

The Scale of Usability

The prime directive of Applied Equine Podiatrists is **Do No Harm** and our major goal is improving the health and strength of the horse's hooves while avoiding pain and injury.

Just like humans, horse's bodies develop and adapt according to the nature and size of the loads and stresses they encounter. As a former Olympic rower, I've learned a lot about how the human body responds to training. I also learned from painful experience that, while too little training will result in obvious performance problems, too much training can be just as bad - if not worse.

A good way to judge how much work your horse's feet can handle at any given point in time is K C La Pierre's Scale of Usability. In essence, this is a simple 10-point scale, which estimates the strength and condition of 7 major structures in the equine foot. By matching the work you do to your horse's current usability, you can easily maintain or even improve the quality of these structures, often in a surprisingly short time.

Scientists call the way in which living bodies respond to stress the Principle of Super-compensation. In other words, the body adapts to meet the demands that are put upon it. For example, if you try running for the bus and get completely exhausted, then *during the period of rest which follows*, the bits of your body that determine your fitness and endurance will develop so that you can handle that workload more easily next time. The more often you do it, the quicker the rate of improvement. Unless, of course, you run so hard and so often that you either don't allow sufficient time for the growth to happen, get injured or lose your motivation. The trick in developing the condition of the horse's feet, then, is to do enough of the right type of work to stimulate growth and development required, but not so much or so often that it causes injury or other problems.

What happens if I overdo it?

The internal structures of the foot - bone, cartilage, digital cushion and corium (the blood-rich layer which grows the hoof capsule and frog) are extremely sensitive to pressure. If the usability of the hoof is exceeded - by exposing the hoof capsule to more pressure, stress and strain than it is structurally able to deal with - these internal structures can become torn or bruised. The damage results in inflammation and swelling, which is extremely painful for the horse as the swollen tissue is trapped inside the hoof capsule. The swelling can be enough to cause "pressure necrosis", where the blood supply is cut off locally, causing the tissue to die. The dead tissue then has to find a way out of the body, resulting in the dreaded hoof abscess.

If the health and quality of the hoof capsule and internal structures of even one foot are very poor, it can be surprising how low the horse's usability really is. Just walking on a hard surface for 1 minute may be too much. Actually, even a very strong hoof's usability can still be exceeded if, for example, the horse lands from a high jump on a hard, sharp object, or kicks out and catches a wall

How does the scale of usability work?

Applied Equine Podiatrists assess the shape, quality and health of seven major structures in each foot - the frog, sole, heels, bars, walls, toe and lateral cartilages. Averaging out the scores and adjusting for any unusual factors gives the horse's usability score out of 10, an indication of what each hoof should be able to handle:

1. **Very poor.** The horse must be kept on soft surfaces at all times and not made to move by human or other horse.
2. **Poor.** The horse can be hand walked for a short time each day with foam pads, e.g. SoleMates, taped to its feet.
3. **Weak.** The horse is capable of the workload you would expect of a three year old i.e. some groundwork and just a little ridden flatwork in the school.
4. **A fairly good foot but lacking in strength.** Up to an hour of school work or hacking is fine. The horse is likely to find stony ground uncomfortable.
5. **Good enough for the average riding horse!** The foot can cope with most things - but endurance rides, eventing, large amounts of jumping over 3 feet and extended riding over stony ground will still be too much. Horses with genetically poor feet, or whose feet have been damaged will do well to achieve a score of 5, e.g. ex-racehorses.
6. **Very good** – the horse will be able to cope with most things.
7. **Excellent** – endurance rides, eventing, large amounts of jumping over 3 feet and extended riding over stony ground should pose no problems for this horse. A usability of 7 is the limit for most horses and usually takes a lot of dedication and hard work for the owner to achieve.
8. **Outstanding** - the horse needs genetically good feet to achieve an 8.
9. **Exceptional** - KC has seen hundreds of thousands of feet and only 2 horses scored 9. One was a mule that had just completed a two week trek carrying a 100kg pack over rocky trails.
10. **Perfection!**

Factors that reduce the overall score

- If one structure of the hoof is particularly poor, for example if the bars have been cut back excessively by a farrier or non-EP trimmer, then the whole hoof is compromised and its overall score may be reduced
- If one hoof has a significantly lower score than the other three, e.g. when it has been damaged by an abscess, then the horse's overall score will be dropped to that of the damaged foot.
- If the horse is overweight.
- If the rider is very heavy for the horse's size



This hoof scores 5. With continued conditioning and correct trimming, the bars will straighten up and the flaring at the quarters will decrease, bringing the score to 6.



A badly deformed hoof like this one takes the whole horse's score down to 2. I'm pleased to report that two months later this hoof scored 3.5.

Do shoes and boots affect the usability score?

Yes, absolutely! Almost all horses, when first taken out of shoes, have a usability score of 4 or less, yet were able to do all sorts of work when shod, without any apparent problems. This is because shoes and boots add structural stability to the hoof in two ways; (1) stabilising the hoof capsule and limiting the independent flexion of the heels both vertically and horizontally and (2) adding height to the hoof wall, which will help hold the sole clear of all but the biggest stones. In most cases, shoeing

adds 3 points to the usability score. Hoof boots have a similar effect, since the thick sole of the boot protects the horse's sole from bruising, as well as limiting the ability of the heels to flex independently in a vertical direction. If you find that your horse is sound with shoes but unsound without, remember that the shoe is not fixing the underlying problem, only masking the effect.

Can the usability of the hoof be improved?

Most definitely yes! The hoof is just like any other part of the body – it strengthens when exposed to suitable levels of exercise. According to the Principle of Super-compensation, if we exercise for 20 minutes a day at a level that represents some stress to the system, our bodies adapt to the workload. Our muscles, bones and connective tissues strengthen, our hearts and lungs become more efficient. However, it's worth noting some important points:

- If we attempt to exercise too often, too hard or too long for our current level of fitness, we are very likely to damage something.
- Once we reach a certain level of fitness, we need to increase our daily workload in order to improve our fitness further
- If we stop exercising, our bodies quickly become less fit and strong!

The horse's feet – as well as the rest of its body - also follow these principals. If worked at just the right levels, they become stronger and healthier. If worked too hard, they will be damaged. If not worked hard enough, they will deteriorate.

To determine exactly how much work a hoof should be doing takes training and experience. I thoroughly recommend contacting a qualified Applied Equine Podiatrist to assess and score your horse's feet, then recommend the appropriate conditioning regime. After that it's up to you to get your horse working the appropriate amount on the appropriate surfaces.

Jo Clark specialises in rehabilitating horses with poor quality feet and is a qualified Equine Podiatrist, trained by KC La Pierre.
For further information, please visit her website at www.performancehooves.co.uk