

Caution needed if using thermal scanning to measure saddle fit

A study found increased pressure from badly fitting saddles did not change temperatures

THE use of thermal imaging to determine saddle fit should be “treated with caution”, as a study showed incorrect fit does not affect back temperatures.

In a study published in *Animals*, researchers found that thermal activity under incorrectly fitting saddles was no different to that under correctly fitted tack – or to the temperatures recorded after the horses had been lunged without saddles.

Researcher Russell MacKechnie-Guire, of Centaur Biomechanics, told *H&H* a leading thermography company and trained personnel carried out the thermal scans, and each horse had “baseline” readings taken first, to act as a control. The horses were elite-level showjumpers in their usual saddles, which were assessed by qualified fitters.

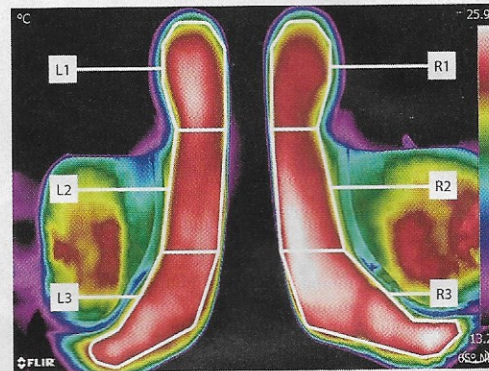
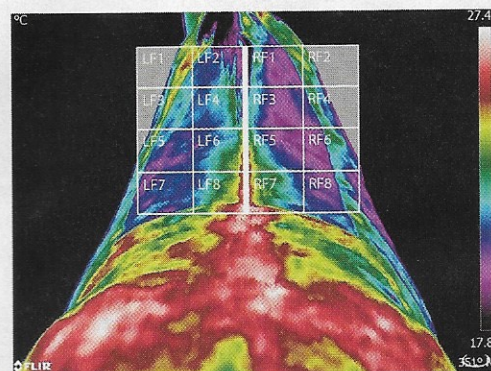
“Like all technology, this has its limitations”

RUSSELL MACKECHNIE-GUIRE

Dr MacKechnie-Guire said the research followed a pilot study some years ago.

“Thermography was being suggested as a tool to quantify saddle fit, and we wanted to find out whether it was useful,” he said.

“There have been some studies looking at thermal activity by scanning the underside of the saddle after horses were ridden,



By ELEANOR JONES

suggesting a hot spot implies increased pressure and a cold spot no pressure, thus concluding that saddles didn't fit by scanning the saddles. This has the potential to be misleading.”

Dr MacKechnie-Guire said the team followed strict protocols.

The horses were scanned after an hour in their stables with no rugs on, and no one had recently touched them, to get accurate baseline measurements. They were then lunged in cavessons, in a standardised test with equal work on each rein, then rescanned, then ridden, again in a

standardised exercise with equal work on both reins, and scanned.

“From the baseline to after the lunging, we found the backs' temperature increased,” Dr MacKechnie-Guire said. “That was expected, as temperature increases with exercise, but there was no difference in temperature between the lunging and ridden test. Had we not done the lunging,

without saddles, and gone straight to the ridden work, we might have thought the back temperatures had changed because of saddle fit, when it was only a function of exercise.”

HOT SPOTS

IT has been suggested that high pressure under incorrectly fitting saddles could result in “hot spots” on the horse's back but Dr MacKechnie-Guire said this was based on a “biological assumption” that increased pressure would lead to thermal activity change.

His team measured the forces under the saddles, using a pressure-mapping system. They found that even in saddles that were too wide, so created significantly increased pressure at the front, and too narrow, which meant significantly increased pressure to the rear, there was no change in back temperatures.

“I'm supportive of thermography but like all tech, it has its limitations, and if you know what they are, you can work with them,” Dr MacKechnie-Guire said. “Using thermography for saddle-fitting should be approached with caution.

“You can get devices that connect to your phone, or buy a [thermal] camera, and people offer saddle-fitting thermography,

Thermal scanning has been proposed as a tool for assessing saddle fit in the past, but researchers do not feel this is correct use of the technology

which is concerning.

“I'm not dismissing the technology, but if you were to have a scan and it concluded the saddle was a correct fit, but it's causing high pressure, this could be misleading and ultimately the horse then has to manage that.”

Society of Master Saddlers master fitter Mark Fisher, who was also on the research team, told *H&H* he had noticed thermography being used in fitting, but was “not convinced”.

“It's an extremely good piece of equipment but not necessarily for detecting pressure,” he said, agreeing that appropriate use of thermography was key.

“We had to be very strict with the protocols,” he said. “I found it very interesting; even different colours, such as on a skewbald, were different temperatures.”

Mr Fisher said there were five saddle fitters present for the study, and “we wouldn't consider using thermography as a tool for fitting”.

“It's all about education; if we'd found it could work, daily in a normal stable yard, then great. We've got to keep learning, and pushing the boundaries.”



British five-star event rider **Coral Keen** is engaged to boyfriend Oliver Hardman. In her

announcement, Coral said she “couldn't be happier to have said yes to this special man”.



Ryan Day, the stable jockey to National Hunt trainer Nicky Richards, has retired from

racing. The 27-year-old rode 100 winners from 960 starts during his nine-year career.



Top eventing course-designer **Mike Etherington-Smith** is among the new

appointments to the racing Horse Welfare Board. He will take on the role of equine safety advisor.