

# A BALANCING ACT

PHOTOGRAPHY: Jon Stroud

If elements in the partnership between horse and rider are off-kilter, they can result in a multitude of problems. **Russell Guire?** of Centaur Biomechanics explains the importance of rider balance, saddle fit and horse symmetry.

**S**ports scientist Russell Maguire specialises in biomechanics and the movement of the horse. He has performed more than 74 studies looking at how asymmetry of the rider and horse, and saddle fit, can all have a profound effect on performance.

When assessing the horse and rider's symmetry, the horse's saddle fit should be the first port of call, says Russell, from Centaur Biomechanics. "Saddle fit is crucial to improve the performance of the horse and, from a welfare point of view, to ensure the horse's back function isn't compromised."

"Considering that around 80% of horses displace their saddle, the fact that many of clients tell me they only have their saddler out once a year is surprising," Russell says. "A lot of saddles can be rebalanced and corrected fairly easily. The point is that they need to be constantly monitored."

A poorly fitting saddle can have huge consequences on the horse's performance and, more importantly, his welfare. "For horses who can feel a fly land on their back, how can they not feel if their saddle doesn't fit?" he says. "They develop strategies to cope – they might become strong in one rein or stiff in one direction. We usually don't notice until it becomes a problem. Saddle-fit issues can also present as lameness, as the horse will change his gait to compensate. We've also done research into saddles that slip to one side. The





✓ Russell places markers onto the horse and saddle with double sided sticky tape, and captures images for analysis



saddle is placed to the outside, and as a result the rider's seat moves to the outside and their body will lean to the inside, which shortens the leg up," Russell explains.

The horse's own asymmetries can also be a driving factor for a slipping saddle, says Russell. "You end up with a vicious cycle – the saddle hangs off, the horse alters his gait, the saddle hangs off more, and the horse alters his gait even more and becomes even more sore."

### Rider contribution

Saddle fit doesn't just affect the horse – it can also affect the rider's position. "The saddle is the platform and interphase between the horse and the rider – that platform needs to be level to allow the pelvis of the rider to be level, and then they can stack their body, ribcage, shoulders and head correctly," says Russell. "If that platform isn't level, the rider will have to compensate with their position, which results in a hollow back in a wide saddle, and rounded lower back and shoulders in a narrow saddle."

The balance of the saddle also affects the stirrup bar, which changes the position of the rider's leg, he says. "Riders are then criticised for their position, but it's how the saddle is making them sit."

It's not just competitive riders who need regular saddle assessment, says Russell. "Frequent saddle checks are vital even if you are just hacking."

### Saddle check routine

Throughout the year, the horse's back changes constantly.

"If your horse is young and being backed, in a rehabilitation situation, or being brought into work after a holiday, you should have your saddle checked and fitted at each stage of the fitting process," says Russell. "If you are training your horse correctly, you

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will be inducing a musculoskeletal change, so if you look at the saddle on day 1, it should not be expected to fit the same on day 16."

It's also vital that the saddle is assessed with the rider on board, he says. "If the rider is crooked, then there is every chance that they will create an asymmetry in the saddle."

### Joining forces

Russell explains that saddle fit is just the beginning of the biomechanics journey.

"Both horse and rider are naturally asymmetric, so we have to create strategies that align two asymmetries and reduce them where possible to create ambidextrous athletes. We are pro getting riders to do exercises off the horse, to work on their asymmetry to help their riding."

Russell says that alongside regular saddle fitting sessions, riders can also ask their coaches to help keep on top of any asymmetries and saddle fit issues.

"Coaches are becoming more aware of it, and it would be great if in every session the coach asks the rider to ride down the centre line to make observations on how the three components (the horse, the saddle fit and the rider symmetry) look," he says. "It's about educating riders on the importance of saddle fit, and changing perceptions about how often saddles should be checked. It doesn't always mean a new saddle – it's about ensuring what you've got is fitted to both your horse and you."