



FACT SHEET

What is a bionic eye?

A bionic eye mimics the function of the retina to restore sight for those with severe vision loss. It uses a retinal implant connected to a video camera to convert images into electrical impulses that activate remaining retinal cells which then carry the signal back to the brain.

How will the bionic eye work?

A video camera fitted to a pair of glasses will capture and process images. These images are sent wirelessly to a bionic implant at the back of the eye which stimulates dormant optic nerves to generate points of light (phosphenes) that form the basis of images in the brain.

When will the bionic eye be trialed?

Research staff are working towards achieving an implant for the first clinical trial in 2013.

Who will be eligible for the bionic eye?

The bionic eye aims to restore basic visual cues to people suffering from eye diseases such as retinitis pigmentosa, which is a genetic eye condition.

Who is working on the bionic eye project?

Bionic Vision Australia (BVA) is a consortium of world-leading Australian researchers, collaborating to develop an advanced bionic eye. It brings together people from the Bionics Institute (BI), The University of Melbourne, The University of New South Wales, the Centre for Eye Research Australia (CERA) and the National Information Communications Technology Australia (NICTA). The Royal Victorian Eye and Ear Hospital is the clinical partner of the BVA collaboration and is the planned site for the first retinal implant.

Why is the BI working on the bionic eye project?

The institute is using its engineering expertise and its experience in safety and biocompatibility studies to establish safe surgical procedures and effective electrical stimulation strategies to improve vision.

Can I be involved in clinical trials?

If you are interested in participating in clinical trials, contact Dr Chi Luu from the Centre of Eye Research Australia (CERA) on 03 9929 8172 or email cluu@unimelb.edu.au.

Who is the Bionics Institute?

The Bionics Institute is an independent, not-for-profit medical research organisation working in the field of medical bionics. Its multi-disciplinary team of researchers are working in collaborative projects related to bionic hearing, bionic vision and neurobionics.

The institute is focused on clinical outcomes in response to the health needs of the community. Our work strengthens the Australian economy through innovation, commercialisation, and skills training for the next generation of researchers.

How can I help?

You can make a donation to the Bionics Institute via our website (www.bionicsinstitute.org) or phone (03) 9667 7500.

Where can I get further information?

More information about the bionic eye project is available on the BI website (www.bionicsinstitute.org) or the BVA website (www.bionicvision.org.au).