

NEWS



Research to
Prevent Blindness

FALL 2021

Blind Woman Sees Simple Shapes with New Brain Prosthesis

In October, a team of RPB-supported scientists from the John A. Moran Eye Center at the



Photo courtesy of University of Utah

Berna Gómez wears the new device.

University of Utah and Spain's Miguel Hernandez University successfully created a form of artificial vision for a fully blind woman using a prosthesis hardwired into her brain, leading her to identify lines, shapes and simple letters for the first time in 18 years.

In the study, published in *The Journal of Clinical Investigation*, Moran researcher Richard A. Normann and Spanish collaborator Eduardo Fernández detail how the Moran|Cortivis Prosthesis produced a simple form of vision for a 60-year-old woman. The

prosthesis stimulates the electrical activities of neurons. When paired with eyeglasses equipped with a miniature video camera, software encodes visual data and transmits it. The neurons produce phosphenes, which are perceived by the user as white points of light, to create an image.

"One goal of this research is to give a blind person more mobility," said Normann. "It could allow them to identify a person, doorways or cars easily. It could increase independence and safety. That's what we're working toward."

A Life of Impact: Remembering David F. Weeks

RPB remembers with fondness and appreciation RPB Chairman Emeritus David F. Weeks who passed away at the age of 94. Mr. Weeks served as an executive of RPB for 50 years, working with passion to fulfill RPB's mission. He was employed as RPB's first executive officer in 1961 and stayed with the organization until he stepped down in 2011 as Chairman and CEO.

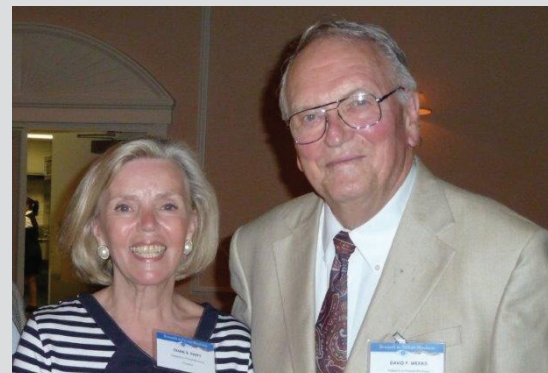
During RPB's early years, Mr. Weeks and RPB Founder and Chairman Dr. Jules Stein mounted an 8-year campaign to establish the National Eye Institute (NEI) as an entity within the National Institutes of Health.

Mr. Weeks authored the bill that ultimately resulted in the creation of the NEI in 1968.

Under Mr. Weeks' leadership, RPB increased its grant-making activities, enhanced the capabilities of the vision research community and contributed to the development of nearly every significant advance in eye care in the last half century.

In 2017, RPB, an anonymous donor and the Association of University Professors in Ophthalmology (AUPO) established the RPB David F. Weeks Award for Outstanding Vision Research to annually recognize and

celebrate an excellent researcher who is driving sight-saving research with their work. The award continues today.



David Weeks (right) and RPB Chair Diane Swift attend RPB's 50th anniversary reception in 2010.

Driving Developments for Eye Cancer

Fifty percent of cases of uveal melanoma, a cancer of the eye, spread to other organs of the body, causing death in less than a year. New treatments to preserve vision and prevent death are urgently needed. RPB-supported researchers at the University of Alabama at Birmingham and Emory University have recently published hopeful research on the identification of a small molecule inhibitor (KCN1) that dampens the potent drivers of this tumor. They are enthusiastic about the inhibitor's role in the development of much-needed future treatments.

A GIFT TO RPB CAN SAVE SIGHT

Research to Prevent Blindness, Inc. (RPB) is the only public foundation supporting research aimed at treating, preventing or curing all diseases that damage and destroy vision. Your support is critical to the success of our efforts. Contributions totaling up to \$1 million within a calendar year are matched through a fund established by RPB's founder, Dr. Jules C. Stein. Additionally, thanks to anonymous donors, donations made from now until the end of 2021 will be matched *again*. (up to \$100,000), tripling your impact on vision research! ALL GIFTS AND BEQUESTS ARE TAX DEDUCTIBLE.

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RPB Lunch & Learn Virtual Events

In 2021, RPB launched its virtual Lunch & Learn series, offering free, 1-hour online events about a variety of common eye diseases and conditions with RPB grantees serving as expert presenters. Here are a few tips from these events:

Age-related macular degeneration (AMD) lifestyle tips from Aparna Lakkaraju, PhD, of the University of California, San Francisco, School of Medicine:

There are simple things you can do to help reduce AMD risk and progression.

Don't smoke, eat healthy foods, exercise regularly, wear sunglasses and take antioxidants.



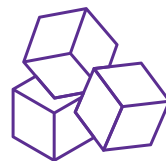
Glaucoma medication tip from Paula Anne Newman-Casey, MD, MS, of the University of Michigan Medical School:

To make your prescription eye drops as effective as possible, put in your drop, then close your eyes for a minute or two. This will allow more medication to stay in your eye rather than dripping into the back of your throat, and it helps prevent side effects that could be caused by the body absorbing medication intended for your eye.



Diabetic retinopathy disease tip from Jennifer Sun, MD, MPH, Harvard Medical School:

Your blood sugar can impact your sight. Diabetic macular edema (DME), swelling of the central retina, results from blood vessels being damaged by high blood sugar levels. DME is the most common cause of vision loss in diabetic patients.



Low vision independent living tip from Gang Luo, PhD, of Harvard Medical School:

Put your smartphone to work! The SuperVision suite of free apps (SuperVision Search, SuperVision Goggles and SuperVision Magnifier) can assist in everyday tasks like identifying products in a crowded store environment, participating in detail-oriented hobbies and magnifying static images or text for easier viewing.



To learn more about these diseases and conditions, and to hear about cutting-edge research being conducted by RPB grantees in each of these areas, view the RPB Lunch & Learn series at <https://bit.ly/RPBLYouTube>.