



VISIONARY

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2022 EDITION

FOREWORD: **HANNAH CHIU**





Welcome to our Visionary 20/20+2 (2022) issue!

We are incredibly proud of the tremendous impact that our Uptown Eye Specialists team has made on patient care this past year while going through the second and third wave of the COVID-19 pandemic. Our team has worked tirelessly to ensure every patient's journey was safe. We are also proud of our incredible team of surgeons who went above and beyond and contributed to the pandemic effort. Many of us helped out at COVID assessment centres and COVID vaccination centres.

We started 2021 "Looking Forward" and this issue highlights the endeavours that reflect this vision. One of the important pillars of this vision is ophthalmic research. This summer, two medical students from the University of Toronto and Western University were awarded research scholarships. One of the projects considers novel treatment protocols for patients who do not respond to standard diabetic macular edema treatment. Another project considers the impact of preoperative dry eye disease on the success and satisfaction of patients after cataract surgery. The results from the research will help improve our excellent patient care.

Another important pillar is medical education. We have medical students and residents from the University of Toronto and McMaster University completing electives with our comprehensive ophthalmologists and subspecialists. In fostering learning opportunities for the next generation of physicians, we hope that we can positively contribute to the future of ophthalmic care in Canada.

At Uptown Eye Specialists, we believe in providing the best ophthalmic innovations. One of the surgical innovations ushered in this year was Refractive Image Guidance System, which uses augmented reality for optimal cataract surgery results. Our ophthalmologists are also up-to-date in the latest medical evidence to guide patient care. We highlight this as we discuss the benefits of "dropless" therapy for glaucoma patients as well as a landmark study analyzing the benefits of surgery in patients with narrow angles.

Finally, at Uptown Eye Specialists, we have a diverse team of comprehensive ophthalmologists and subspecialists. The subspecialties include Pediatric Ophthalmology and Strabismus, Glaucoma, Medical and Surgical Retina, Cornea, and Oculoplastics. Half of our team are women and this issue takes an in-depth look into their work and lives.

We hope that you enjoy
this 20/20+2 issue!

*Uptown Eye
Specialists Team*

VISIONARY

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Celebrating Women in Ophthalmology

When the American Academy of Ophthalmology and Otolaryngology (AAOO) was founded in 1896 as a medical association of both ophthalmologists and otolaryngologists, its members were exclusively male. That changed in 1904, when the AAOO admitted its first female member. Here in Canada, the Canadian Ophthalmological Society was founded in 1937 but it wasn't until 1954 that the first woman became a Fellow of the Royal College of Surgeons.

As the years passed, more female ophthalmologists began and enjoyed

successful careers. In the last 30 years, the percentage of women has greatly expanded in, as Glaucoma Today put it, "practices, at the podium, and in academia." Today, women account for nearly 30% of the Canadian Ophthalmological Society's membership and 40% of ophthalmologists under the age of 45 are female.

At Uptown Eye Specialists, our dedicated group of ophthalmologists includes women who are recognized experts in their fields. In this article, they talk about what inspired them to go into ophthalmology, the accomplishments they've earned, and the challenges they faced.



D R . K A Y L A M



Dr. Kay Lam is an ophthalmologist with subspecialty expertise in glaucoma diagnosis and management of glaucoma, cataracts, refractive surgery, and comprehensive ophthalmology.

While she was in medical school at the University of Toronto, Dr. Lam was attracted to ophthalmology because, as she puts it, “it’s one of the few specialties that encompasses both medicine and surgery. I also like the high-tech aspect of ophthalmology- this field progresses quickly and there are effective new treatments being discovered and refined.”

Dr. Lam is double-fellowship trained. After completing medical school, she undertook a fellowship in Ocular Pathology at the

University of Ottawa and then spent the next five years completing her ophthalmology specialty training at the University of Toronto. Dr. Lam then further completed specialized fellowship training at the University of Sydney, Australia, where she gained advanced training in various types of glaucoma laser treatments and advanced surgery.

Dr. Lam says that one of the most appealing aspects of ophthalmology is that it is a “happy area of medicine. We have great outcomes and happy patients. It is a privilege for me to improve my patient’s quality of life by enhancing and maintaining their vision.”

D R . H A N N A H C H I U



Dr. Hannah Chiu enjoys a widespread reputation as an expert in cataract surgery. She practices comprehensive ophthalmology with an interest in medical retina. She is actively involved in medical education; she has a faculty position as Lecturer at the Department of Ophthalmology and Vision Sciences, University of Toronto (U of T), where she is the preclerkship ophthalmology lead for Undergraduate Medical Education, Faculty of Medicine at U of T.

When Dr. Chiu graduated from Ophthalmology residency at the University of Toronto, she received the Duncan Jamieson Memorial Prize, which is the highest honour for graduating residents. This award recognizes Dr. Chiu for academic excellence. She has also won

hospital awards, which recognized her clinical excellence.

Dr. Chiu has also been recognized for her stellar research achievements, having received a grant in University of Toronto Department of Ophthalmology Research Competition for a multidisciplinary prospective research trial, the Alumni Best Resident Research Day Award, the Best Poster Award at the World Ophthalmological Congress, and the Canadian Ophthalmological Society Excellence in Research Award.

“I love that ophthalmology has a direct impact on patients’ health and lives,” she says. “I find that the field is a perfect balance of clinical medicine and surgical care.”

D R . T R A N L E

Dr. Tran Le practices comprehensive medical and surgical ophthalmology, with an emphasis on glaucoma and retinal diseases. She has special interests in anterior segment surgery, including advanced cataract and pterygium excision surgeries.

When she graduated from medical school at the University of Toronto, Dr. Le received the Wilkinson scholarship, which is awarded to the leading medical student in each graduating class who intends to go into ophthalmology. In 2014, she completed her specialty training in the Department of

Ophthalmology and Vision Sciences at the University of Toronto. Since then, Dr. Le has enjoyed a successful career that includes publishing original research in leading peer-reviewed journals and presenting at major national and international conferences. Her work in the radiological classification of orbital cellulitis earned her a research prize from the American Academy of Ophthalmology.

For Dr. Le, one of the most important aspects of ophthalmology is the physician-patient relationship.



“It is a privilege that my patients entrust their vision to our expertise,” she says. “It is my goal to ensure that my patients receive optimal state-of-the-art care and be empowered to understand and be actively engaged in their own eye health.”



Dr. Fariba Nazemi has an extensive practice that includes cataracts and glaucoma, ocular surface diseases, and strabismus surgery in both adults and children.

She originally received her medical degree in Iran, where she practiced as a comprehensive ophthalmologist. When she came to Canada, Dr. Nazemi did another residency and fellowship that began her career as an ophthalmologist in Ontario. Today, she is active in teaching and research, being an assistant

professor at the University of Toronto Ophthalmology Department, and holds the position of staff surgeon at William Osler Hospitals, Mount Sinai Hospital, Kensington Eye Institute KEI, and Hospital for Sick Children.

Despite her many responsibilities, Dr. Nazemi makes the time to travel and provide necessary eye care to underprivileged communities across the globe.

“I go wherever I see the need,” she said. “Especially if it involves children, I have always loved kids. When I see that there’s suffering and nobody’s there to help, I have to go.”

For Dr. Nazemi, her biggest reward is helping patients preserve their sight.

“I have heard from many patients: ‘Doctor, I’d rather die than be blind,’” she admits. “When we help patients see better, they become more independent and enjoy a better quality of life. Patients really appreciate the improvement in their sight, and that is very rewarding for me as a surgeon.”



DR. DARANA YUEN

Dr. Darana Yuen is a skilled and experienced ophthalmologist whose niche is refractive cataract–glaucoma surgery. Her expertise in glaucoma laser procedures, traditional glaucoma surgeries, and leading-edge glaucoma surgical interventions has provided her patients with many alternatives for eye pressure control.

After receiving her MD from the University of Alberta and residency at the University of Western Ontario, Dr. Yuen completed her surgical glaucoma fellowship at the University of Toronto under the mentorship of Dr. Yvonne Buys, an internationally renowned female glaucoma specialist.



Although Dr. Yuen is an accomplished surgeon, educator, and researcher (she was the principal investigator for a clinical trial involving Bimatoprost Sustained Release, sometimes referred to as “dropless” glaucoma medical therapy), one of her career highlights is a two-week visit to Olanchito, Honduras, where she

worked with a non-profit organization to provide medical and surgical care to approximately 4000 patients.

“It was a humbling, fulfilling, and eye-opening experience to contribute in a global way, and I would go back there in a heartbeat!”



Overcoming Challenges Even Today

Women have made tremendous progress in most occupations, ophthalmology included, but there are still some challenges. Experienced female ocular surgeons are often mistaken for nurses at hospitals, and there can be difficulties achieving a work-life blend in a demanding surgical specialty. However, all of the

female doctors at Uptown Eye Specialists are continuing to succeed on their own terms while inspiring others.

“Ultimately I want to be a positive role model to my son and my daughter,” says Dr. Yuen. “I want them to see, first-hand, a working mother who is able to have a successful career and yet be close and connected to her family.”

UPTOWN EYE CREMS PROJECT EXAMINES OZURDEX THERAPY FOR DIABETIC MACULAR EDEMA PATIENTS



Research plays a key role in the advancement of medicine. In ophthalmology, it can provide critical information about ocular disease trends and risk factors, indicate outcomes for new therapies, and lead to significant discoveries that improve vision care everywhere. These are all reasons why hospital or residency admission committees favour candidates with research experience.

The University of Toronto, a recognized world leader in academic research, has a unique program that provides medical students with valuable research experience. The Comprehensive Research Experience for Medical Students (CREMS) program accepts faculty submissions for projects that can provide students with the guidance and skills development needed for a successful career in medicine.

Uptown Eye Specialists submitted a project for the 2021 CREMS Summer Research Program. Its goal is to understand the outcome when diabetic macular edema patients with suboptimal responses to intravitreal anti-vascular endothelial growth factor (antiVEGF) injections are switched to long-acting intravitreal steroid implants, such as Ozurdex.

Diabetic macular edema (DME) is the most common cause of vision loss in diabetic patients. It is normally treated by a combination of systemic hyperglycemia management and antiVEGF injections, but some patients don't respond as hoped. When this occurs, Ozurdex is a promising alternative, but there is presently no consensus on when to switch a patient from antiVEGF injections to Ozurdex. Therefore, the project has two objectives:

1

To understand the anatomic and functional outcomes when patients are switched to Ozurdex three months or six months after treatment begins. Anatomic outcomes are measured through optical coherence tomography (OCT) and OCT angiography (OCTA) while functional outcomes include best corrected visual acuity (BCVA).

2

To review and understand the cytokine profile variations in patients who have different responses to antiVEGF injections and Ozurdex. Each patient will have a cytokine profile of their aqueous humour taken prior to the first antiVEGF injection.

By identifying ideal switch points in suboptimal antiVEGF responders and recognizing biomarkers that may pinpoint these responders early on, project results can help patients who don't benefit from intravitreal antiVEGF treatment.

Fahmeeda Murtaza, a second-year medical student at the University of Toronto, was selected to work with Uptown Eye Specialists on the project. She plans to pursue ophthalmology as a specialty once she graduates.

"I value the difference that ophthalmological treatments can have on a patient's quality of life," she says. Her mother suffered from a retinal detachment, and seeing what she went through made Fahmeeda determined to help others who risk vision loss.

Her project responsibilities include recruiting patients, collecting and analyzing data on treatment response and cytokine profiles and, later on, leading a peer-reviewed presentation and co-authoring a manuscript.

"It's really exciting," she enthuses. "I love the idea of contributing to research that could help people enjoy healthy vision for as long as possible."

Dr. Sohel Somani at Uptown Eye Specialists says that the project outcome could make a huge difference in the lives of DME patients who don't respond well to traditional therapies.

"Diabetic macular edema is one of the leading causes of irreversible vision loss in patients under the age of fifty-five," he says. "It represents a huge treatment burden. Naturally, we want to explore treatments in patients who may not be as successful with first-line agents.



It is both a privilege and honour to work with like-minded colleagues at Uptown Eye Specialists - as we challenge each other to raise the bar in the delivery of evidence-based clinical care by engaging in impactful research endeavours such as this -Dr. Sohel Somani

FORSEE Canada Scholarship Gives Medical Students an Exciting Intro to Ophthalmology

When Saffire Krance learned that she had won the FORSEE Canada summer scholarship, she was thrilled.

A second year medical student at the University of Western Ontario, Saffire planned to specialize in ophthalmology after medical school, so when a friend learned about the scholarship being offered by Uptown Eye Specialists, they forwarded the information to her.

“It looked like an amazing opportunity,” she says.

After her application, she was invited for an interview with a panel of Uptown Eye Specialists physicians Drs. Hannah Chiu, Soheli Somani, and Eric Tam. A few days later, she learned that she had been selected as the recipient of the scholarship.

“I was so thrilled,” Saffire recalls. “I’m very interested in ophthalmology, so I’m excited to have this opportunity to get both clinical and research experience.”

According to Dr. Hannah Chiu, the FORSEE Canada scholarship provides research opportunities to Canadian medical students in ophthalmology. The goal is twofold: to support clinical advances in

medical and surgical ophthalmology and provide the next generation of physicians with the skills and experience to be successful in pursuing their passion in ophthalmology.

“Scholarship recipients get to spend the summer in a clinical observership with ophthalmologists that have a wide variety of practice and work on ophthalmic research,” Dr. Chiu says.

Uptown Eye Specialists is renowned for its patient-centric approach to treating the full spectrum of eye disorders. Its dedicated team of ophthalmologists uses specialized treatment technologies and the latest advances in clinical research to better the vision (and the lives) of patients. Therefore, FORSEE Canada scholarship winners have a rare opportunity to work with doctors who are recognized experts in their fields.

When asked what attracted her to ophthalmology, Saffire replied, “Caring for patients’ vision is so important. They rely on it as they go about their lives, and helping them maintain it has a huge impact on their quality of life. That’s the part I’m really passionate about.”

She is presently working on two projects at Uptown Eye Specialists. The first, led by Dr. Chiu, examines the prevalence of dry eye in patients who are undergoing cataract surgery and the impact of a dry eye program on their postoperative care.

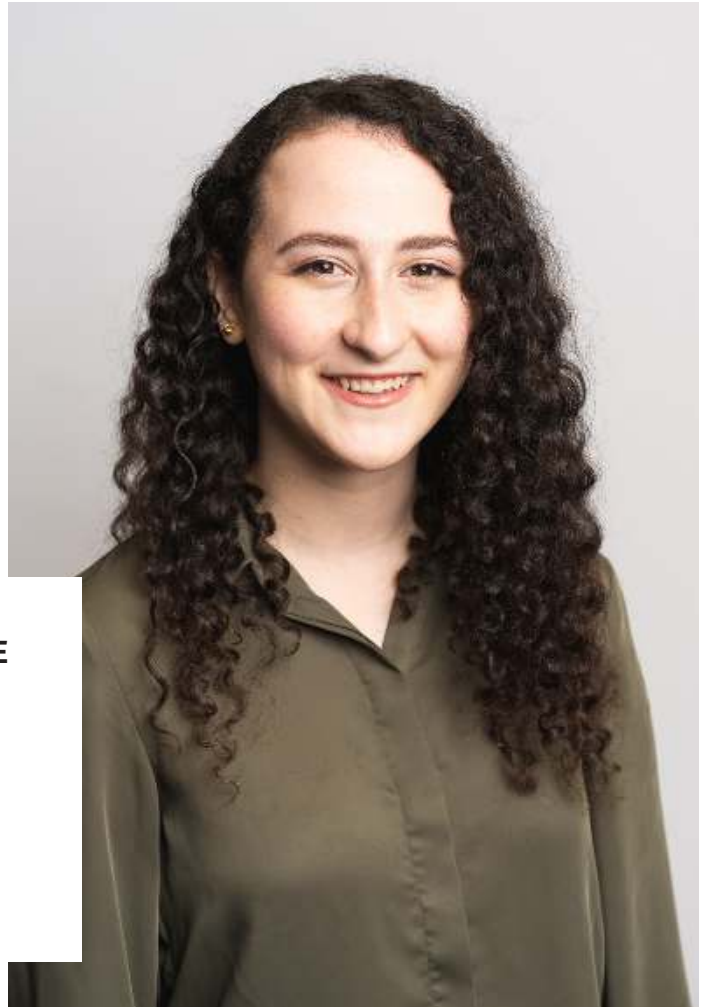
The second, led by Dr. Eric Tam, is a project that aims to provide surgeons with a reference table for treatment of astigmatism using intrastromal limbal relaxing incision (LRI) during cataract surgery. This method is a relatively new way to make LRIs, so Dr. Tam is using his experience and his successes to create a new nomogram.

The clinical observership for FORSEE Canada scholarship runs for eight weeks during summer and concludes at the end of July. After that, Saffire will complete her research projects with the goal to disseminate the information in journal publications and international conferences.

She confirmed that she will remain heavily involved in research as her career progresses.

S A F F I R E K R A N C E
SECOND YEAR MEDICAL STUDENT

“Research is one of those ways to contribute to patient wellbeing on a larger scale. I love developing answers to big questions and applying them in the clinic. Everything I’m learning this summer will be applied when I graduate medical school and residency.”

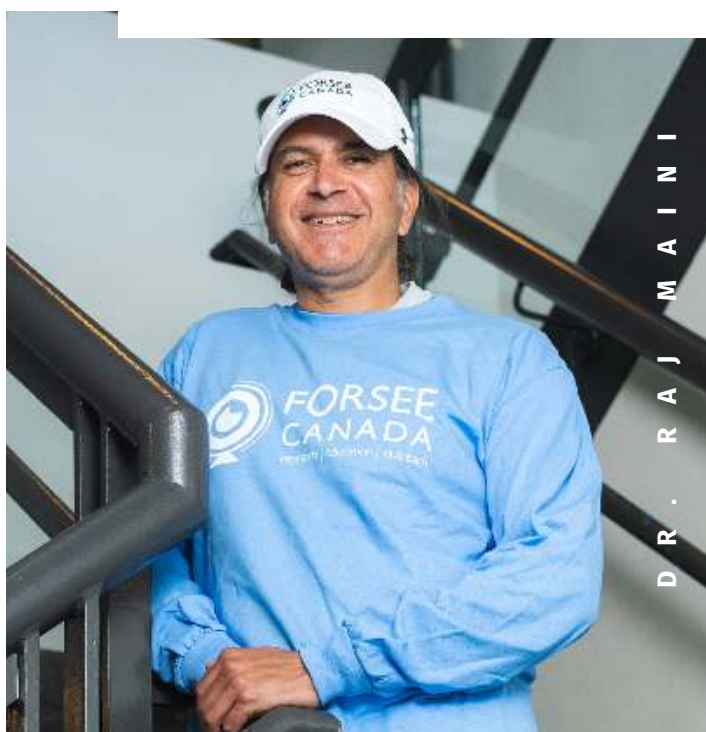


*I feel so honoured to be part of this process of mentoring the next generation of physicians,
I hope that I can foster their passion in helping patients see better.*





Dr. Sohel Somani, Dr. Hannah Chiu, Student Saffire Krance & Tanya Miller, Business Development Manager



EAGLE STUDY PRESENTS CLEAR LENS EXTRACTION AS INITIAL GLAUCOMA THERAPY

Primary angle-closure glaucoma is associated with closure of the anterior chamber angle of the eye, which can lead to aqueous outflow obstruction and raised intraocular pressure (IOP). Although less common than primary open-angle glaucoma, it is more severe and likely to cause irreversible blindness.

The Lancet published the Effectiveness of Early Lens Extraction for the Treatment of Primary Angle-Closure Glaucoma (EAGLE) study, which Dr. Kay Lam described as “a paradigm shift from the traditional treatment algorithm or standard of care for this disease.”

Traditionally, the main treatment for primary angle-closure glaucoma has been laser peripheral iridotomy to open the drainage angles and medical management with eye drops to reduce the intraocular pressure. If the disease remains uncontrolled, the next step is a filtering glaucoma procedure, most commonly a trabeculectomy.

The landmark EAGLE study pointed out that age-related lens growth plays a key role in the factors that lead to primary angle-closure glaucoma and that lens extraction is routinely performed on patients who already have cataracts. The question was whether the treatment was safe or effective for patients without cataracts.



Dr. Kay Lam is an ophthalmologist with subspecialty fellowship training and expertise in the diagnosis and management of glaucoma, cataract, refractive surgery, and comprehensive ophthalmology.

There were 419 participants enrolled, 155 of whom had primary angle closure and 263 who had primary angle-closure glaucoma; 208 of them received clear lens extraction as a primary therapy and 211 were assigned to standard care. Once the trial was over, researchers reviewed patient data and concluded that:

Clear lens extraction was an effective first-line treatment for primary angle-closure glaucoma patients who did not have cataracts.

Initial lens extraction was more cost-effective than the traditional standard of care.

The clear lens extraction group achieved a significantly lower IOP and required fewer medications than the iridotomy and medical therapy group.

Patients who underwent clear lens exchange had better self-reported overall health and visual status improvements even though they didn't have cataracts



Dr. Lam, a glaucoma and cataract surgeon at Uptown Eye Specialists, says that this study made her reconsider her usual approach to treating primary angle-closure glaucoma patients.

“I would initially treat with laser iridotomy, then proceed to eye drops if required. I only considered lens extraction when patients developed a cataract. Now we understand that the lens itself plays a big role in the pathogenesis of this disease,”

she explains. “We should consider clear lens removal as the first-line treatment for some patients because the evidence shows that it’s associated with better clinical and patient-reported outcomes than the traditional approach.”

Dr. Lam admits she was surprised to learn that extraction of a healthy lens was beneficial in every major outcome variable examined in the study, but for her, the discovery was both positive and inspirational.

As a glaucoma and cataract specialist, it’s exciting for me to have robust clinical evidence that shows a different treatment approach may be appropriate for a certain patient. The more positive outcomes I can produce for my patients, the better!

Selective Laser Trabeculoplasty (SLT) “Dropless” Therapy for Ocular Surface Disease (OSD) in Glaucoma Patients

Glaucoma-related ocular surface disease (OSD) is a common yet often underdiagnosed ocular comorbidity, affecting between 40-60% of glaucoma patients worldwide. Known causes include:

Aging: Both glaucoma and dry eye disease are associated with the aging process, making it more likely that a glaucoma patient also suffers from dry eye.

Glaucoma Therapy: In many instances, topical glaucoma medication can exacerbate a predisposition for OSD. First-line therapies like prostaglandin analogues are associated with a higher prevalence and severity of obstructive meibomian gland. Progressive OSD may also be from a preservative or excipient, such as benzalkonium chloride (BAK).

Studies have shown that patients' utility scores for moderate to severe dry eye syndrome are comparable to those for angina and dialysis; there is also a demonstrated correlation between dry eye severity and symptoms of depression and anxiety.

“As a glaucoma specialist, I can tell you that many of my patients will say that they don't see well,” says Dr. Darana Yuen. “Part of that is the underlying glaucoma, but part of that is also the OSD, which can have a detrimental effect on their daily activities such as reading, driving, phone and computer use.” Also well established is the negative impact that OSD can have on patients' compliance to topical glaucoma medications.

Primary SLT to Prevent OSD

Increasing awareness among clinicians of the high prevalence of glaucoma patients who also have OSD is a vital step in selecting the right therapy.

“Once this connection is realized, screening for these patients and managing the “whole” patient versus solely focusing on the intraocular pressure (IOP) reading or the glaucoma test results becomes fundamentally important. It's not typical for a patient to know that there's a laser treatment, namely selective laser trabeculoplasty (SLT), that is available to them instead of a topical glaucoma medication.”

SLT is a “dropless”, conjunctival and corneal “sparing” modality that is gaining popularity. In 2019, the LiGHT study (Laser in Glaucoma and Ocular Hypertension Trial) compared primary SLT versus drops, and conclusions demonstrated that SLT was both a viable and effective first-line treatment:

Three years later, SLT patients hit their IOP targets at more visits and had less visual field loss than those with first-line eye drop therapy. In addition, 74% of SLT patients still required no drops.

Some patients taking eye drops required glaucoma surgery, but none of the SLT patients did.

In 97% of cases, SLT was more cost-effective than eye drops as a first-line therapy.

“I'm a big fan of primary SLT. It makes good sense to me to avoid or delay usage of topical glaucoma medications, for as long as possible, to prevent the initiation and/or progression of OSD,” Dr. Yuen says. “SLT also, literally, takes compliance out of the patients' hands!”



Adjunctive or Replacement SLT for Patients with OSD

What about a patient who's already on glaucoma medications, has OSD, but IOP is still too high? That's where the beauty of adjunctive SLT comes in.

Adjunctive SLT means adding SLT instead of eye drops to get the eye pressure where it needs to be.

Replacement SLT (using SLT to replace and reduce glaucoma medications) can benefit the following individuals:

Glaucoma-related OSD patients whose eye pressure is well-controlled on medications but often forget or fail to apply their drops.

Patients who are managing well with their glaucoma medications but their dry eye disease is getting exceedingly difficult to control.

With both adjunctive and replacement SLT for patients with dry eye, the goals and benefits are very similar to primary SLT, namely to minimize the topical glaucoma medication burden and to rehabilitate the ocular surface. Repeating SLT down the road, if IOP creeps up again, has been shown not only to be safe but also highly effective, assuming that the patient has had a favorable response in the past.

Although SLT has tremendous benefits as a glaucoma treatment, especially when OSD is taken into consideration, it is still under-utilized. This is a reality that will hopefully change soon.

The advantages to SLT are multifold, and in a patient with co-existing OSD, I would say that SLT is a 'no brainer,' in pondering the different treatment options, I find it a constructive exercise to put myself in the patient's shoes. Personally, if I was afflicted by glaucoma, irrespective of whether I had concomitant OSD or not, I could definitely see myself choosing SLT over topical eye drops.

DRY EYE CLINIC: ADVANCED TREATMENTS FOR CHRONIC DRY EYE

Dry eye is an uncomfortable and even painful ocular disease that occurs when a person can't produce the tears needed to lubricate and nourish their eyes. It affects millions of people across North America: according to some studies, 33% of patients in U.S. eye care clinics present with complaints related to the condition.

Dry eye is a multifactorial disease, but known causes include aging, medical conditions like diabetes and lupus, certain medications, and tear glands damaged by inflammation or radiation. Symptoms range in severity from mild itchiness to light sensitivity, vision fluctuations, and painful feelings of grittiness or burning in the eyes. Without appropriate treatment, it can cause vision damage and negatively impact quality of life.

Treatments for dry eye

Many people try to treat their symptoms with over-the-counter eye drops. While drops can deliver short-term relief, they don't address the underlying causes of the disease. A clinical examination is necessary to diagnose the nature and extent of a patient's condition and create a customized therapy plan that relieves their symptoms and corrects the cause.

Uptown Eye Specialists has long been at the forefront of dry eye treatment. At the Dry Eye Clinic, advanced diagnostics and leading-edge therapies are combined to create a personalized and effective care regimen for patients that may include meibomian gland procedures, medications, and devices designed specifically for dry eye.



Meibomian gland procedures

The meibomian gland produces an oily substance called meibum, which prevents the eye's tear film from evaporating. When the gland openings are clogged, less oil reaches the eye surface and the water layer dries out too quickly.

At Uptown Eye Specialists, mild to moderate dry eye due to meibomian gland dysfunction is generally treated in one of two ways:

- Deep compression on the lower eyelid to release accumulated meibum and encourage oil production.
- Using a handheld device called an iLux to compress and gently warm the eyelid to improve meibum flow.

Another form of treatment that the team may suggest is the Dry Eye Laser (DEL), a pulsed light therapy, which uses a series of gentle light pulses to liquify and drain hardened oil. Uptown Eye Specialists

is one of the first Canadian centres to develop a dry eye laser program, and has used the technology to treat hundreds of patients since 2017.

Medications

Depending on patient condition, medications for dry eye include preservative-free drops. Uptown Eye has innovative medication-based treatments for dry eye cases that resist other therapies. Platelet Rich Plasma (PRP) uses nutrient-rich eye drops created from the patient's own blood. These drops promote healing and tissue regeneration while Autologous Serum consists of eye drops made from blood serum that contains natural growth factors. These drops are naturally preservative free and, since they are created from the patient's own blood, there is no risk of sensitivity or allergic reactions.



Devices

When indicated, Uptown Eye Specialists uses therapeutic devices like the following to treat dry eye:

Punctal plugs: artificial plugs placed in the tear duct to prevent tear drainage.

Scleral contact lenses: contact lenses that create a tear-filled vault over the cornea, ensuring constant hydration.

“We have quite a few people coming in who have had chronic dry eye for years,” says Jenna Cranmer, operations manager at Uptown Eye Specialists. “We started the treatment and it has improved their quality of life.”

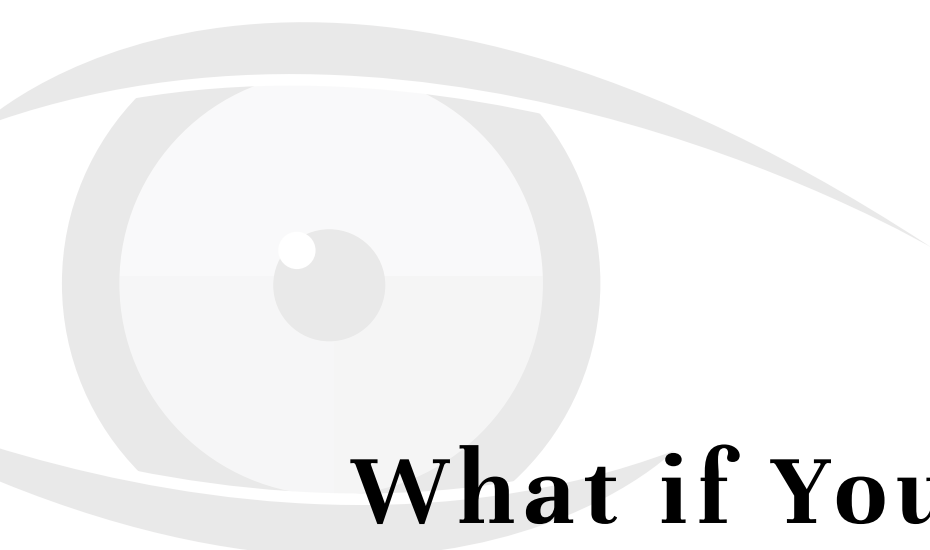
“At Uptown Eye Specialists, we are very proud to be offering our patients seamless care for treatment of their dry eyes,” says Dr. Hannah Chiu, who is currently a senior author in a study for dry eye.

She adds that patients who have their dry eyes optimized prior to surgery

have better visual outcomes because it improves the accuracy of pre-surgery eye measurements. They also have a better postoperative recovery with fewer dry eye symptoms.

“More importantly, at Uptown Eye Specialists, we are focused on providing the best evidence-based care for patients, and we have a parallel research program studying the factors that determine the success of dry eye treatment and we hope that our research findings will impact not only our patients but future ophthalmic care,” she says.

At the Dry Eye Clinic, patients benefit from access to eye care specialists whose caring attention and professional expertise can relieve their painful symptoms and even save their eyesight. For most of them, treatment has made it possible for them to enjoy a brighter -and more comfortable- future.



What if You Can't Have LASIK? LLE and RLE Explained

Those of us who wear glasses or contacts often wish we didn't. Mislacing or breaking eyewear and running out of contact lens solution at the worst time are only a few of the reasons why laser vision correction procedures like LASIK are so appealing.

However, not everyone who wants LASIK is a good candidate. Potential exceptions include:

People over forty: As we age, our natural lenses become more rigid. With people in their forties and fifties, laser vision correction can improve their distance vision, but they will still need glasses to read, as their lenses aren't flexible enough to change focus. This contradicts the

common goal of laser eye surgery, which is to eliminate eyewear use completely.

People with high myopia: Those with severe myopia are at higher risk for conditions like retinal detachment and glaucoma. Due to the large correction required, LASIK may weaken the cornea, which causes it to bulge into a cone-like shape, and experience visual disturbances around light, such as halos and starbursts.

For these individuals, Uptown Eye Specialists offers two alternatives: laser lens exchange (LLE) and refractive lens exchange (RLE), both of which can improve near and distance vision as well as astigmatism.



What is Laser Lens Exchange?

Laser Lens Exchange (LLE) uses UltraView ReLACS™ technology to make a tiny, self-sealing incision in the cornea and remove the natural lens, which is then replaced with an IOL. The procedure, which uses a femtosecond laser, usually takes less than 10 minutes per eye and vision improvement can be noticed as soon as the following day.

For patients with astigmatism, LLE enables greater precision during IOL placement, which is essential for toric lenses. These IOLs have different powers in different meridians to correct the asymmetric power of the eye caused by astigmatism, so proper alignment is key to best results.

Dr. Eric Tam says that few people will be ineligible for LLE.

“Corneal pathology is probably the biggest reason why patients may not be candidates,” he says. “Pre-existing scars and irregularities on the cornea are the main reasons why a femtosecond laser cannot be applied accurately. Otherwise, there is really not a lot of contraindication for this technology.”



Dr. Eric Tam has specialized interest and extensive experience in laser-assisted cataract surgery and laser refractive surgery with over 20,000 ocular procedures performed.

For those who cannot have LLE for any reason, refractive lens exchange can deliver the results they are looking for.

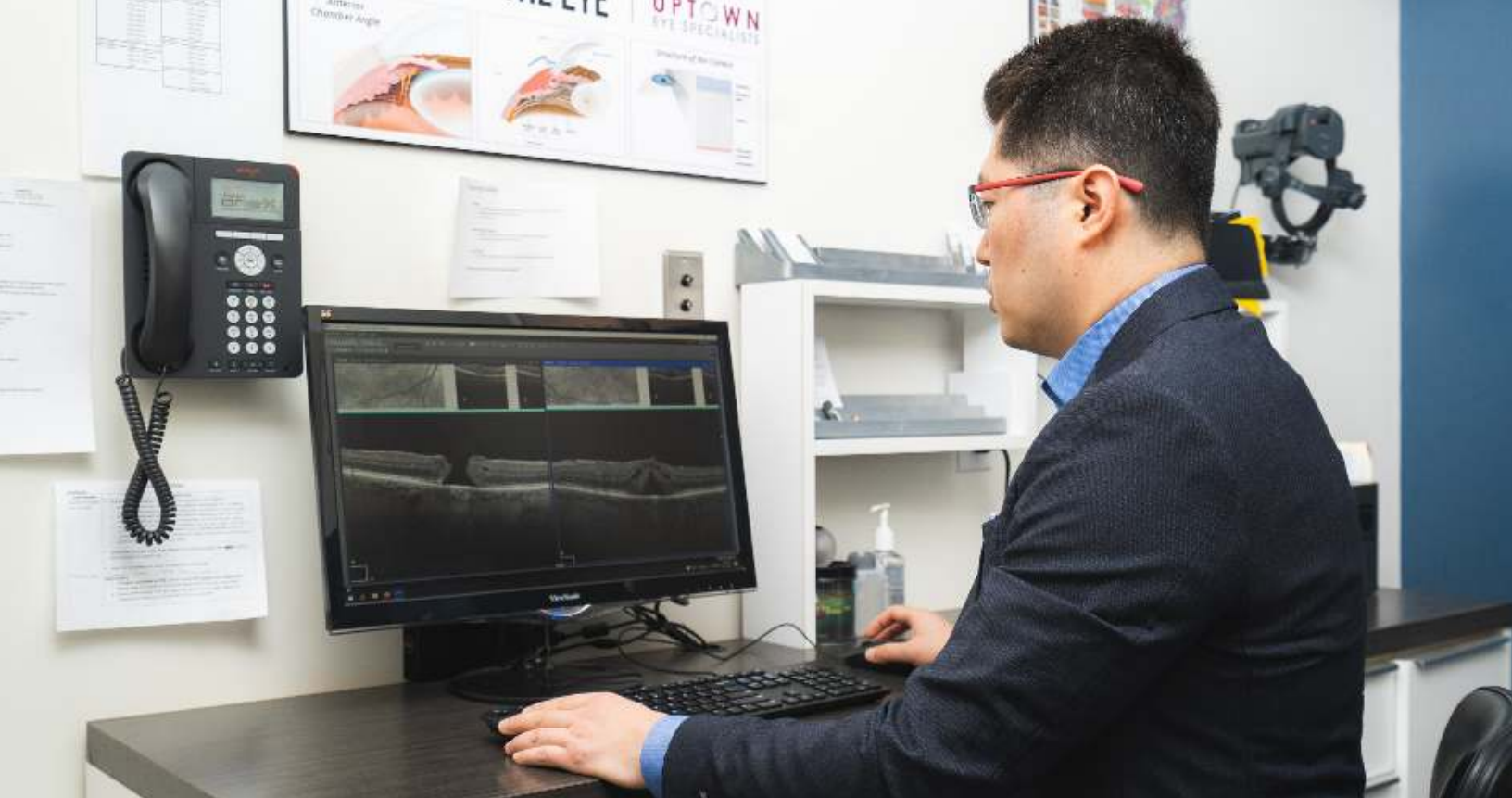
What is Refractive Lens Exchange?

RLE (Refractive Lens Exchange) is a manual vision correction procedure where the natural lens of the eye is replaced with an artificial intraocular lens (IOL) that can correct distance vision, reading vision, or both.

Procedure-wise, RLE is practically the same as cataract surgery. The surgeon makes a small incision in the cornea and uses ultrasound to remove the natural lens before inserting the prescription IOL into the empty capsule.

“Results are very accurate, complication rates are extremely low, and vision recovery is quick, making this surgery a great compliment or replacement for LASIK for people over forty,” says Dr. Tam.

While LASIK can be effective in eliminating the need for glasses or contact lenses, it is not the only option out there. For people who may not be eligible for the procedure, LLE and RLE are alternatives that can deliver the improved vision they are looking for.



UPTOWN EYE DOCTOR PROVIDES SIGHT-SAVING SURGERY TO PATIENT

John Chalmers had always enjoyed good vision. Before retiring, he was a furniture restoration specialist who used his keen eyesight to achieve stellar results with vintage pieces, some of them over 500 years old.

“I had never been to an optometrist to get a pair of prescription glasses,” he explains. “[Later on] I bought glasses from the drugstore for more precise work. I have been very fortunate to be able to see colour in its many components, and been able to use it throughout my working life.”

That changed around three years ago, when he began noticing squiggles in the vision of his right eye every time he tried to read or focus on straight lines.

“As my eye moved down the line, the squiggle would move too. It was akin to watching half of a bubble progressing along that line,” he says.

Gradually John’s vision in the right eye started to deteriorate as he struggled to focus on images and to read. Driving also became a challenge, forcing him to rely on his daughter to drive him to appointments. When his central vision declined further, John saw his optometrist, who promptly referred him to Dr. Peng Yan at Uptown Eye Specialists.

Utilizing state-of-the-art technology to image John’s retina, Dr. Yan diagnosed a macular hole in John’s right eye as well as visually significant cataracts.

Situated in the centre of the neurosensory retina, the macula is a small area in the back of the eye that provides the clear central vision we need for reading, driving, and perceiving fine details. When a hole, or small break, occurs in the macula, early-stage symptoms include a slight blurriness or distortion in one's straight-ahead vision that can result in a permanent central black spot if untreated.

Although age is the most common risk factor for macular hole development (many patients over aged 60 and over), the following can also increase risk:

- Trauma
- A high degree of nearsightedness (myopia)
- Macular swelling
- Inflammation in the eye
- Retinal detachment
- Macular pucker

The most common symptom of a macular hole is gradual vision deterioration in the affected eye, with patients frequently reporting blurry vision, distortions, and blank or dark spots in their central vision.

Although nervous at first, John quickly felt confident after Dr. Yan explained his diagnosis and surgical treatment options and showed him an image of the macular hole. When Dr. Yan recommended surgery to treat the hole and cataracts, John quickly agreed.

"I trusted Dr. Yan," he says. "He has a supremely confident approach, which is what I look for in any professional I have to deal with. It reassures me that he's able to help."

John attended the Kensington Eye Institute in Toronto, where Dr. Yan performed a combined phaco-vitreectomy surgery to repair the visually significant cataract and macular hole in his right eye.

This outpatient procedure treats macular holes by removing the vitreous gel inside the eye to release any potential tractional force over the retina and replacing it with a bubble containing a combination of air and gas. The gentle buoyant force of the gas bubble holds the macular hole's edges in place as it starts to heal and close.

After surgery, patients are instructed to keep their faces down for a few days, so the bubble can stay pressed against the macula as it gradually gets reabsorbed.



"I was looking at my feet for a week," John laughs. But for him, the minor discomfort was worth the fantastic visual outcome.

Dr. Yan also treated the cataract in John's right eye by removing the affected lens and replacing it with an intraocular lens (IOL) designed to correct his vision. A few months later, when John developed a macular hole in his other eye, Dr. Yan performed another phaco-vitreectomy surgery to repair the hole and treat the cataract in that eye.

The combined surgeries yielded stellar results. The macular holes closed and, thanks to the IOLs, John's vision was better than ever, allowing him to enjoy reading once more and restoring his quality of life and independence.

"John recovered very well with successful closure of the bilateral macular hole," Dr. Yan says. "To see patients like John able to see again reminds me why I chose this amazing career in the first place. I simply love my job as a vitreoretinal surgeon, especially the opportunity and privilege to perform surgery to restore sight and to prevent blindness. To witness patients like John be able to read again is beyond words."



Dr. Yan's help made a big difference in my quality of life, my view of the world has changed and I couldn't be happier.

Internal Limiting Membrane Peel for Idiopathic Epiretinal Membrane Surgery

An epiretinal membrane is a condition that can occur when a thin proliferating scar tissue develops on the surface of the macula, slowly wrinkling the underlying retina and resulting in deterioration in central vision. Also known as a macular pucker, it is one of the common side effects of an age-related condition called posterior vitreous detachment, where the vitreous gel that fills the eye separates from the retina, but it can also be idiopathic, meaning that the exact cause is unknown.

Idiopathic epiretinal membranes (ERMs) are often treated with vitrectomy surgery, which removes the vitreous gel from the eye and replaces it with either a gas or saline solution so that the surgeon can peel the epiretinal membrane from the surface of the central retina or the macula. However, the recurrence rate can be high, which is why Dr. Peng Yan at Uptown Eye Specialists wondered whether peeling the Internal Limiting Membrane (ILM) (the structural boundary between the vitreous and the retina) at the same time might yield better outcomes for patients while reducing ERM recurrent rate.

"If you peel both the ERM and the underlying internal limiting membrane, there's nothing for the epiretinal membrane to grow onto and hence decrease recurrence rate," Dr. Yan explains. "You can take away that ILM scaffold to prevent recurrence."

Internal limiting membrane peeling has been used to treat a wide range of retinal pathologies, including epiretinal membrane and full-thickness macular hole. Although peeling the internal limiting membrane during epiretinal membrane surgery appeared to be associated with better anatomical and visual outcomes, there remains inconsistent data and variable practice patterns amongst retinal surgeons. With many unanswered clinical questions surrounding ERM, Dr. Yan and his colleagues initiated a systematic review and meta-analysis on this topic.

They examined the gold standard of clinical research studies, randomized clinical controlled trials that were published over the last ten years to assess functional and anatomical outcomes after epiretinal membrane peeling with and without internal limiting membrane peeling. Seven studies reporting 387 eyes overall were included.

“We looked for both outcomes and adverse events,” Dr. Yan says.

The team found that both procedures resulted in similar visual acuity despite the slight differences in anatomical outcomes, namely central macular thickness. However, ERM surgery patients who also underwent internal limiting membrane peeling had a significantly lower postoperative recurrence of ERM six and 12 months later, making ERM/ILM a consideration when the goal of treatment is to prevent recurrence.

The results were published in the American Journal of Ophthalmology. The article is titled ‘The effect of internal limiting membrane peel for idiopathic epiretinal membrane surgery: A systematic review of randomized controlled trials.’

Dr. Yan says that he has always taken the extra step of peeling the internal limiting membrane during idiopathic epiretinal membrane surgery.

“It’s an extra step and a much more challenging procedure to peel the internal limiting membrane, but it reduces ERM recurrence without negatively impacting visual outcome, so I have always done it this way,” he says. “My goal is always the best outcome for the patient, and seeing their vision improve after surgery is, for me, extremely gratifying.”

Dr. Peng Yan’s clinical interests include vitreomacular traction, retinal vein occlusion, age-related macular degeneration, retinal detachment, epiretinal membrane, macular hole, complications of cataract surgery, and complications of diabetic retinopathy.



THE ZOOM BOOM: DEMAND FOR COSMETIC PROCEDURES ON THE RISE DUE TO VIDEO CALLS

Before the pandemic, few Canadian employees had the opportunity to work from home. According to Statistics Canada, an average of 4% had a home office. Now, due to lockdowns and new remote work policies, 32% are working from home.

These remote workers communicate with their colleagues via email and text, but for meetings, they rely on video conferencing tools like Zoom. Many of them don't like what they see on camera, resulting in what has been called a 'Zoom Boom'- a rise in demand for cosmetic procedures from people who want to make changes after seeing how they look on screen.

According to the American Society of Plastic Surgeons, over 15.5 million cosmetic procedures were performed in 2020 alone. It reported that Botox was the most sought injectable treatment, with more than 4.4 million procedures performed.

Dr. Raj Maini at Uptown Eye Specialists confirmed that he has seen an increase in requests for blepharoplasty, Botox, and other cosmetic services.

"We're definitely busier. We're also seeing a lot more younger people coming for consultations, especially women. At one time, the majority of patients were people in their sixties. Now we're getting a lot of

people in their late forties and early fifties expressing interest in surgery. We've done a fair number of procedures, and people were overjoyed with the results."

Many of these younger patients are interested in correcting facial lines, eye bags, and wrinkles that are both visible and exaggerated on video calls. As more people spend hours staring at themselves as they look down into a laptop camera, they want to explore facial rejuvenation opportunities sooner rather than later.

Dr. Maini says that during consultations, people do discuss their concerns about how they appear on camera.





"I won't say they're the majority, but many of them have become more conscious of what they perceive to be inadequacies or deficiencies after being on video calls and want to address those perceived flaws."

Spending extra hours on the laptop gives people time to do more than analyze their appearance on camera. They also have more opportunity to research potential procedures. Once they've decided on a course of action, they can recover from cosmetic surgery while continuing to work from home. When they go out, any post-operative swelling is conveniently hidden by masks.

Remote workers are not the only ones who are exploring cosmetic procedures during the Zoom Boom. Busy parents who now have a spouse working from home can undergo a blepharoplasty or browpey and have help with the children while they take time to recover. Those with disposable income after cancelling overseas vacations are now spending it on Botox and other services. Unable to travel or see extended family in person, they do something to make themselves look better and feel more confident right now.

Dr. Raj Maini has special interests and extensive experience in corneal transplantation, cataract, laser refractive surgery, and plastic surgery around the eye.

At the end of the day, cosmetic procedures are supposed to make you feel good about yourself, At Uptown Eye Specialists, our goal is to help patients improve their happiness and self-esteem through procedures that address their concerns. The Zoom Boom has motivated people to explore these options sooner rather than later, and we're glad to be here for them.

REFRACTIVE IMAGE GUIDANCE SYSTEM (RIGS) USES AUGMENTED REALITY FOR OPTIMAL SURGERY RESULTS

According to the Canadian National Institute for the Blind, over 3.5 million Canadians are experiencing vision loss due to cataracts. Although common, treatment needs to be customized for optimal outcomes, as no two sets of eyes are identical.

Uptown Eye Specialists addresses this challenge by offering Ultraview ReLACS™ (Refractive Laser Assisted Cataract Surgery), an innovative computer-guided laser platform that delivers unprecedented accuracy during intraocular surgeries. Now the clinic has adopted a technology that uses augmented reality to make the manual components of the surgery more precise.



Dr. Eric Tam has specialized interest and extensive experience in laser-assisted cataract surgery and laser refractive surgery with over 20,000 ocular procedures performed.



Refractive image guidance system (RIGS) is a digital imaging platform that takes a special image of the patient's eye and projects certain aspects into the operating microscope during surgery, guiding the surgeon through critical steps of the procedure, such as:

- Making refractive corneal incisions
- Centering the capsulotomy (opening of the capsule that surrounds the lens)
- Aligning the intraocular lens (IOL) that replaces the one with the cataract.

This highly accurate imaging guidance is also invaluable during refractive lens exchange (RLE) surgeries, which remove the natural lens and replace it with an IOL that reduces patient dependence on glasses and contact lenses.

"In these cases, the accuracy of the lens placement is even more important, as the patient's expectations are even higher," Dr. Tam says.

Another benefit of RIGS is that it bypasses the need to transfer patient information multiple times. Traditionally, this information is transferred several times between different clinics and even individual staff members. Each time the details change hands, there is always a small potential for human error.

"We have a lot of protocols in place to minimize the potential for human error, but if there is an additional technology we can use to further minimize it, it's always better to have that," Dr. Tam explains. "With RIGS, data generated by the original imaging is directly loaded into the machine that we use in the operating room, bypassing multiple transfer points and improving security and accuracy."

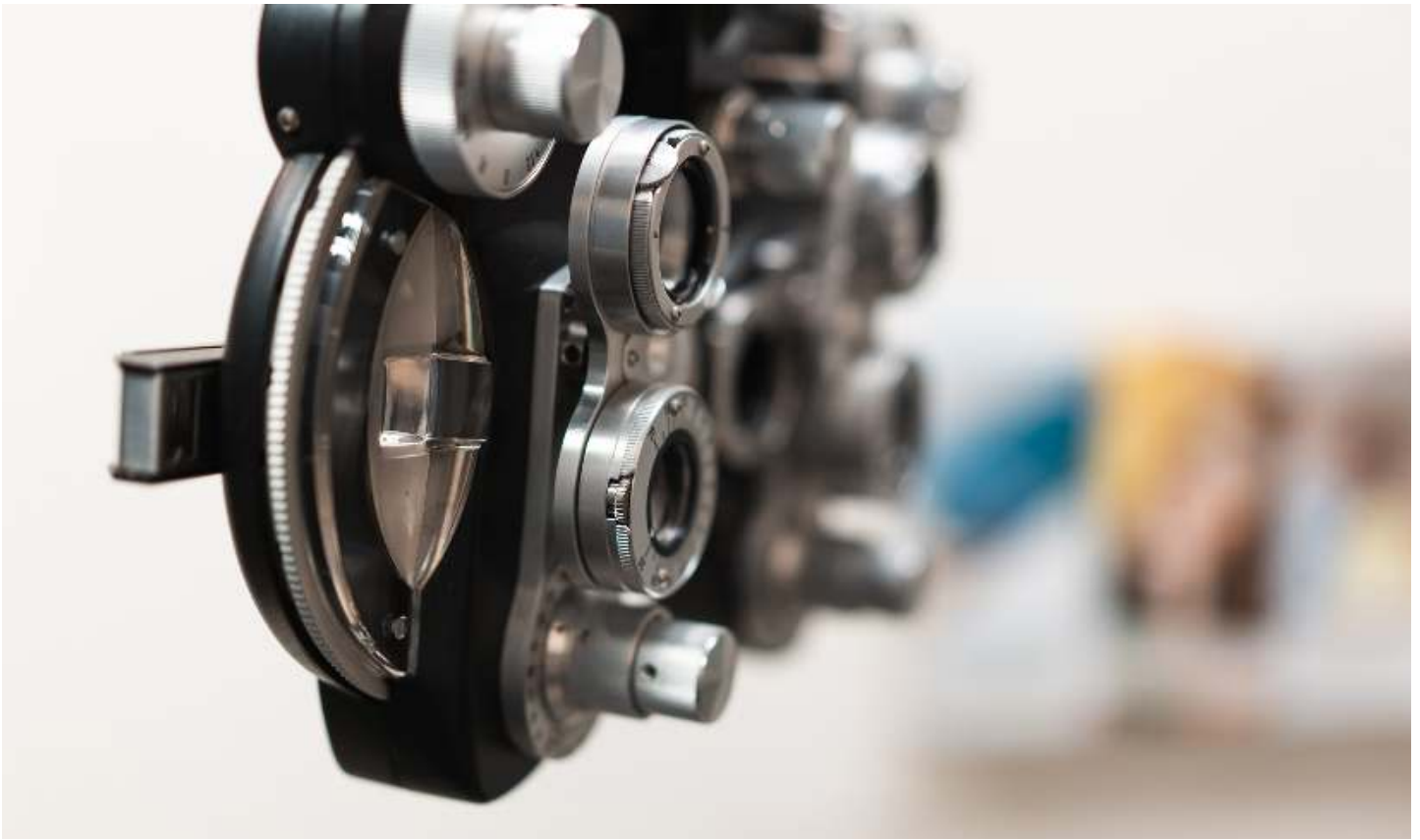




Information preservation and surgical accuracy are especially essential for RLE patients wanting to correct their astigmatism, as toric IOLs require extra precision during placement.

“RIGS is extremely useful when dealing with toric lens implants,” Dr. Tam agrees. “Traditionally, we have to sit the patient at the SLT lamp, make sure they are looking straight ahead, and use ink markers to mark the incision site on the cornea. Sometimes the ink doesn’t last long, other times the patient moves a little bit. What’s beautiful about RIGS is that the reference image tells us where the centre of the patient’s vision is. We’re going above and beyond the standard of care here by making sure that we have the highest level of accuracy for alignment of lens implants.”

RIGS can make the results of intraocular surgery better than ever, but the journey toward excellence will continue. As part of its dedication to superior patient care, Uptown Eye Specialists will keep exploring evolving technologies like RIGS and adopting them when appropriate. Whether a patient has cataracts, astigmatism, or any other vision disorder, the objective will always be to provide them with leading-edge solutions that can improve or preserve their sight for as long as possible.



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