Sight Loss Services, Inc.
Cape Cod and Islands
The CandleLight Newsletter
January 2026

“With the new day comes new strength and new thoughts.”

- Eleanor Roosevelt

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Trigger for steroid-induced glaucoma

The eye, like most organs, has an intricate plumbing system. Pressure builds when drainage is impaired, and this condition, glaucoma, can cause irreversible vision loss. Certain popular anti-inflammatory eye medications that contain steroids can in some cases compound the problem, although scientists have been at a loss to understand why. Now, research funded by the National Eye Institute at Cornell University has identified the signaling mechanism that triggers steroid-induced glaucoma by creating a 3D “eye-on-a-chip” platform that mimics the flow of ocular fluids. “Steroid-induced glaucoma is a major clinical challenge. There’s no targeted therapy. We just say you are

unlucky," said senior author Esak (Isaac) Lee, Ph.D. assistant professor of biomedical engineering at Cornell University. "There is a clear need to better understand, and prevent, this major side effect of steroid in the clinics." The eye's lymphatic vessels are responsible for draining aqueous humor, a clear, water-like fluid that provides oxygen and nutrients but, when not removed, can cause intraocular pressure to build, damaging neurons in the retina. The team built a 3D in-vitro device, with a curvature that mimicked the conduit structure of lymphatic vessels in the eye. Researchers treated the "eye-on-a-chip" with the anti-inflammatory steroid dexamethasone, which significantly impaired the drainage. This enabled the researchers to identify the culprit. A key receptor responded to the steroid by down regulating a protein, vascular endothelial growth factor C, which normally enables fluid to pass through the endothelial wall. The finding opens up new paths to treating glaucoma.

mRNA Vaccine Demonstrates Potential to Treat Age-Related Macular Degeneration

Researchers in Japan have developed an innovative mRNA vaccine that targets abnormal blood vessel growth in the retina, offering a potential new treatment for wet age-related macular degeneration. Unlike current anti-VEGF therapies that require frequent intravitreal injections, this vaccine is delivered intramuscularly and works by inducing antibodies against LRG1, a protein linked to angiogenesis in AMD. In preclinical mouse models, the vaccine reduced retinal leakage and lesion size by up to 85% and 82%, respectively, showing comparable efficacy to existing anti-VEGF treatments while avoiding invasive eye procedures. The vaccine demonstrated strong antibody responses, a favorable safety profile, and did not interfere with normal retinal or vascular function. Researchers from the Institute of Science Tokyo and Yokohama City University suggest this approach could provide long-term protection with fewer doses, significantly reducing treatment burden. Inspired by the success of mRNA technology in COVID-19 vaccines, this study marks a

promising step toward applying mRNA platforms to chronic eye diseases, potentially revolutionizing care for millions with neovascular AMD.

Top 10 Ophthalmology Breakthroughs of 2025 | Year in Review (ophthalmologybreakingnews.com)

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An implant could offer hope for people with dry AMD

A revolutionary new implant called the PRIMA System has helped restore some central vision in people who had lost it due to advanced dry AMD. In a recent European clinical trial involving 38 patients, 84.4% were able to read letters, numbers, or words again using the implant. The PRIMA System works alongside specially designed glasses to bypass damaged cells and send signals directly to the brain using the healthy retinal cells that remain. It could be the first device of its kind to restore central vision in this way. However, we want to be clear: PRIMA is currently only available through clinical trials. It is not yet a treatment that can be prescribed or accessed more widely. But the results so far are very promising

macularsociety.org

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Retinitis pigmentosa research

Beacon Therapeutics has reported vision improvements for patients receiving laruzova, the company's X-linked retinitis pigmentosa gene therapy, in the Phase 2 DAWN clinical trial. In DAWN, 15 male patients, who received the treatment in one eye in a previous trial, had their second eyes dosed. The average improvement in visual acuity for the second eyes of patients was 16 letters or about 3 lines on an eye chart. With completed enrollment in the pivotal Phase 2/3, the company expects to report results in 2026.

Retinitis Pigmentosa Research Advances — Foundation Fighting Blindness

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Sight Loss Services Donations

Sight Loss Services, Inc. does not charge for the services it provides for those with vision loss. We do, however, rely on the generosity of people donating to keep our non-profit 501c organization going. Will you help to support us? If so, please make your check payable to "Sight Loss Services, Inc." and mail to 900 Route 134, Unit 3-25, South Dennis, MA 02660.

Thank you for your support!

Unfortunately, our Medical Transportation Grant through Elder Services was not renewed. The program is now discontinued. We do still have a small amount of grant money available for Medical Transportation to residents of the Lower and Outer Cape. Please call the office if you live on the Lower or Outer Cape and are in need of Medical Transportation to Eye Care Procedures.

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Our new website is now live! Please stop by and have a look. Let us know if you are using a screen reader and you find any issues. www.sightloss.org

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When winter weather strikes, we follow the school districts for closings and delayed starts. The office will follow the Dennis Yarmouth School District closings, the individual Support Groups follow the towns they are located in.

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Winter Tips for Low Vision

- **Combat Glare: Snow reflects sunlight, creating severe glare. Use sunglasses**

with UV protection or a hat with a visor to prevent discomfort and damage.

- Manage Dry Eyes: Cold, windy, and dry air can cause severe discomfort. Use artificial tears, a home humidifier, and avoid sitting directly in front of heating vents.
- Limit Screen Time: Reduce eye strain by taking breaks, as less blinking occurs when using screens, worsening dryness.
- Protect from Debris: Wear glasses or goggles to shield eyes from wind-blown ice and snow particles.

- Improve Lighting: Use goose-neck lamps to bring light closer to reading materials or workspaces, as closer light provides much brighter illumination.
- Stay Hydrated: Ensure adequate water intake to help with dry eyes.
- Prepare for Outages: Keep a, well-lit, high-lumen flashlight and new batteries available in case of power failures.
- Use Technology: Leverage smartphones for navigation, and consider smart home devices to control appliances without needing to read screens.

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