Veterinary professor

Professor Richard Piercy, equine neurology specialist, on sycamore poisoning and his research aim before retiring

I'm from the era of watching *All Creatures Great and Small*. My family has a medical background and I grew up with a love of pets but my interest in horses didn't start until vet school, when I received some teaching in equine neurology.

After I'd been in private practice I realised I wanted to specialise in equine internal medicine. I was offered residency training at Ohio, one of the top centres in the US for equine internal medicine, with a focus on equine neurology. It was hard work; I didn't get much sleep for three years as you're often on call, but it was an amazing chance to learn from experts and see remarkable cases.

I've been at the Royal Veterinary College (RVC) since 2005. I consult on challenging neurological cases; typically, horses that have been seen in private practice and their owners want a second or third opinion. Or rare cases, or ones that require specialist equipment available at the RVC.

We see horses with neurological issues, such as "wobblers", and sometimes horses with behavioural or sleep problems, or unexplained muscle atrophy.

I also run Europe's largest neuromuscular diagnostic research lab. Here we receive muscle and nerve biopsies from horses and other animals. The samples are processed by my lab, then I interpret them. We receive mostly muscle samples, largely related to exercise-induced muscle breakdown or tying up.

In 2022, we were instrumental in identifying the molecular mechanism underpinning a form of tying up, known as PSSM1, showing how the genetic mutation caused the disease.

We're looking at why atypical myopathy affects some horses more than others. It has been recognised for nearly 100 years, but it has only been in recent years that we've understood the cause: ingestion of a toxin found mainly in the seeds and seedlings of syacamores.

We now know that this toxin prevents muscle cells from making and storing energy and so they start to degenerate. Around 70% of affected horses die.

We're working on ideas related to possible protective effects of B vitamins, funded by The Horse Trust: we hope to find out if some horses are more deficient in vitamin B, or whether more of it is used up by the horse, trying to process the toxin. This may give us options for specific treatments.

We offer a testing service that measures the amount of toxin in sycamore material. From this we know that the toxin levels in sycamores vary from year to year.

We're also looking at laryngeal neuropathy, or "roaring", which is common in thoroughbreds. We've known of the condition for more than 250 years but we still don't know the mechanisms that cause it. I would love to understand before I retire what causes roaring – even better if I'm the one to work it out.

The worst part of my job is not being able to treat every condition. Over the years I've come to terms with it to some extent; I recognise that just by being able to diagnose it and put a label on it, that's some help to the owners. Being able to give practical advice is really worthwhile – you want honesty from your vet.

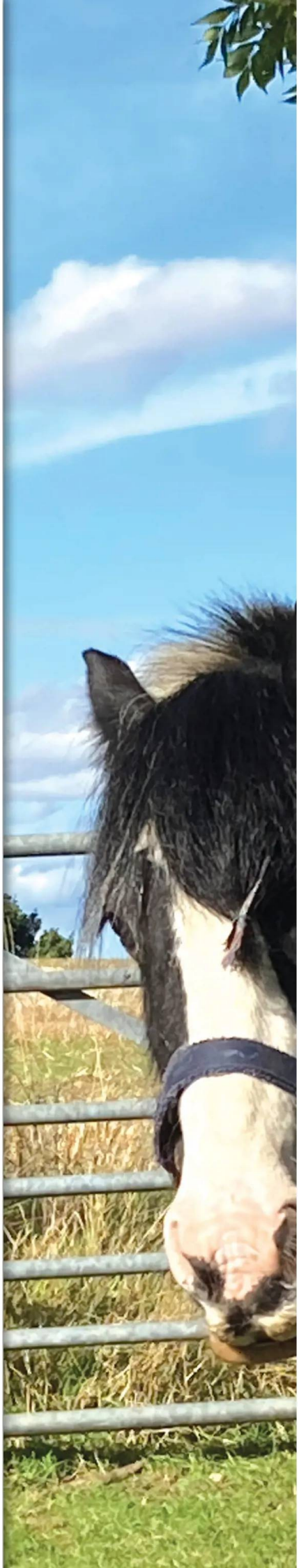
I work long hours. It can be stressful, although intellectually satisfying, so I don't have much time outside work. I have a family, my wife is also a vet, we have sheep, a pony and we're renovating a farm. I don't ride – it would be a busman's holiday!

Lots of vets have my phone number. Sometimes they call for advice, sometimes for a shoulder to cry on. That's one of the things I enjoy most, talking to practitioners and helping them. They might be dealing with something they've never seen before and I've seen it many times.

Over the years I've seen lots of very odd cases, sadly often very difficult to treat. I've seen rare infectious diseases and unusual autoimmune conditions. If it's out there, I've probably seen it. **H&H**

● ***As told to Catherine Welton***

NEXT WEEK **Equine Rescue Services' Sandy Reynolds**



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RICHARD PIERCY