

# Ophthalmology Update

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## Fine-Tuning Cataract Surgery: Light Adjustable Lens



**Figure.** A patient undergoes cataract surgery.



Michael A. Mahr, M.D.

Cataract surgery is one of the most common procedures performed (Figure) worldwide. Despite advancements in surgical techniques and consistent success rates, the current method used to measure and select a new, artificial intraocular lens offers an imperfect estimate. If the visual target is not achieved, it can only be corrected by contacts, glasses or additional surgical intervention.

An innovative alternative — Light Adjustable Lens — is the only artificial intraocular lens

that allows physicians to design, trial and customize a patient's vision after cataract surgery. Available at Mayo Clinic since 2022, Light Adjustable Lens allows physicians to make adjustments according to each patient's unique needs.

The Light Adjustable Lens is made of a special photosensitive material that changes the power of the implanted lens in response to ultraviolet (UV) light, increasing the likelihood of a successful outcome.

The cataract removal and intraocular lens implantation procedure is equivalent to traditional cataract surgery. Michael A. Mahr, M.D., an ophthalmologist at Mayo Clinic in Rochester, Minnesota, explains, “Light adjustable artificial lenses are unique because ultraviolet light treatments are scheduled after surgery to adjust the new artificial lens. This means that surgeons can fine-tune how the patient sees in the distance, at arm’s length and near.” Once the results are achieved, the lens is permanently locked in with a final light treatment to prevent any further changes.

When a referring physician has determined a patient is an ideal candidate for Light Adjustable Lens, Mayo Clinic’s specialized team of experts will work in collaboration to provide the best care possible.

“Light Adjustable Lens provides a safe option for customization in the postoperative period,” says Dr. Mahr. “This contributes to improved results and satisfaction for both the physician and patient.”

## Thyroid Eye Disease Clinic Offers Customized, Collaborative Approach to Treatment



Marius N. Stan, M.D.

Thyroid eye disease (TED) — also known as Graves’ orbitopathy, Graves’ ophthalmopathy and thyroid-associated orbitopathy — requires multispecialty evaluation with the involvement of endocrinologists, ophthalmologists and ENT surgeons for optimal management. The team at Mayo Clinic’s Thyroid Eye Disease Clinic has developed a seamless, collaborative approach that offers customized and efficient treatment.

Mayo Clinic in Rochester, Minnesota. “This method delivers leading expertise, while also providing patients peace of mind as they return home to continue their coordinated care with their local physicians.”

At the Thyroid Eye Disease Clinic, all Mayo Clinic specialties involved in the evaluation of each patient converge to provide a coordinated approach (Figure 1). The patient’s individual evaluations are combined into one summary assessment and management plan.

“The TED Clinic model has aided in streamlining diagnostic processes and treatment recommendations,” says Lilly H. Wagner, M.D., an ophthalmologist at

The TED Clinic patients are seen in the morning in individual consultations by each of the specialties involved. Their cases are



Lilly H. Wagner, M.D.



Figure 1. Thyroid Eye Disease Clinic consult.

then discussed at a conference where patients' photographs and laboratory data are reviewed. The team of physicians assesses disease activity, severity and modifiable risk factors. A common plan of action is agreed upon, which is then presented to the patient in an afternoon follow-up visit that same day.

Marius N. Stan, M.D., an endocrinologist at Mayo Clinic in Rochester, Minnesota, explains: "In most cases, these patients used to be seen by multiple specialties from separate practices with appointments scattered over weeks to months. Given the expected fluctuations in the disease, the ability to coordinate a collaborative and comprehensive evaluation within one day in the TED Clinic provides a customized, efficient approach."

This model provides an assessment and recommended plan of therapy that also can be coordinated with a patient's medical team at home. Through detailed notes and direct communication, Mayo Clinic specialists collaborate with local physicians and discuss how to implement the recommended therapies and surgical options.

#### RESEARCH: IMPROVING OUTCOMES AND QUALITY OF LIFE

Thyroid Eye Disease Clinic specialists at Mayo Clinic are committed to research that optimizes outcomes, reduces side effects and improves patients' quality of life.

Dr. Wagner explains: "The collaborative nature of our clinic allows us to see the disease as a whole — helping us to identify current gaps in treatment and understand what research could have the most impact and value for patients."

About 100 new patients per year have a multidisciplinary evaluation in the Thyroid Eye Disease Clinic. The clinic's collaborative approach provides a unique opportunity to help identify individuals who would be candidates for alternative medications or qualify to participate in clinical trials.

"Historically, there were limited medications to offer patients who have this disease," explains Dr. Stan. "Over the past few years, we've identified a new medication, teprotumumab, which may benefit patients who would not typically qualify to receive it."

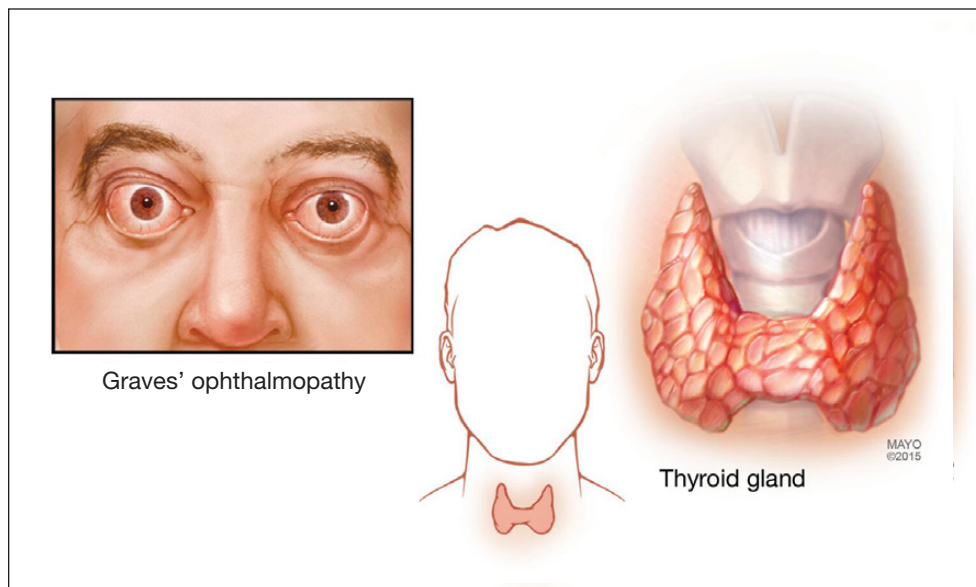


Figure 2. Graves' ophthalmopathy.

Mayo Clinic is also in the beginning stages of studying the long-term impacts of current treatments. While the majority of industry trials focus on symptom reduction, researchers within the Thyroid Eye Disease Clinic are working to identify measurable parameters for patients' quality of life and the effect of receiving treatment from a multidisciplinary team.

Dr. Wagner explains: "Multidisciplinary research is an essential part of our clinic because it leads to a deeper understanding of the disease — enabling the development of innovative and improved forms of therapy for this debilitating condition" (Figure 2).

#### FOR MORE INFORMATION

- Thyroid Eye Disease Clinic. Mayo Clinic. <https://www.mayoclinic.org/departments-centers/thyroid-eye-disease-clinic/overview/ovc-20503926>.
- Clinical trials: TEPEZZA® Clinical trials: TEPEZZA (Teprotumumab-trbw) Post-Marketing Requirement Study. Mayo Clinic.
- Clinical trials: A Phase 2b, Study of Linsitinib in Subjects With Active, Moderate to Severe Thyroid Eye Disease (TED). Mayo Clinic.
- Clinical trials: Change in Hertel Exophthalmometry and Quality of Life After Balanced Decompression to Treat Thyroid Eye Disease. Mayo Clinic.

# Pediatric Retina Surgery Program Ensures Patient-Centered Care

With the mission of improving lives by creating and delivering unsurpassed innovative care in a uniquely integrated and collaborative patient-focused environment, Mayo Clinic ophthalmologists — including pediatric ophthalmologists, neuro-ophthalmologists and others — have been working together for decades to diagnose and treat patients with retinal diseases.



Brittni A. Scruggs, M.D., Ph.D.

Each year, Mayo Clinic ophthalmologists treat thousands of people for all types of retinal conditions. They have advanced diagnostic tools and offer the latest treatments in an effort to restore, preserve or improve vision — or to slow or stop diseases.

Utilizing the latest resources and technology available, Mayo Clinic has been building and refining an innovative pediatric retina surgery program. Brittni A. Scruggs, M.D., Ph.D., an ophthalmologist and board-certified adult and pediatric vitreoretinal surgeon at Mayo Clinic in Rochester, Minnesota, has been leading the effort to focus on this patient need.

Dr. Scruggs explains: “The resources and breadth of knowledge we have available at Mayo Clinic has created a beautiful coordination of specialists required to treat our patients. It’s truly been a coordinated effort in combining resources and unparalleled expertise to offer

comprehensive pediatric retina care.”

A consultation within the pediatric retina surgery program offers comprehensive, pediatric-focused evaluations including lab testing, coordinated appointments with specialists and genetic counseling. The program’s intrinsic connection to Mayo Clinic’s robust research

activities also provides the opportunity to connect patients with relevant clinical trials.

Leading experts from Mayo Clinic’s pediatric retina surgery program have found success in coordinating with providers across the United States to ensure that patients receive the advanced diagnosis, treatment and clinical trial options for their complex conditions. “Our team has the privilege of utilizing our coordinated resources and streamlined processes to meet an unmet need in communities across the country,” says Dr. Scruggs.

The pediatric retina surgery program is dedicated to enhancing future therapies through research. “Not only are we clinicians, but we are also scientists.” Dr. Scruggs continues, “We are moving the medicine forward through several initiatives, including an inherited retina disease research program, and we are working to advance stem cell therapy for various retina degenerations.”

## Contact Us

Mayo Clinic welcomes inquiries and referrals, and a request to a specific physician is not required to refer a patient.

### Phoenix/Scottsdale, Arizona

866-629-6362

### Jacksonville, Florida

800-634-1417

### Rochester, Minnesota

800-533-1564

## Resources

### **MayoClinic.org/medical-professionals**

Clinical trials, CME, Grand Rounds, scientific videos and online referrals

## Education Opportunities

Visit <https://ce.mayo.edu/ophthalmology>.

Call 800-323-2688  
or email [cme@mayo.edu](mailto:cme@mayo.edu).

## Ophthalmology Update

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### Medical Editor

Sophie J. Bakri, M.D.

### Cover Image

Human multicolored iris of the eye animation concept  
Credit: CG Alex

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or email [cme@mayo.edu](mailto:cme@mayo.edu).