

New techniques in medicine

Ankle op keeps athletes running

An ankle injury that could once have spelled the end of a running career can now be repaired thanks to new scanning and surgery techniques. By **Judy Hobson**

STRESS FRACTURES of the navicular, the small saddle-shaped bone that connects the ankle bone to the rest of the foot, are quite common among joggers and athletes. In the past the injury often meant the sufferer had to give up their favourite sport because the fracture was too small to be spotted on an X-ray and so went untreated.

Today, thanks to the use of more sophisticated scanning techniques – MRI and CT scans – these tiny fractures can be diagnosed much more easily, enabling a repair to take place.

Mr Nick Harris, a consultant foot and ankle surgeon who specialises in treating sports injuries at the Spire Hospital in Leeds, says: “Fractures of the navicular are caused by the repetitive loading of the bone due to high levels of running. Indeed, 25 per cent of all stress fractures are of the navicular.

“They’re quite common among athletes, joggers and marathon runners. Patients first experience a vague pain in the front of their damaged foot which over time gradually builds up.

“The fracture is usually very small, and because the navicular bone is located between the front of the ankle and the start of the foot, it can be difficult for an ordinary X-ray to pick it up, so in the past the injury has often gone undetected.”

He adds: “Some sufferers try to manage the pain in their foot by resting it for a week or so, allowing it to subside, but when they start being active again, the pain returns and often they find they have to give up running.”

Nowadays, thanks to a surgical procedure that involves drilling a small hole into the side of the navicular and inserting two 4 mm titanium screws to support and compress the fractured bone, most patients are able to resume running three months after undergoing the procedure.

The hour-long operation, carried out under a general anaesthetic, is done with



ILLUSTRATION BY MICHAEL ROSCOE

X-ray guidance to ensure the screws are fixed in the correct position.

Mr Harris says: “First of all, I use a scalpel to make a small incision over the side of the navicular and then, using X-ray guidance, I insert two very thin wires to check I am going to put the screws in the right position. When I am happy with

the position, I use a special drill to make a hole over the wires and then, using a small screwdriver, I insert the screws. The wires are then removed and the incision is stitched up. The patient’s foot and ankle is then encased in plaster, and four to five hours after surgery patients can go home.”

Two weeks later, the foot is put in a

Tish Joyce: Completed 156-mile race seven months after ankle surgery

“I’m back to running 70 miles a week”

Remarkably, Tish Joyce, 49, a businesswoman from Otley near Leeds, completed one of the toughest foot races in the world – the Marathon Des Sables – in April just seven months after having surgery for a stress fracture in her left foot.

Not only that, Tish was the 47th female to complete the 156-mile race, which is the equivalent of doing six marathons. For the six-day race, run in sweltering heat in southern Morocco, runners have to be in peak condition because they have to carry their food, sleeping bag and running kit on their back for the duration.

In May 2016, Tish, a single mum and a grandmother, had run the Great Wall of China marathon and had her eyes set on the Marathon Des Sables.

She says: “I did really well finishing in the top third of female runners and was keen to keep up the momentum and stay fit. On my return, I immediately started training for the Marathon Des Sables and would run 70 miles a week, often doing two 20-mile runs back to back at the weekend. I particularly love



running downhill and would fly down Ilkley Moor.” Tish now realises that she had not prepared her body for all this exertion and had not done any cross training or weight training to build up her leg muscles.

“I now know that was wrong. I was loving it so much I didn’t think about it. I have a very full-on job so getting out into the beautiful Yorkshire countryside encouraged me to relax. Running was helping me achieve a better work-life balance and to cope with the break-up of my marriage.”

In July last year, however, Tish started to notice a sensation of tightness along the outer edge of her left foot. She says: “It was as if I had pulled the laces on my trainers too tight. Then the pain started to radiate from the back of my ankle along the outer side of my foot.”

This prompted her to see her GP, who referred her to the Wharfedale Hospital in Otley, where her foot was X-rayed.

“By now,” Tish says, “the pain was getting worse. My coach suggested it could be a stress fracture but the X-ray came back clear. I arranged to see Mr Harris, a sports injury specialist, at the Spire Hospital in Leeds. After seeing MRI and CT scans of my foot, he told me I had a navicular stress fracture.”

At first her foot was encased in plaster and she was on crutches for six weeks to see if the fracture would heal. “I was devastated not being able to run, particularly as the Marathon Des Sables was getting close.”

There was more bad news when Tish returned to see Mr Harris at the end of September. A follow-up CT scan revealed her fracture showed no signs of healing and so the next day she had surgery. For a week afterwards she had to rest with her left leg raised. Then with the aid of crutches she was able to start walking around.



Two months after the procedure, she began going on walks with the aid of her crutches.

“Although I couldn’t run, I wanted to keep my strength up. Then in mid-December I was allowed to walk a mile and jog a mile without the crutches. Mr Harris was very strict and wouldn’t allow me to get back to my running too quickly.

“On Christmas Day I ran 5km and felt some pain. I was very despondent because I wasn’t sure I’d be able to do the Marathon Des Sables.” In February she entered the Pilgrim Challenge Marathon in Surrey, found it a struggle and finished last.

Tish says: “My left leg wasn’t strong enough and I knew that if I wanted to compete in Morocco I needed to focus on some strength training.”

It paid off, because she finished in the top third of the 1250 runners. Tish has already put her name down for next year’s race, when she wants to be among the top ten female runners to finish.

“I feel so lucky to have had this procedure, because I’ve since met several runners who have had to abandon running after a navicular fracture. My ankle is fine again now and I’m back to running 70 miles a week.”

walker boot and the patient can start weight-bearing activities.

He adds: “Because there’s a slight risk of the fracture recurring, we leave the screws in situ because this reduces that risk. At 12 weeks we repeat the CT scan to confirm the fracture has healed. Patients can then resume running.

“However, we do advise them to build up very slowly because we know it takes time for the bones in the feet to get stronger again.

“It is sudden increases – such as going from, say, 20 miles a week to 40 miles a

week – that significantly increases their chance of getting a navicular stress fracture.

“Some studies suggest that 80 per cent of those who get a stress fracture are low in Vitamin D, so we refer our patients to an endocrinologist who can check their vitamin levels and discover whether they need to take a supplement to help protect their bones. Vitamin D is very important for calcium absorption from the gut and in bone healing.”

Navicular stress fractures can be treated without surgery with the foot simply being

encased in plaster or a walker boot, non-weight-bearing, for two to three months. Despite this long period of immobilisation, however, Mr Harris says there is a high rate of non-union where the fracture does not heal.

“We find that recovery takes much longer and that the fracture often does not heal properly. This is why we’re seeing a move towards surgical treatment which is proving to be more reliable and lead to a quicker recovery.”

The surgical treatment, which costs £5000 privately, is available on the NHS.