New techniques in medicine

New therapy helps body heal itself

Platelet Rich Plasma therapy is now available in the UK and is giving relief to people with chronic conditions. Judy Hobson reports

PLATELET RICH Plasma therapy (PRP) helps relieve pain by promoting the healing of conditions that affect our muscoskeletal system. It is starting to be used in the UK to treat patients with chronic tennis elbow, Achilles tendonitis and those suffering from painful arthritic knee joints. Results look promising and in future the treatment may permit patients to buy time before having knee replacement surgery and may even allow some of them to avoid it altogether.

To accelerate healing after his knee surgery, US golfer Tiger Woods underwent the treatment. Indeed the technique has been used in the US and Europe since the Eighties, but it is only in the last couple of years that it has started to become available in the UK.

The treatment is termed an orthobiologic, combining cutting-edge technology with the body's own natural ability to heal itself. Platelets in our blood contain certain proteins that help damaged tissue to heal. They do this by sending out signals to other cells including fibroblasts – immature cells that can develop into new tendons or ligaments – telling them to rush to the affected area. Eventually scar tissue is replaced by healthy new cells.

The Platelet Rich Plasma therapy delivers a rich concentration of platelets to the damaged elbow, knee, or ankle, and this intensifies the body's efforts towards repair.

A small sample of the patient's blood is taken and placed in a centrifugal filtration machine – a rotating container – where it is spun at high speed. This separates the platelets from the rest of the blood. The concentrated platelet-rich plasma is then taken and injected into the injured area of the painful elbow, knee or ankle. As the treatment involves the use of the patient's own blood, there is no risk of a transmittable infection and a very low risk of an allergic reaction.

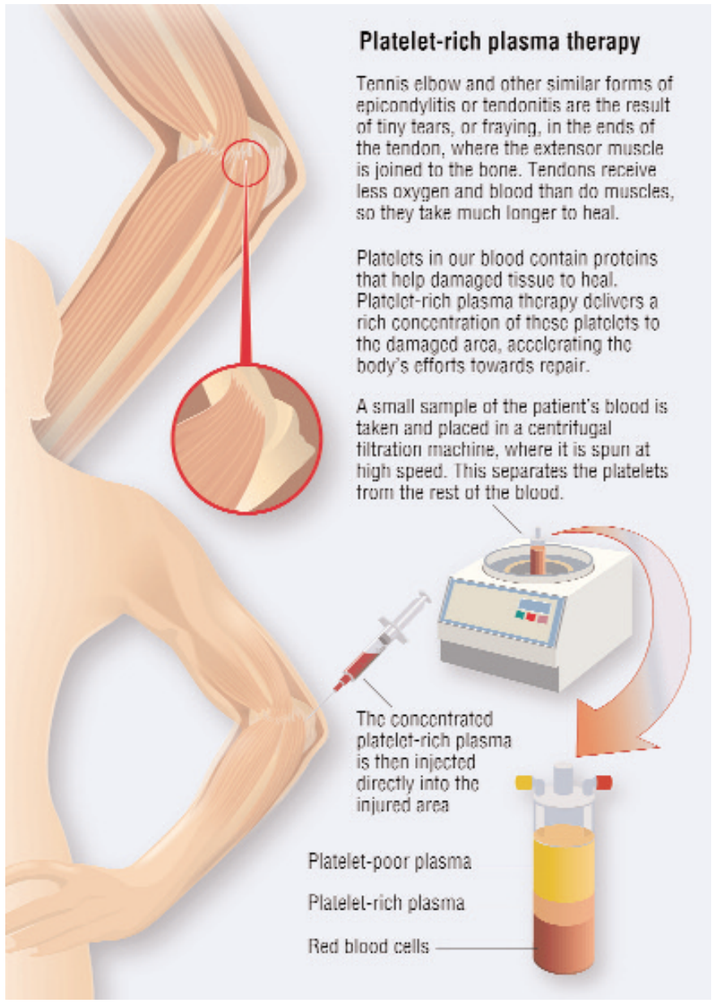

ILLUSTRATION BY MICHAEL ROSCOE

Dr Ralph Rogers, a consultant in sports and muscoskeletal medicine at the London Orthopaedic Clinic, says: "I am always on the look-out for the latest treatments. Some don't pan out but this particular treatment does. It has been in use in the US and Europe for some time. In the UK they're very conservative about using treatments that have not been developed here, which is sad for patients.

"What we are doing with PRP is assisting the body's inherent desire to heal itself and mend damaged tissue." He believes the technique could revolutionise orthopaedic medicine.

Tennis elbow – epicondylitis – affects around 300,000 people in the UK every year. It is caused by overuse and develops when the tendons – the cords of tissue that connect muscles to the bones – become damaged.

Playing tennis or squash is not the only cause. The condition can be brought on by gardening, DIY or anything that requires repetitive activity. Some patients with tennis elbow are in so much pain they have great difficulty lifting a cup of tea and can't even raise their arm so that they can brush their hair or clean their teeth.

Achilles tendonitis can also be caused by overuse. The condition leads to pain and swelling in the back of the heel where the tendon goes into the heel bone. As we grow older, our tendons become less flexible and more rigid and we become more susceptible to tendonitis.

Since he began treating patients with PRP at his clinic two years ago, Dr Rogers has treated 150, aged from 12 to 80. The majority had chronic tennis elbow or Achilles tendonitis due to overuse, strain or injury. He has also treated a number of patients with painful knee joints using the technique. Traditionally pain killers and anti-inflammatories have been used to treat these conditions. Another option is cortisone injections, but these can take a couple of weeks to work and some people need them repeating for them to be effective.

Dr Rogers is not a fan of steroid injections for tendonopathy.

He says: "Inflammation means healing – that's something I was taught as a medical student. If you use steroid injections which are anti-inflammatory, it goes against what the body wants to do naturally and this will delay the healing process, whereas PRP therapy kick-starts the inflammatory process and the healing."

During a treatment session, which lasts less than half an hour, he extracts a large number of platelets from the patient's own blood.

Dr Rogers says: "I take 10ml of blood – about two tablespoonfuls – from the patient's arm. The blood is then spun for five minutes. I then take the concentrate of platelet-rich plasma and using an ultra-fine needle I inject it at sites on the elbow, ankle or knee. On average I inject patients three to four times over a three-week period." While the treatment takes effect, patients can take paracetamol for their pain.

He says: "Research shows that two years after treatment, patients are still 90 per cent pain-free. One of my patients is 77 and has been told he needs a knee replacement for osteoarthritis. He is keen to put off having surgery for as long as possible and is undergoing this therapy to help reduce his pain. I am optimistic that in future some patients may not have to have surgery if their pain and swelling can be treated in this way."

A US study has shown that after a single injection, patients reported a 50 per cent drop in their pain, and a double-blind study involving 100 patients conducted in the Netherlands found the technique was superior to corticosteroids for the treatment of tennis elbow. Another Spanish study reported in the journal Rheumatology in 2008, looking at its use in the treatment of osteoarthritis in the knee joint, showed that after five weeks it helped to ease pain considerably.

Angela Eliades: Back in her dancing shoes

Within a couple of months of having Platelet Rich Plasma therapy to help a fractured ankle to heal, 55-year-old Angela Eliades was able to put on her dancing shoes and return to her dance classes.

The new grandmother – her son and his wife had a baby girl last September – was walking in Kenwood Park in North London when she caught her foot on a hidden boulder and broke her ankle. She was taken to the London Orthopaedic Clinic and given a 'space boot' to wear.

Before her accident in May last year, Angela was suffering from agonising pain in both her ankles. Indeed while she was on holiday visiting family and friends in Cyprus, the pain became so severe she had to ring her physiotherapist in Muswell Hill for advice. Angela, who is from Highgate, says: "I had to put ice packs on my ankles and take lots of Nurofen to get through the holiday."

> "The change in my ankle was remarkable"

On her return she started having regular physiotherapy sessions to help ease the pain. She was also referred to the London Orthopaedic Centre, where an MRI scan revealed she was suffering from severe Achilles tendonitis.

She says: "I was given anti-inflammatories and told that if it didn't get better, I could have surgery. I wasn't keen on that idea and so I kept on with my physiotherapy and tried to help myself by regularly doing my exercises at home."

In the end she was forced to give up dancing, her favourite hobby, and stop wearing high heels because her ankles were so swollen. The final blow came when she fractured her left ankle.

Angela says: "My broken ankle looked as if there was a tennis ball on the outside and my toes on that foot were like large sausages. I had suddenly grown an elephant's foot. It was four times bigger than my other one."

For six weeks she wore the 'space boot' and then bandage strapping for another two. She says: "I was told I was progressing well, but I wanted my ankle to heal more quickly because I didn't want to end up an invalid, and didn't like not being able to be as active as I usually am. My specialist mentioned that a colleague of his was doing a new treatment that involved injecting your own blood into the damaged area. I was prepared to try anything that might help. Immediately I got home, I rang Dr Rogers and researched PRP on the internet."

"I asked when he could treat my ankle and he said straightaway. He took some blood and, after spinning it, he injected the concentrated solution into either side of my ankle. That first treatment was a bit painful because my ankle was still sore and bruised, but the very next day the bruising became patchy and started to disappear. Altogether I had three treatments each about four weeks apart. My physiotherapist could not believe the change in my ankle. It was remarkable."

By October Angela had regained enough confidence to put on her dancing shoes again, and then she started wearing high heels, too...

Find out more

- A course of treatment costs around £1000. For more information, see the website: (www.londonorthopaedic.com).