

Sound solutions

How do you minimise the risk of injury to your horse and help keep him on the road?

JO PRESTWICH asks the experts

As any athlete will tell you 'staying sound' is a continual battle. The higher the level of competition, the bigger the challenge.

So what can riders do to guard against damage and wear and tear of their horses during exercise and preparation for competition?

BD director of training Paul Hayler says when it comes to working out an individual horse's training system, he leaves nothing to chance.

"Prevention is better than cure," he explains. "All our horses are fed a joint supplement as routine and they are all treated once a month by a physio who works together with our vet and farrier so that if anything is going wrong, it can be picked up early."

It's a system that works well as Team Hayler's veterans (who are into their 20s) are still appearing in demos and used as schoolmasters to help teach up-and-coming riders the moves.

"We are lucky in that our horses are worked on different surfaces," adds Paul. "We have two arenas, indoor and outdoor, with sand/rubber and sand/fibre surfaces, we hack round the lanes and on the tracks, ride them in the fields. The horses are also turned out, so they are exposed to different levels of resistance, which helps build up strength in the muscles and joints."

"We are on clay soil at home, so winter turnout can be limited if it is wet, but all the horses are out of their stables twice a day. They all get groomed out of their stables -- we watch them walk out and can pick up on any residual stiffness, or issues very quickly."

Paul says he is also careful how he works each horse and believes the modern stamp of warmblood -- tall, elegant and leggy -- is inherently more fragile than its draught ancestors.

"The level of training has to be right for each horse at the stage it has reached, so nothing is overstressed, either physically or mentally," he says. "And as new scientific research emerges, we incorporate that into our day-to-day routine."

"We had a student here who, as part of her dissertation, measured the temperature of the horses' tendons before, during and after work. We are now even more aware of the importance of cooling tendons quickly after work."



The ideal warm up should include passive walking in-hand

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PHYSIO'S VIEWPOINT

“Warming-up and warming-down is every bit as important as the schooling or test in the middle,” says Team GB physiotherapist Vicky Spalding. “In fact so much so that if you have to shorten anything during training, make it the main block of work.

“A correct warm-up increases the body temperature, which in turn causes vasodilation (the widening of blood vessels). That widening of the blood vessels increases the rate of blood circulation and increases the amount of oxygen to the muscles. It wakes up the nerves that control muscle activity, increases reaction time and the flexibility of both tendons and ligaments.

“Riders and owners are increasingly using massage rugs, magnets and other complementary treatment gadgets, but although these can be extremely useful, they are not a substitute for a proper warm-up,” she adds. “There is a popular misconception that they are a time cutting exercise that negates a proper warm-up but nothing could be further from the truth.”

Vicky isn't keen on too much passive stretching and cautions this being carried out before working a horse.

“I've seen too many people pulling forelegs forwards and outwards while the horse is still in the stable, or stretching necks right round to the girth. There is no evidence to say this is beneficial and with cold muscles it is more likely to cause damage.

“A correct warm-up/cool-down routine(see box) is very much aimed at a competition horse, but every horse should have be walked off sufficiently to have stopped blowing and the heart rate reduced before being returned to the stable.

“The cooling of tendons after work is very beneficial, but is dependant on the level of work – 20mins of low level work is unlikely to cause a problem.”

“These precautions may not going to prevent injury or damage, but by warming up to the optimum level , puts the body into the best position to minimise any injury.”

WARM UP, COOL DOWN
Vicky Spalding explains the ideal warm-up and cool-down routine for a competition horse, devised in conjunction with Dr Rachel Murray of AHT

Divide the warm-up into three phases

Phase 1: Passive walking in-hand (with a rug if it is cold). Look for an active walk, the handler should not be dragging the horse round. “With a lazy horse I might even use thera-bands (elastic resistance bands used for rehab) under the tummy or round the back legs to make them that little bit more active.”

Phase 2: General warm-up. At least 10 minutes in warm weather, or 20 minutes in cold weather, or when riding an older or rehabbing horse, comfortable walk, trot and canter.

“The pace mustn't be rushed and I would stick to the outside track with big circles -- no less than a 20m diameter - with gentle flexing. In very hot weather modify this by including

more walk breaks into the warm-up to prevent over-heating and to conserve energy.”

Phase 3: By now we are onto specific exercises, but still in a slightly warm-up style, patterns of movements and I wouldn't be repeating the strenuous exercises too much.

Cooling down after the test or main block of schooling

“This is just as important and should be at least 5 to 10 minutes of relaxed, loose trot followed by a relaxed, loose walk. This is how long it takes to remove the waste products from a horse's system, which can cause muscle damage. It reduces the horse's temperature and heart rate gradually. If a horse has got very hot, I'd also be repeatedly hosing or washing down and scraping in between walking to help reduce his temperature. Washing down without scraping can actually heat the horse as the water becomes a barrier that holds the heat in.



The level of training should be right for each horse at the stage it has reached

Correct warming-up and warming-down is an essential part of every schooling session



RIDER INFLUENCE

According to Russell Guire of Centaur Biomechanics, one part of the equation that is often overlooked is the effect the rider has on a horse. “Every rider has a positive or negative influence on a horse,” he says. “If a horse can feel a fly land on its skin, it is certainly going to feel a rider’s unevenness in the saddle. Imagine you are giving someone a piggy-back and they lean to the right, you have to move right to keep your balance and stay upright, your horse will be no different, the laws of physics dictate he has to go that way and every time he adjusts himself, he is loading his tendons, ligaments, muscles and joints with not only his weight, but yours as well.

“Part of the problem is that we, and our horses, are all asymmetrical – just by being right and left handed is going to determine that – and there is nothing wrong in that we just need to be aware of it and try and counter it when we ride.

“There is research that suggests that horses are left and right handed too – as an experiment throw a carrot on the floor several times for your horse and you’ll find he puts the same leg forward to keep his balance each time.”

Russell explains that without a rider, a horse’s weight is distributed approx 60% on his fore limb and 40% on his hind limb.

“Every rider has a positive or negative influence on a horse ” RUSSELL GUIRE, CENTAUR BIOMECHANICS

“The art of correct training is to create weight transfers from the fore hand to the hind quarters, altering this weight distribution which puts more weight onto the quarters. This is arguably the power house of the horse which has a greater support structure, pelvis and hips compared to the forelegs which are connected to the horse via muscular attachments termed the thoracic sling mechanisms.

“If the rider’s weight is always unevenly distributed, riders leaning forward or too one side, it doesn’t take much to realise how much more unnecessary load is being put on the front joints and support structures and therefore increasing the opportunity for damage.

“Like riders, a horse is continually adjusting his balance to stay upright,” says Russell. “When we ride, the horse has to make small adjustments to maintain his balance to accommodate us as well.”

Russell says that the ideal is for riders to try to be as symmetrical as possible to reduce a horse’s level of adjustment.

“I think rider’s should do a small dynamic warm up before they ride, a mini jog or spend the first few minutes on the horse riding with your feet out of the stirrups to loosen your hips, but I do appreciate not every horse is safe to do that on!

“Interestingly we spend a lot of money on a horse, the arena surface, saddlery, livery and training, but sometimes neglect ourselves even though so much influence comes from the rider themselves.

“I’m not saying everyone should go through a biomechanics session, but £50 spent with a good human physio – preferably one with a sporting or equestrian interest – is going to be money well spent. They will pick up on your minor imbalances, which can have a big consequence on horses’ stability and balance.

“If you don’t sit square that might push your saddle to one side, and with the saddle sitting to one side this changes the mechanics of the horse’s back which then puts a uneven load on the tendons, the muscles and the joints. (see photos).”

With so many of the modern-day dressage horse now specifically bred for the job, it is becoming increasingly obvious to riders, trainers and veterinary professionals that unless we look after them we risk compromising their long term health and athletic longevity.