

the rider respectively, on every stride.”

There are some common indicators that a rider's position might be affecting their horse's way of going.

“Lack of forward impulsion, the horse ‘putting the hand brake on’, falling in or out,” Sarah explains, “being on three tracks when you're trying to ride straight, the horse ‘ignoring’ your aids, as the aids are confused, among others.”

**T**HE physical performance of rider and horse is so interconnected it can be difficult to work out the root cause, and this is where riding simulators come in. Jennifer started using one about three years ago, to help a client who'd had knee surgery.

“Simulators are amazing for riders, especially the motor-generated ones,” she says. “You can press the button and go into walk, trot, and canter. The rider has real-time feedback on the screen from different sensors so they can see that their weight is to the right or their right leg is on and they didn't feel it.”

Other new technology includes saddle pressure sensors and AI analysis but, as Jane points out, data is only as good as the rider's understanding of it.

“With some of the apps you get the information but not the support,” she says. “You need a coach or expert to help you interpret it.”

And, of course, to help you improve.

“If someone has told you that you are crooked when you ride, don't despair,” reassures Clare. “Many elite riders are wonky and some can ride better than they walk. The aim is to identify which areas are problematic, which of these can be improved, and if they can't be changed, then we find the best way to accommodate the issue.”

**O**FTEN the best way to improve rider biomechanics is with non-ridden exercise.

“Find time to work on yourself, even 10 minutes before you get on; you'll have a better schooling session for it,” says Jennifer. “People often have jobs that involve sitting or driving. If you're sitting a certain way, you'll bring that when you get in the saddle. Even yard duties – if you carry a bucket, do it on both sides.”

Non-ridden exercise is particularly beneficial when it's tailored to the demands of our sport.

“A standard plank is often used as a measure of strength and endurance,” says Clare. “But it makes more sense as a horse rider if you can incorporate a plank into a dynamic exercise. Can you support your elbows on a gym ball while in the plank?”

“There are many physios and conditioning coaches who are good at assessing rider biomechanics – you need someone who is familiar with riding and

## A rider's perspective

“WELCOME to Fred's stable!” jokes Tamsin Tarr, of Classical Rider Training UK. Fred is a mechanical horse, his “stable” is Tamsin's gym – and this was my first-ever experience of rider biomechanics (pictured).

I hopped on Fred and the first thing Tamsin noticed was that my lower leg was too far forward.

“That's drawing attention to where you've got tightness,” she explained. “That's what we need to tackle.”

The other thing she picked up was my upper body position.

“Think of your chest as the car headlights,” she said. “You've got them on full beam, you're pushing your chest forward, which is making your back tense. If you ‘dip the beam’, your back and shoulders will soften.”

I realised that when I ride, I'm trying so hard to “correct” my hunched shoulders from working at a laptop, that I'm making myself tight elsewhere. Tamsin explained that I've been using that “tightness” to balance. Softening there means I have to use my core instead.

Tamsin then demonstrated four stretches (box, p55) that I can do before riding to help improve my position and balance.

The next day, I put what I'd learnt into practice. I did the stretches before I got on and while riding, I was mindful of adjusting my lower leg position by rolling my thigh, as Tamsin had demonstrated. This engaged my core and meant I was able to soften my shoulders rather than tensing my back. I had to keep adjusting throughout but every time I did, I felt more comfortable and balanced.



what it involves,” she adds. “Equally if you have pain or a medical condition then always check with your doctor first.”

Investing time and effort in improving rider biomechanics can have a multitude of rewards, for horse and rider.

“Riding becomes less fatiguing, there's less overload, for example resulting in reduced back pain after a long hack,” says

Jennifer. “Being better balanced, more symmetrical, you then give clearer and more consistent aids to the horse and so take the confusion out of it for them.”

Jane agrees. “If your position is poor and biomechanics not ideal you can confuse the signal you're giving to the horse. If you are trying to balance yourself, that has an impact on your horse and your safety.”

She points to a survey she conducted with Dr David Marlin, which asked people to self-report on the circumstances of their last fall.

“Most falls happened out hacking or on the flat and were associated with a sudden change of direction in the horse – a spook. The riders tended to fall off over the shoulder. We've inferred that's about rider balance.”

And the good news is that improving your rider biomechanics can be quite a subtle process.

“Small changes can bring big rewards,” says Clare. “Horse riding, whether professionally or for leisure, works beautifully with the 1% rule.”

A key message from biomechanics is that rider fitness is just as important as our horses'.

“Riders always tell me about the regular physio visits their horse gets but they're walking with a limp! You're 50% of that relationship,” says Jennifer. “Taking yourself away from the horse and focusing on yourself will benefit you both.” **H&H**



**What we do off the horse has an effect – alternate sides when carrying a bucket**