InVision

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FightingBlindness.ca

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FIGHTING BLINDNESS CANADA

A MESSAGE FROM

Dr. Larissa Moniz

Dear Friends,

Vision loss changes lives in an instant. A diagnosis can bring uncertainty, fear, and countless questions about what the future holds. Yet every day, we see something even more powerful: people adapting, finding new ways forward, and refusing to let vision loss define them. We see scientists reinventing what is possible, and we see our community coming together in the hopes of transforming lives. We explore some of these stories in this issue of *InVision*.

You'll read about our new Patient Connection Portal, which is designed to help people find support sooner after diagnosis. Time and again, our community has told us they wish they had found Fighting Blindness Canada (FBC) earlier. We hope this new program will help enable that.

We also provide an in-depth primer on the bionic eye to help our readers better understand the current state and potential of this technology. And we touch base with community member Sandra Niedermier on living well with vision loss.

Finally, you'll also see the incredible spirit of our community through highlights from **MOVE FOR SIGHT**, a fundraising event that raised awareness and funds for sight-saving research.

Thank you for being part of that journey with us.

With gratitude,

Larissa Moniz

Larissa Moniz, PhD
Director, Mission & Programs
Fighting Blindness Canada

Charitable Registration Number:
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FBC'S PATIENT CONNECTION PORTAL

Bridging the Gap Between Diagnosis and Connection

When someone first learns they have a blinding eye disease, the diagnosis can feel overwhelming. They may leave the appointment feeling stunned and confused. As the news sinks in, the questions pile up. What comes next? Where can they learn more about their condition? Are there ways to slow, stop or restore vision loss? How can they connect with others who have gone through the same experience?

At Fighting Blindness Canada (FBC), we've long been dedicated to providing those answers. Providing education, support and connection is a key priority in our five-year strategic plan, Raising Our Sights: Vision 2030. Our eye health resource pages offer trusted information, while our education programs connect people living with vision loss to experts, community resources and one another.

But one message we consistently hear is that people wish they had found us sooner. Earlier access to trusted information, research updates, clinical trial opportunities, education programs and peer support could have made a meaningful difference in their journey.

To address this gap, FBC launched the Patient Connection Portal, a program designed to help health care providers connect patients with FBC. The strategy is built on a simple idea: health care providers are often the first and most trusted point of contact following a diagnosis. While clinicians provide essential medical care, many recognize that patients also need education, emotional support and community connections beyond what can be addressed during a clinical appointment.

Visit the FBC Connection Hub:
FightingBlindness.ca/Connect

THE BIONIC EYE

How Retinal Prostheses are Bringing Vision Back into Focus

For decades, the idea of a “bionic eye” seemed like science fiction. Today, researchers are making significant progress toward restoring functional vision for people living with severe retinal diseases through advanced retinal prostheses — electronic devices designed to replace damaged light-sensing cells in the eye.

One of the leaders in this field is Dr. Daniel Palanker, a professor of ophthalmology and electrical engineering at Stanford University. During a recent Fighting Blindness Canada webinar, Dr. Palanker explained how these devices work, where the technology stands today, and what the future may hold for people affected by vision loss.

Dr. Daniel Palanker
Stanford University

What is a Bionic Eye?

A retinal prosthesis, often called a bionic eye, is an implant designed to replace the function of damaged photoreceptors — the cells in the retina that normally convert light into electrical signals for the brain. Rather than restoring natural vision, the device creates a new pathway for visual information to reach the brain.

The most advanced systems are being developed for people with severe retinal degeneration caused by conditions such as geographic atrophy, an advanced form of age-related macular degeneration (AMD). In these individuals, the photoreceptors in the central retina are lost, but many of the other retinal cells remain intact. The prosthesis can stimulate these remaining cells, helping restore visual signals that would otherwise be absent.

How Does It Work?

Dr. Palanker's team developed the PRIMA retinal prosthesis, a tiny implant placed underneath the retina. The implant works together with specialized augmented-reality glasses equipped with a camera and projector. The camera captures images from the surrounding environment and projects them into the eye using invisible near-infrared light. The implant converts that light into electrical stimulation, activating retinal cells that then send signals to the brain.

The implant itself is remarkably small — just 30 microns thick, thinner than a human hair — and is held in place beneath the retina without the need for permanent fixation.

What Can Patients See?

Current bionic eye technology does not restore full-color vision. Instead, users perceive a grayscale image that many describe as a bright white or yellowish light pattern. Even so, the results have been encouraging.

In clinical trials involving more than 40 patients in Europe, many participants experienced meaningful improvements in visual acuity. On average, patients gained five lines on a standard eye chart, and some were able to read words, identify objects, and perform everyday activities such as cooking and playing cards.

Researchers have also observed that patients often improve over time. Training and neuroplasticity — the brain's ability to adapt and learn new ways of interpreting information — appear to play an important role in helping users make sense of the visual signals generated by the implant.

What Comes Next?

The next generation of retinal prostheses could offer dramatically improved vision. Researchers are developing implants with pixels five times smaller than those used today, potentially increasing resolution from approximately 20/400 vision to as good as 20/80, with the possibility of even better results through digital zoom and image processing.

Future versions may also support tasks such as face recognition and provide larger visual fields. Importantly, researchers have demonstrated that implants can potentially be upgraded, allowing patients to benefit from newer technology without starting from scratch.

It is important to note that this level of restored vision may not yet be possible for people with inherited retinal diseases, such as retinitis pigmentosa because damage to their photoreceptors may be longer-lasting and more widespread.

A Promising Future

While retinal prostheses are not yet a cure for blindness, they represent one of the most exciting advances in vision restoration. As research continues and clinical trials expand, the once-futuristic concept of a bionic eye is becoming an increasingly realistic option for restoring sight and independence.

Watch Dr. Palanker's Webinar on the Bionic Eye:
FightingBlindness.ca/Webinar-Bionic-Eye

LIVING WELL WITH VISION LOSS

Practical Tips from Experience

When Sandra Niedermier was diagnosed with age-related macular degeneration (AMD), she found herself navigating a world that suddenly looked very different. A lifelong teacher, traveller, and arts enthusiast, she was determined not to let vision loss define her life. Instead, she learned to adapt, finding new ways to stay independent and continue doing the things she loves.

Sandra Niedermier
Community Member

Over the years, Sandra has discovered that living with vision loss is about more than coping — it's about learning, adapting and accepting support. Here are five lessons she has learned along the way.

1. Use the resources available to you.

Organizations such as Fighting Blindness Canada and the Canadian National Institute for the Blind (CNIB) offer education, support programs and tools that can make daily life easier. An electronic magnifier, for example, allowed Sandra to continue her card-making hobby.

2. Build your support network.

Family, friends and others living with vision loss can provide practical help and emotional support. Sharing ideas and experiences can make the journey feel less isolating.

3. Embrace technology.

Voice assistants, smart speakers, larger text settings and accessibility features on phones and tablets can simplify everyday tasks. New technologies, including wearable devices, may offer additional support and independence.

4. Get organized.

Small changes can make a big difference. Use colourful identifying labels, brightly coloured markers, bins and designated places for everyday items. Keeping your home organized reduces frustration and helps maintain independence.

5. Keep doing what you love.

Vision loss may require adapting hobbies and routines, but it doesn't mean giving them up. Whether it's attending the theatre, crafting or travelling, finding new ways to stay engaged is essential for your wellbeing.

MOVE FOR SIGHT

On Saturday, June 6, MOVE FOR SIGHT brought together people from coast to coast in a powerful show of community and determination.

Participants gathered at events in Vancouver, Ottawa, Hamilton, and Toronto, while others took part from their own neighbourhoods and communities across Canada. Together, we walked, ran, and danced in support of groundbreaking vision research and vital programs for people living with vision loss. Here are just a few of the pictures from the day.

UPCOMING EVENTS

View Point Educational Series

Coffee Connections

These in-person sessions are an opportunity for people living with age-related macular degeneration and inherited retinal disease to learn and connect.

Age-related macular degeneration

Winnipeg: Sat., Oct. 24 | 10 a.m.-12 p.m. CDT

Oakville, ON: Tues., Nov. 3 | 10 a.m.-12 p.m. EDT

Inherited retinal disease

Toronto: Sat., Oct. 17 | 2-4 p.m. EDT

Winnipeg: Sat., Oct. 24 | 3-5 p.m. CDT

FightingBlindness.ca/ViewPoint

View Point Webinar Series

Coming This Fall

We're excited to share a preview of our upcoming View Point webinar lineup! This fall, we'll be bringing together leading researchers, clinicians, accessibility experts, and members of the vision loss community for three engaging virtual events.

IRD: In Research & Practice

AMD: In Conversation

Accessibility in Action: Exploring Technologies for People Living with Vision Loss

Visit FightingBlindness.ca/ViewPoint for dates.

Our Health Information Line is Here to Help.

Getting diagnosed with an eye condition and navigating tests, appointments, and treatments can be confusing. Our Health Information Line is here to help.

Contact our Health Information Line:
Email: healthinfo@fightingblindness.ca
Call: 1-888-626-2995

Bring the Future into Focus with Monthly Giving.

Monthly donors make progress possible through steady, reliable generosity. When you give each month, you help accelerate breakthroughs in treatment.

Contact Jennifer Meriano to learn more:
Email: jmeriano@fightingblindness.ca
Call: 1-800-461-3331 x 262