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Bionic eyes have been used to restore some vision to four blind Australians.

NATIONAL BREAKING NEWS

Four Australians gifted bionic sight

Gemma Najem, Australian Associated Press
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Four blind Australians have had some of their vision restored through the implantation of bionic eyes.

Before the trial, the patients, who lost vision due to degenerative Retinitis Pigmentosa, could sense light and dark but couldn't see a hand waving in front of them.

Bionic Vision Technologies says the patients can now distinguish objects around them in pixelated greyscale, giving them the ability to navigate without the aid of guide dogs, a cane or family members.

Lead researcher Associate Professor Penny Allen says the technology could be a game-changer for the one-in-4000 Australians affected by Retinitis Pigmentosa, as there is no way to delay or cure the genetic disorder.

"This is now a very significant cause of blindness in working age people; our patients range in age from the late 30s to mid 60s," she told AAP.

"We've been very happy with how they're progressing and they're really happy; and that is the best thing of all."

Prof Allen, who is lead surgeon at the Centre of Eye Research Australia, will present on the study at the annual Royal Australian and New Zealand College of Ophthalmologists Scientific meeting in Adelaide on Monday.

While there other other bionic eyes on the market overseas, Prof Allen said the Australian technology was simpler and safer, while researchers had devised their own vision processing software.

The bionic eye works by capturing images through a camera connected to glasses and transmitting them to an external processing unit carried in a handbag or clipped onto a belt.

The information is then sent back to a device magnetically attached to the patient's scalp, which is connected via a lead to the implanted device in their eyes, and is then processed by the brain.

Following on from the surgeries, the next phase of the study has begun as participants take the technology out of the lab and into the home.

First, they had to undergo training involving obstacle courses and other tests, while learning to "trust" what they see after years of no vision, Prof Allen said.

"We are working with them to identify things they want to do at home, normal tasks we all do.

"One patient is sorting washing, colours from whites, and one patient wishes to be able to navigate independently to some things in the backyard, like the lemon tree."

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