

## Bionic eye gives blind man sight

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A man who lost his sight 30 years ago says he can now see flashes of light after being fitted with a bionic eye.

Ron, 73, had the experimental surgery seven months ago at London's Moorfield's eye hospital.

He says he can now follow white lines on the road, and even sort socks, using the bionic eye, known as Argus II.

It uses a camera and video processor mounted on sunglasses to send captured images wirelessly to a tiny receiver on the outside of the eye.

In turn, the receiver passes on the data via a tiny cable to an array of electrodes which sit on the retina - the layer of specialised cells that normally respond to light found at the back of the eye.

When these electrodes are stimulated they send messages along the optic nerve to the brain, which is able to perceive patterns of light and dark spots corresponding to which electrodes have been stimulated.

The hope is that patients will learn to interpret the visual patterns produced into meaningful images.

The bionic eye has been developed by US company Second Sight. So far 18 patients across the world, including three at Moorfields, have been fitted with the device.

It is designed to help people, like Ron, who have been made blind through retinitis pigmentosa, a group of inherited eye diseases that

cause degeneration of the retina.

The disease progresses over a number of years, normally after people have been diagnosed when they are children.

It is estimated between 20,000 to 25,000 are affected in the UK.

### Encouraging progress

Ron, who has not revealed his surname, told the BBC: "For 30 years I've seen absolutely nothing at all, it's all been black, but now light is coming through. Suddenly to be able to see light again is truly wonderful.

"I can actually sort out white socks, grey socks and black socks."

"My one ambition at the moment is to be able to go out on a nice, clear evening and be able to pick up the moon."

Ron's wife Tracy is also hugely encouraged by the progress he has made.

She said: "He can do a lot more now than he could before, doing the washing, being able to tell white from a coloured item.

"I've taught him how to use the washing machine and away he goes. It's just the ironing next."

Consultant retinal surgeon Lyndon da Cruz, who carried out Ron's operation said the patients were starting to get meaningful visual stimuli from the technology.

He said: "We are very encouraged by the trial's progress so far.

"The implants have been stable and functioning for six months, with consistent visual perceptions generated by the device.

"The trial remains inspiring in terms of presenting a very real and tangible step forward in treating patients with total vision loss.

"But with more than two years of the trial left to run, these are early days and continued testing will be crucial in determining the success of the new technology."

Gregoire Cosendai, of Second Sight, is convinced the technology will prove to be invaluable - but also admits there is still much work to be done.

He said: "We are trying to see what level of vision we can provide with this.

"Theoretically, the people should be able to have reasonably good level of vision.

"We are not there yet, but what we are trying to see how best they can use it in their normal life."

Ron's progress will be featured on a BBC Inside Out documentary in the London area at 1930 GMT on 4 March.