

Experimental treatments restore partial vision to blind people

October 20 2009

Two experimental treatments, a retinal prosthesis and fetal tissue transplant, restored some vision to people with blinding eye diseases. The findings, presented at Neuroscience 2009, the annual meeting of the Society for Neuroscience and the world's largest source of emerging news on brain science and health, may lead to new treatments for the blind. Researchers also reported that an engineered protein restored vision in an animal model and identified ways to improve stem cell treatments.

The new studies tested both people and animals with two degenerative eye diseases: retinitis pigmentosa and age-related macular degeneration. These diseases destroy the light-sensitive [nerve cells](#) in the retina, leading to blindness. In all, vision loss and eye disease affect 3.6 million Americans and cost the United States \$68 billion each year.

Research released today shows that:

- A retinal prosthesis restores partial vision to people who are totally blind. The prosthesis, made of an array of electrodes, transmits visual information captured by a video camera (Jessy Dorn, PhD, abstract 216.6).
- Transplanted "sheets" of fetal [retinal cells](#) improve [visual acuity](#) in several people with retinitis pigmentosa and age-related macular degeneration (Robert B. Aramant, PhD, abstract

837.12).

- Engineered, light-sensitive proteins restore vision in a mouse study of retinitis pigmentosa. The findings could lead to new treatments for people with degenerative retinal diseases (Natalia Caporale, PhD, abstract 806.10).
- As researchers strive to develop stem cell therapies for eye disease, a new method increases the yield of retinal cells from human [stem cells](#) derived from both embryonic and adult tissue (Jason S. Meyer, PhD, abstract 113.1).

"Basic neuroscience research has formed the basis for significant progress in treating [eye disease](#)," said press conference moderator Rachel O. L. Wong, PhD, of the University of Washington, an expert on visual system development. "These studies would not be possible without technological advances and basic science research that continues to explain the normal function and development of the visual system," Wong said.

Source: Society for Neuroscience ([news](#) : [web](#))

Citation: Experimental treatments restore partial vision to blind people (2009, October 20) retrieved 29 January 2023 from <https://medicalxpress.com/news/2009-10-experimental-treatments-partial-vision-people.html>

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