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Vet's treatment could be a cause for cell-ibration

Nicky Phillips, Science
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Prizewinning patient ... Dr Robin Bell administers AdiCell treatment to help heal this racehorse's tendon. Photo: Jacky Ghossein

FOR a group one race horse, a partially torn tendon doesn't just mean a break from racing for up to a year, the risk of re-injury is also high.

So when a prizewinning filly was recently referred to Sydney veterinarian Robin Bell he recommended the horse undergo stem cell therapy.

The treatment, which involves stem cells being harvested from the animal's own fat deposits, has become an emerging procedure for animals with tendon injuries and osteoarthritis.



Stem cell
A racehorse undergoes a stem cell procedure to heal a tendon injury at the University of Sydney vet teaching hospital. Photo: Jacky Ghossein

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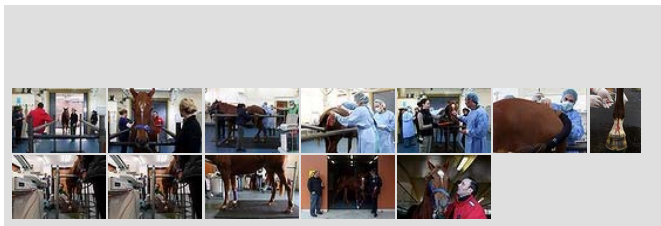
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To date, it has been used on more than 300 dogs, 25 horses and is being trialled on 40 people with osteoarthritis at Sydney's Royal North Shore Hospital.

One of the inventors of the treatment, biochemist Ben Herbert, said the special type of stem cells found in fat, called mesenchymal stem cells, do not transform into other types of cells, such as tendon or muscle cells.

Rather, when injected into an arthritic joint, the stem cells, along with other products found in the fat, secrete anti-inflammatory molecules and growth factors that work to reduce inflammation and stimulate injured tissue to repair.

Assessments by vets and owners have found the stem cell therapy is successful in 80 per cent of dogs with arthritic conditions, with the biggest improvement seen at about 10 days, and lasting for three years.

The AdiCell therapy is now offered by about 20 veterinary clinics in the country's eastern states and New Zealand.

The effects of mesenchymal stem cells were also being investigated as a treatment for a range of human conditions including musculoskeletal problems, Crohn's disease and wound healing around the world, Dr Herbert, a vice chancellor's innovation fellow at Macquarie University, said.

The first vet to use stem cell therapy in dogs, Angus Ross, said he had treated about 200 dogs over the past three years.

"We've probably had half a dozen dogs where nothing has happened, a third of people have said there is a significant improvement in their dog and another third of people who say this is a completely different dog," Dr Ross said.

A group of Sydney vets are conducting a randomised control trial to objectively assess the efficacy of the treatment.

The study leader, veterinarian Steve Fernside, said all the dogs in the study received standard elbow surgery, and then half had stem cells injected into the joint, while the rest were given a placebo.

Dr Fernside expects they will have the results in about 18 months.

Robin Bell, from Sydney University's veterinary teaching hospital, said the evidence on the treatment's efficacy in horses was also limited.

But if the therapy did speed healing it meant the horse could start training up to five months earlier than if she had not had the procedure.

"It doesn't do any harm and if it can do any of those things it may well help the horse," Dr Bell said.

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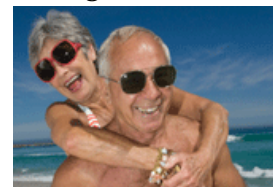


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