

Well heeled — or not?

Collapsed heels is one of the most common conformation faults among thoroughbred-type horses, but advances in farriery in recent years have led to a more positive prognosis in many cases. Ellie Hughes investigates

**EXPLAINING A
BROKEN BACK
HOOF PASTER
N AXIS**

THE saying “No foot, no horse” has been etched in equestrian speak for longer than horses have been pulling carts. Of all the conformation faults, collapsed or under-run heels is one of the most important and common foot abnormalities in thoroughbreds. In fact, its prevalence is so high — reportedly affecting between 52-97% of blood horses — that it can lull people into thinking of collapsed heels as a normal hoof condition, rather than a serious pathological deviation.

But what exactly is a collapsed heel? The heel is said to be collapsed when the angle is more sloping and not parallel to the dorsal hoof wall (see diagram, right). The collapse of the heel is believed to contribute to many foot-related problems, such as navicular syndrome, chronic heel pain, coffin joint synovitis, quarter cracks, heel cracks and interference problems.

But, despite its prevalence, the condition is notoriously difficult to prevent or treat.

Modern methods

MODERN diagnostic techniques have helped vets diagnose heel pain — the use of nerve blocks,

Ninety per cent of horses with collapsed heels can be remedied to a certain extent with correct trimming

Chris Wiggins explains how new farriery techniques can help with a common fault

X-ray machines and MRI scanners have made pinpointing the source of pain easier — but it is still not an exact science.

“If there is evidence of collapsed heels and there is no other identifiable cause of lameness, then heel pain is often at the root of the problem,” says Prof Roger Smith of the Royal Veterinary College (RVC).

Remedial farrier Chris Wiggins believes a lot of the problems surrounding collapsed heels have resulted from a misunderstanding about the horse’s foot and how it functions.

“Ninety per cent of horses with collapsed heels will have a broken back hoof-pastern axis [right], but this is something that can be remedied to a certain extent with correct trimming.

“If the toe is trimmed, but the heel left untouched, then the shoe will often end up too far forward and will not offer enough support

When the angle of the heel is too low — or collapsed — instead of the line from the pastern to the tip of the toe being straight, it is at an angle or broken back

at the back of the heels. That’s when the horn tubules collapse under pressure and curl in.”

Gone are the days of fitting egg-bars as standard on any horse with foot issues. Now the

focus is on ensuring that shoes are fitted in such a way as to provide maximum support, but not interfere with the natural functioning of the foot.

“If the heels are allowed to grow long, the frog will be lifted off the ground. The frog acts as a shock absorber and the more it is stimulated, the bigger and stronger it will get,” adds Chris.

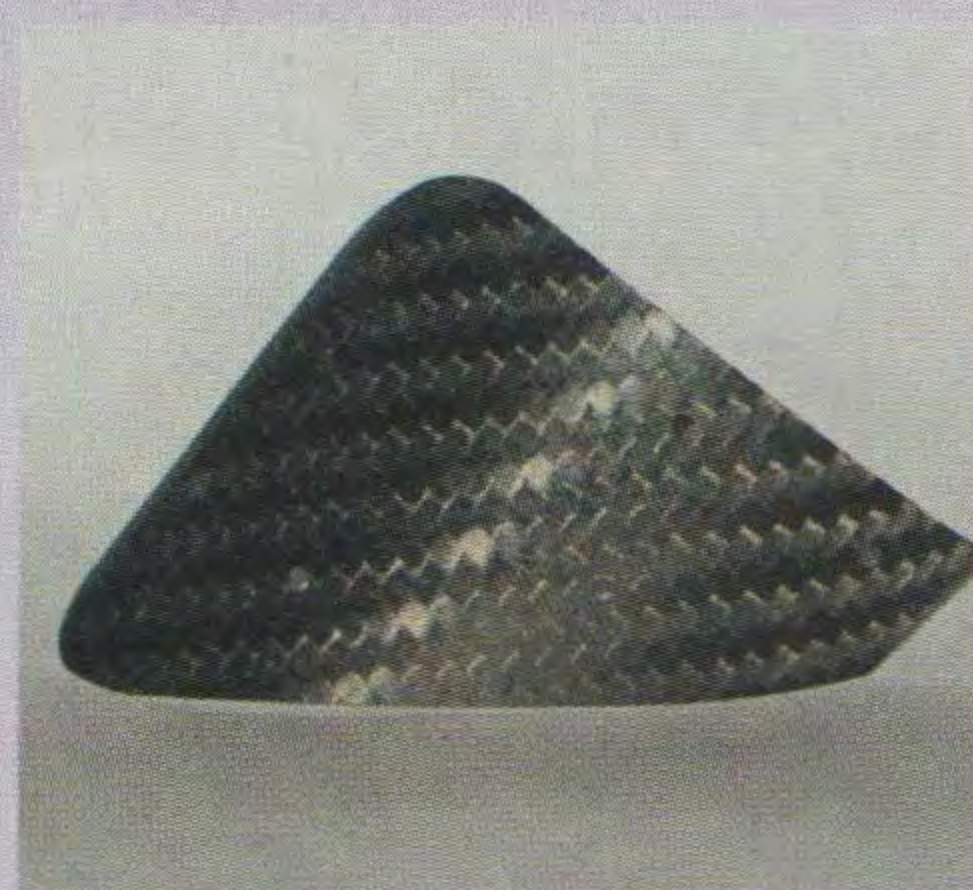
Preventing the frog from fulfilling this crucial role is the biggest problem with bar shoes, raised heels and wedges.

Roger Smith adds: “Wedges are particularly counterproductive because although they appear to improve the mechanics of the foot, they put increased pressure on the heel area.”

Modern pads and fillers now allow the frog to be kept in contact with the ground, albeit through a



How does it work?



The Hoof Support Patch is made of a resin-carbon fibre...



...it increases the strength of the heel wall to prevent collapse



centimetre or so of synthetic material. Chris has developed his own special recessed frog support pad to achieve exactly this (see case study, below right), while other remedial shoes have also filled this niche in the market.

Working with nature

FARRIER Peter Day of the RVC spent several years developing a product that not only alleviates heel pain, but also has been proven to increase the strength of the heels.

"Historically, farriers have different ways of dealing with the problem of collapsed heels — from cutting them away and hoping they grow back stronger, to padding out the sole to relieve the pressure on the heels. But we've never seen the science — the proof that any of these techniques really makes a difference," says Peter.

And that is what makes his invention — the Hoof Support Patch (HSP) — credible.

The HSP was designed and tested over a period of some four years, in collaboration with leading experts at the RVC. It is a resin-carbon fibre composite sheet that increases the bending strength of the hoof wall and helps to prevent heel collapse and deformation. When the hoof wall bends, the HSP becomes loaded in tension and the hoof wall becomes loaded in compression (which it is more able to resist).

This provides the heels with protection against collapse, without preventing them from fulfilling their natural function of expanding upon hitting the ground.

The research also shows that



After several years of development, the Hoof Support Patch is exciting farriers

the patches are thought to promote blood flow in the navicular area.

The HSP, which is now available through VetCell, is bonded to the hoof wall on each side of the heel using standard farriery adhesives.

Going bare

BEARING a horse's natural foot function in mind, could there be a case for going shoeless?

"Yes, as long as the feet are well-trimmed regularly," says Chris. "Also, the ground has to be on the firmer side for the frog to be

stimulated enough to promote horn growth. Turning a horse out in a boggy field will not have the same effect.

"A horse is conditioned to cope with the natural environment in which it lives. As a young horse grows up, it needs movement on hard ground to develop shock absorbers that allow it to cope with its increased weight," says Chris. "Horses that are exposed to firm ground all the time are far less likely to suffer from problems such as collapsed heels and bruised soles." H&H

New invention proves its worth

A combination of corrective shoeing and the application of Hoof Support Patches (HSP) have helped Margaret Hamilton's eight-year-old thoroughbred gelding Chancer become sound enough to resume his competitive career.

Last July, the gelding developed mild forelimb lameness and was taken to the RVC for examination. Nerve blocks localised lameness to the left foot, although subsequently this shifted to the right — a common occurrence that makes bilateral lameness associated with foot pain difficult to diagnose.

Radiography did not demonstrate any significant abnormalities other than poor foot balance and collapsed heels. Vets recommended a programme of corrective, remedial shoeing.

Chancer was re-examined in November 2010. His foot balance had improved, but he still had collapsed heels and the forelimb lameness had reoccurred after a short period of work.

In an attempt to find a solution, HSP were prescribed and fitted by the owner's farrier. Since having the patches fitted, Chancer has remained sound and has been showjumping and performing dressage tests well. Margaret hopes this will continue and that he will event at BE100 level this spring.



Collapsed heels are so common that some people think of them as normal

THE EVENTER WITH PAINFUL FEET

NOVICE eventer Bobby, a seven-year-old, seven-eighths thoroughbred gelding, performed well during March and April last year when the ground was soft. But as soon as the going became harder, he lost his big, swinging movement, his stride shortened and he started to rush in the air over fences.

Bobby was examined by a physiotherapist as his owner suspected he may have pulled a muscle. He was very tight through his shoulder area, but the physiotherapist believed that the source of the pain was, in fact, in his feet.

A thorough veterinary examination, which included nerve blocks and digital X-rays, pointed to heel pain.

Bobby has a conformational fault — flat feet. His owner bred him from her ex-advanced mare, who also had this problem. Although she chose a stallion with particularly good feet in order to try and overcome the condition, Bobby still inherited his mother's trait.

Farrier Chris Wiggins applied a recessed frog support that he has developed to help improve Bobby's hoof-pastern alignment and provide support and stimulation to the frog area. The outcome? With correct trimming and reapplication of the same sort of shoes and pads every six weeks, the difference in Bobby's foot balance quickly became noticeable.