to it. It can also occur in any breed or condition. It may be hereditary.

Stifle Cramp

In the case of stifle cramp the foot is fixed to the floor.

Wobbler Syndrome Ataxia

Weakness in the hind limbs. Can either be pushed from one side to the other or pulled by its tail with little resistance. Young horses disease of the cervical spinal cord.