Northwestern Medicine[®] Feinberg School of Medicine

Eye Institute Northwestern University Feinberg School of Medicine Department of Ophthalmology



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Northwestern's Department of Ophthalmology has exciting plans to establish a new Eye Institute. Dedicated to sight restoration, the Eye Institute stands to make far-reaching and deeply impactful contributions to eye care and health. Vision loss affects millions of people, especially as they age. As many as 21 million Americans have vision impairment, and a stunning 80 million Americans are living with potentially blinding eye diseases.

With the leadership of Nicholas J. Volpe, MD, and the support of generous donors and friends, we have an opportunity to create a world-class destination for vision science with a goal to preserve vision, restore sight, and change lives. Establishing the Eye Institute will accelerate the innovative work of our scientists and clinicians as they work toward new discoveries to improve the treatment of today's most disabling eye diseases. These conditions include macular degeneration, diabetic retinopathy, glaucoma, corneal blindness, optic nerve disease, and ocular inflammation, among others.

Our new Institute will help to centralize and increase our research and training collaborations with colleagues across both the Evanston and Chicago campuses of Northwestern Vision loss among **top 10** causes of disability in US

25 million with agerelated macular degeneration

*Centers for Disease Control and Prevention



University. For example, we will partner in bold new initiatives, such as Northwestern's Potocsnak Longevity Institute, to offer exciting avenues for discovery as aging diseases are so prevalent in the eye. The Eye Institute's resources will enable us to expand our team of faculty leaders in translational research to hasten the application of basic science research breakthroughs to patient care.

A Passion to Help Preserve and Restore Vision

At Northwestern, we are focused on preserving vision. Over recent decades, our academic efforts have led to advances in vision science and treatments that have now become the standard of care.

These high-impact contributions include:

- New treatment methods to understand the vascular biology of the eye and prevent and slow the progression of macular degeneration and diabetic retinopathy;
- Novel approaches to ocular inflammatory disease, including rheumatologic autoimmune disease;



"The Eye Institute will catalyze the outstanding care we provide and collaborative spirit of our clinicians and scientists across Northwestern. Our work to improve the understanding of the eye and how it works is crucial to the future of preventing blindness and restoring vision. There is no stopping us now as we build and enhance our programs for the benefit of people everywhere."

Nicholas J. Volpe, MD George W. and Edwina S. Tarry Professor of Ophthalmology and Chair Department of Ophthalmology

- Understanding the disease mechanisms and treatment of glaucoma;
- Studies of retinal neuronal anatomy, setting the stage for novel treatments such as stem cells to restore vision;
- Innovations in biomedical engineering that transform eye care;
- Augmented intelligence (AI) applications to better understand eye disease prevention and develop the best treatments;
- Introduction of novel therapies through investigatorinitiated clinical trials; and
- New surgical approaches for improving cataract, refractive, and corneal procedures.

We also have launched much needed community outreach programs, including our teleophthalmology program for diabetic screening.

The Eye Institute will give our faculty even more opportunities to innovate at the cutting-edge to transform the care of patients. For example, we already are employing state-of-the-art tools, such as AI and machine learning, to study widespread eye diseases from diabetic retinopathy to cataracts.

Powerful AI technologies have allowed us to identify at earlier stages patients at risk for age-related macular degeneration and to intervene with preventive measures for those most at risk for glaucoma.

We have made critical discoveries on how the retina works, setting the stage for the use of stem cells and retinal implants to restore vision. We also have developed and determined the best use of new ophthalmic imaging devices, introducing new models for treating glaucoma and ocular inflammation. And, we have been at the leading-edge of making cataract surgery safer and more predictable.



Importantly, we are continuing to develop our retinal biology research and advanced retinal imaging center and remain at the forefront of the most modern technologies, including adaptive optics and swept source and visible light optical coherence tomography.

Eye Institute Pillars

The new Eye Institute is guided by five pillars of excellence that we will grow through targeted faculty recruitments as well as funding for promising research projects, fellowship training, and education and community outreach efforts. Please see the enclosed insert for more details about our Institute's pillars of excellence and our educational efforts.





Visible light optical coherence tomography image of the human retina from Dr. Hao Zhang, Departments of Biomedical Engineering and Ophthalmology

A Call for Your Partnership

Through the new Eye Institute, we will unify our clinical and scientific programs and enhance our education efforts to create an Institute dedicated to sight restoration. We will continue to transform ourselves into a destination for clinical care and research, becoming thought leaders on retinal biology and synaptic physiology as well as the vascular biology of the eye.

At Northwestern, we intend to be a leader by developing investigator-initiated clinical trials and contributing to many important federally-funded multicenter clinical trials. Through the Eye Institute, we believe that we can make transformative changes in the way we care for our patients, educate our trainees, and grow our unique basic and translational research programs along with many other expert vision scientists at Northwestern.

To make strong inroads in building the Institute and achieving our goals, the next several years will be critical. We invite interested friends to join us each step of the way as crucial donors and partners.

Philanthropic Priorities

- Endowment to fund and name the Eye Institute to ensure and sustain its future
- Endowed professorships and outright funds to recruit scientists and physicians and help establish them in their laboratories
- Endowed and outright research funding to propel our thriving programs in vascular ophthalmology, retinal synapse biology, and other key areas as well as to provide start-up funding to support burgeoning research programs and accelerate collaborations
- Endowed and outright research funding to support educational programs within the Eye Institute as well as philanthropic support for community outreach program development and leadership



· Endowed and outright funds to support fellowship training in ophthalmology and other related areas

For more information about supporting the Department of Ophthalmology and Eye Institute, please contact:

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