

New Hampshire Society of Eye Physicians &
Surgeons

Written Testimony In Opposition of House Bill 349

Submitted to House Executive Departments &
Administration Committee

1/23/25

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Introduction to House Bill 349

Submitted by Kimberly Licciardi M.D.

I want to take a moment to highlight the fact that the optometry and ophthalmology professions have collaborated and worked together for decades. We work together every day and often, in the same practices with collegiality and mutual respect. Optometrists are our valued colleagues. Our profession could not survive without theirs, and vice versa. In fact, in 2021, the ophthalmology community supported the glaucoma expansion bill to allow for treatment of secondary glaucoma and remove barriers that existed for optometrists to obtain their glaucoma certification. We supported that 2021 bill as it was safe and in the best interests of our patients. That is *not* the case for House Bill 349. We oppose HB349.

HB 349 seeks to allow optometrists, who are not medical doctors, to perform three laser surgeries. These surgical lasers are already performed by comprehensive ophthalmologists in our state. One procedure is a post -cataract surgery laser, and other two are very specific glaucoma lasers. These are once in a lifetime, non-urgent surgical procedures, some of which are declining in its clinical indication (Peripheral Iridotomy). These procedures require specialized knowledge and technical surgical skills that go beyond the scope of an optometrist's education and training, which are *non-surgical*.

Presently, 41 states plus Puerto Rico and the District of Columbia, and the VA prohibit optometrists from performing laser eye surgery. We would be the only state in New England permitting optometrists to perform surgical lasers should this legislation pass. Vermont rejected this very same bill in recent years, acknowledging that this is not in their communities' best interests.

In Oklahoma, where optometrists can currently do these lasers, a study of 1,400 procedures revealed that patients were more likely to require additional procedures when their surgery was performed by an optometrist. This adds to

increased costs and burden to the patient. The claim that these are “simple” and “straight-forward” lasers are completely *misleading and false*. Every surgery, whether administered by scalpel or laser, is associated with risks. You will hear about these procedures from my colleagues here today, who are all deeply concerned about this harmful legislature. An Oklahoma patient, Vicki Rutledge, testified in NH last year after she was blinded by a laser administered by an optometrist. These are real stories. The risks of surgery are exponentially higher when a non-surgical profession is being tasked with surgical privileges. We do not wish to see these tragedies occur in New Hampshire. Vigorous surgical standards exist for a reason. Ophthalmologists are specifically educated and trained to perform surgeries. This requires not only a deep understanding of surgical anatomy but also the ability to handle associated complications and post-operative care.

Other states that have passed similar legislation, such as Louisiana and Mississippi, require that optometrists have demonstrated laser/surgical coursework in optometry school or have completed the 32 hour “weekend course”, both of which we find inadequate with regards to surgical training. *Optometrists receive little to no live patient experience in performing these complex laser eye surgeries.*

The proposed legislation would also allow for a completely self-regulating board which would be unprecedented in the state of NH and be the only such board to exist in the continental US. The current medical providers that have independent boards, such as dentistry, podiatry, and physical therapy, operate under the auspices of OPL and require state legislature approval before the allowance of any expansion of practice. Given that the board would consist of 4 optometrists and that there are only 250 licensed optometrists in the state of New Hampshire, we have concerns about potential bias should a patient complaint arising from a procedure performed by an optometrist be brought forward. In the few states that allow optometrists to perform these lasers, there is under-reporting of complications and poor outcomes.

Claims that young optometrists may be leaving our state to move to states where they can perform lasers are unsubstantiated. Of the 239 optometrists that filed Medicare Part B claims from 2013-2020, zero filed a part B claim elsewhere for laser surgery in 2021. This means if they relocated, they did so for other reasons. In fact, not being allowed to perform lasers is not stopping new, young optometrists from relocating to New Hampshire. From 2013-2023, New Hampshire has added 73 young optometrists, giving a growth rate of 45.8%. The population growth rate overall for the state has only been 5.6%. Young optometrists are coming to our state to take advantage of what our state has to offer, and that goes well beyond their licensing laws. We want to continue to attract quality providers for the right reasons, not because they can practice “at the top of their license”.

Last year, we have heard the concerns about access to ophthalmic care, particularly in northern rural areas. As such, we have worked to formulate a solution that aims to bridge this gap while maintaining the high standards of care and patient safety. You will hear more about this from my colleagues. The solution is *not* to lower the standard of surgical care. Instead, we should work together collaboratively, understanding our differing expertise, and ensuring that surgical procedures are performed by those with the necessary training. Our community deserves that.

Biography:

My name is Dr. Kimberly Licciardi. I am an ophthalmologist practicing at New Hampshire Eye Associates in Manchester for the past 15 years. I am the Immediate Past President of the New Hampshire Society of Eye Physicians and Surgeons and currently serve on the Board of Directors for our society.

Training in Advanced Lasers and Surgery: Ophthalmology versus Optometry

Submitted by Grant Schultheis M.D.

My name is Grant Schultheis I am one of the ophthalmology residents at Dartmouth Hitchcock Medical Center in Lebanon.

I hope to summarize the training currently necessary to do the procedures listed in HB349 and argue why it is necessary.

After college, the path to ophthalmology begins in medical school. The first two years dedicated to academic knowledge on how the whole body works including how the eyes are part of a larger body system. In the last two years, one is integrated in teams caring for patients. We also participate in procedures. For me, these were primarily in the abdomen, chest, and face – not operating on the eyes yet. It's not that these exact procedures are necessary to do eye surgery well, but the skills are – mastering your movements, overcoming difficult anatomy, and composing yourself when things do not go according to plan.

Residency is next. The first year is an intense time in which you treat patient independently in a hospital setting – often when they are quite sick. Here you learn to consent patients on the risks, benefits and alternatives to procedures. One also learns to not take procedures lightly since you see complications – bleeding, infection, need for more surgery. This is sobering and ingrains respect for all procedures leading to a thorough analysis before recommending a procedure.

The last stage of residency, lasting three years, consists in the diagnosis, medical and surgical management of disease specifically impacting the eye. Learning is graduated. Steps in procedures are done over and over again under supervision until mastered prior to allowing independent practice. Residents do hundreds of different procedures of many types. You cannot learn lasers or injections in a

vacuum. Breadth and depth of procedural experience are necessary to make a good surgeon.

Optometrists have four years of training after college. There are lectures but nearly every optometry school is located in a state where optometrists do not have surgical privileges, and therefore optometrists do not train on real patients. There is an opportunity to take a focused 32 hour weekend course – 8 hours of which are devoted to doing procedures on plastic eyes. Not a bad way to get basics, but – in my opinion – inadequate training to allow independent practice on patients. Models do not shake, models do not feel pain, and models do not bleed.

Even harder than doing a procedure is doing the right procedure. This means saying no to many alternatives. This is not knowledge that can be learned only from lecture or stable post operative patients. It is learned by making procedural decisions and getting feedback. In residency, I get exposed to many alternative procedures, make decisions and get opinions from experienced doctors before proceeding. Because of this, I can be more confident I am recommending the right thing for the patient.

Why are these 8+ years of training necessary? Because procedures are hard. Breadth and depth of procedural experience matter. Prior to graduating residency, one has years of experience controlling one's hands, knowing the type and when not to do a procedure. Chuck Yeager, who you might know as the first to break the sound barrier said: "The best pilots fly more than others; that's why they're the best.

I think ophthalmologists and optometrist essentially want the same things – good care, affordable and accessible. Although, I do not think this bill should be our policy my hope is that discussion will ensue to make our team of teams work better to achieve our common objectives.

Thank you for your consideration.

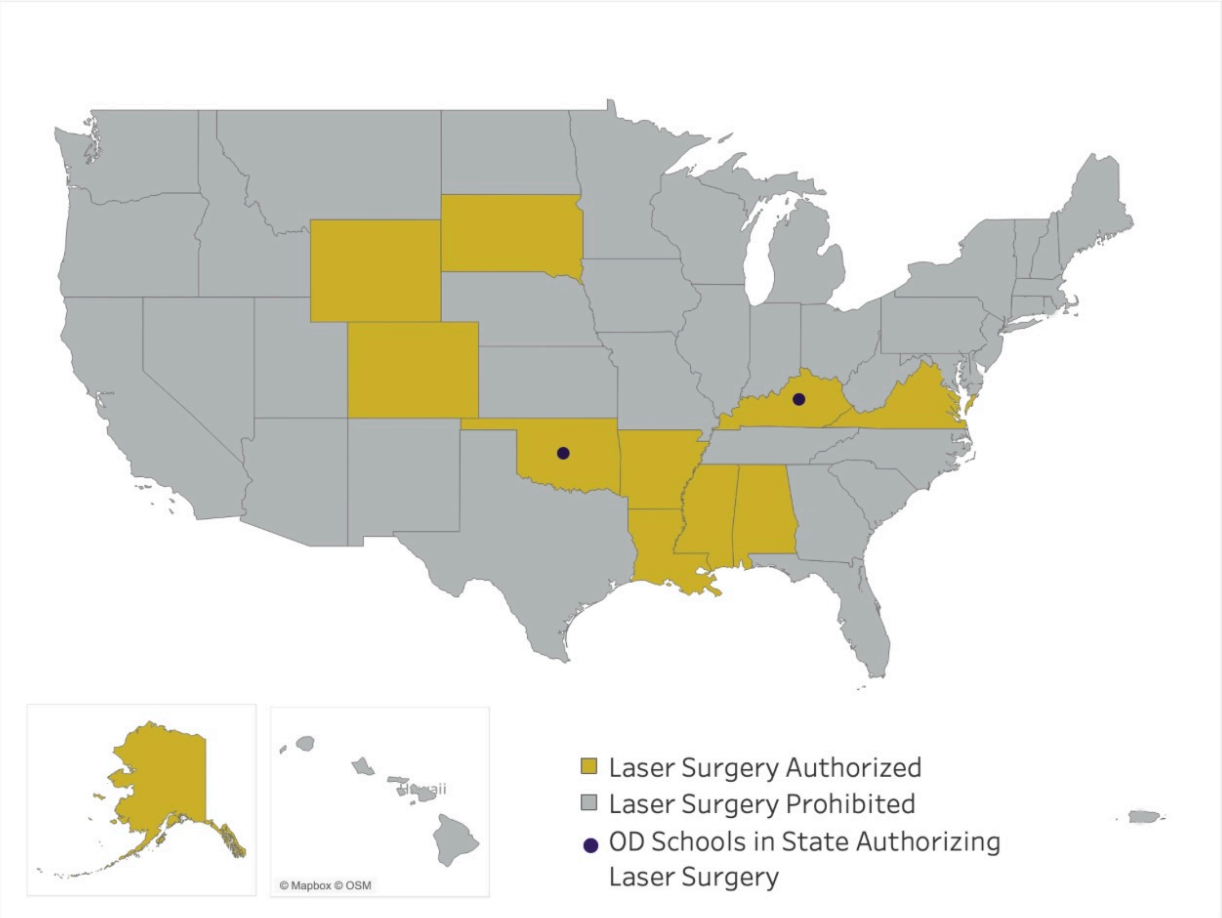


Suture training in optometry lab course



Laser simulation with plastic model eye

2 States that Authorize Laser Surgery Have Optometry Schools (OK, KY)



Course Schedule for 2024 Northeastern State University Ophthalmic Procedures Course

NSUOCO Ophthalmic Procedures Course Tablequah, Oklahoma

<u>Thursday, January 4, 2024</u>	<u>Friday, January 5, 2024</u>	<u>Saturday, January 6, 2024</u>
1:00-2:00 p.m. Intro to Ophthalmic Surgery, Consents, Ophthalmic Surgical Instruments, Asepsis Dr. Lighthizer	12:00-1:00 p.m. <u>Lunch Provided</u>	3:30-4:30 p.m. Laser Therapy in Narrow Angles/Angle Closure: LPI and ALPI Jeff Miller, O.D.
2:00-3:00 p.m. Review of Surgical Anatomy of the Ocular Adnexa & Eyelids Dr. Miller	1:00-2:00 p.m. Intro to Suturing Dr. Lighthizer	4:30-6:30 p.m. YAG Laser Capsulotomy & Managing Laser Complications Nate Lighthizer, O.D. Joseph Shetler, O.D.
3:00-5:00 p.m. Eyelid Lesions: A Thorough Overview Dr. Lighthizer	2:00-3:00 p.m. Suture Techniques Lab Dr.'s Shetler, Lighthizer, Miller & Penisten	6:30-7:30 p.m. Medicolegal Aspects of Anterior Segment Laser Procedures: Panel Discussion Dr.'s Lighthizer, Miller, Penisten, & Shetler
5:00-5:30 p.m. <u>Dinner Provided</u>	3:00-6:00 p.m. <u>Lab Rotations</u> Injection Techniques/Botox Dr.'s Miller & Penisten	
5:30-6:30 p.m. Office-based Local Anesthesia Dr. Miller	Eyelid Lesion Removal Techniques Dr. Lighthizer	
6:30-7:30 p.m. Radio Frequency Surgery & Lesion Removals in Ophthalmic Practice Dr. Lighthizer	Intense Pulsed Light (IPL)/ Crosslinking Debridement Dr. Shetler	<u>Sunday, January 7, 2024</u>
7:30-8:30 p.m. Intense Pulsed Light Therapy (IPL) in the Ophthalmic Practice Dr. Shetler	<u>Saturday, January 6, 2024</u>	7:00 a.m. <u>Breakfast Provided</u>
	7:00-8:00 a.m. <u>Breakfast Provided</u>	7:30-11:30 a.m. <u>Lab Rotations</u>
	8:00-9:00 a.m. Laser Physics, Hazards & Safety Neal Whittle, OD	YAG Capsulotomy Dr. Shetler
	9:00-10:00 a.m. Laser Tissue Interactions Neal Whittle, O.D.	Laser Peripheral Iridotomy Dr. Miller
	10:00-12:00 p.m. Clinical Workshops: Intro to Therapeutic Lasers Dr.'s Lighthizer, Whittle, Penisten & Shetler	Gonioscopy & Laser Lenses Dr. Penisten
	12:00-1:00 p.m. Gonioscopy: How to Interpret What You Are Seeing Doug Penisten, O.D., Ph.D.	Laser Trabeculoplasty: ALT & SLT Dr. Lighthizer
	1:00-1:30 p.m. <u>Lunch Provided</u>	11:30 -1:00 p.m. Review & Final Exam Nathan Lighthizer, O.D.
	1:30-3:30 p.m. Laser Therapy for the Open Angle Glaucomas: ALT & SLT Nathan Lighthizer, O.D.	<u>Thank you!</u>
<u>Friday, January 5, 2024</u>		
7:00-8:00 a.m. <u>Breakfast Provided</u>		
8:00-10:00 a.m. Chalazion Management & Botox Applications Dr. Lighthizer		
10:00-12:00 p.m. Video Grand Rounds & Surgical Concepts Dr. Lighthizer		

Northeastern State University Oklahoma College of Optometry Course Curriculum:
8 of 172 total credit hours are dedicated to ophthalmic lasers and surgery

NSUOCO Curriculum

Total Credit Hours - 172

First Professional Year

Fall (21 hours)

4101 Introduction to Optometry
4126 Geometric and Physical Optics
4133 Clinical Immunology and Microbiology
4167 Human Anatomy and Physiology
4184 Optometric Clinical Methods I

Spring (22 hours)

4203 General Pathology
4213 The Human Nervous System
4234 Vision Science I: Optics
4264 Ocular Anatomy and Physiology
4271 Interpersonal Communications
4283 Optometric Clinical Methods II
4291 Introduction to Clinic I
5103 General Pharmacology

Second Professional Year

Fall (21 hours)

5113 Binocular and Refractive Anomalies
5134 Vision Science II: Sensory Aspects
5153 Contact Lenses I
5164 Ophthalmic Optics I
5183 Optometric Clinical Methods III
5191 Introduction to Clinic II
5273 Ocular Disease I: Cataracts, Corneal, and External Ocular Disease

Spring (22 hours)

5203 Ocular Pharmacology
5215 Vision Science III - Motility/Binocular
5223 Ophthalmic Optics II
5233 Pediatrics
5253 Contact Lenses II
5291 Clinical Practice I
6023 Ocular Disease II: Glaucoma and Anterior Uveal Disease
6111 Research Methodology

Third Professional Year

Summer (10 hours)

6031 Physical Diagnosis
6051 Environmental Vision
6061 Functional Analysis
6081 Optometric Case Studies I
6093 Clinical Practice II
6122 Optometry Project I
6141 Gerontology

Fall (22 hours)

6153 Binocular and Perceptual Disorders
6163 Healthcare Systems and Epidemiology
6173 Ocular Disease III: Vitreal, Choroidal and Retinal Disease
6182 Systemic Disease
6195 Clinical Practice III
6251 Optometric Case Studies II
6262 Optometry Project II
6283 Vision Rehabilitation

Spring (17 hours)

6223 Strabismus and Amblyopia
6231 Optometric Clinical Methods IV
6243 Practice Development and Administration I
6272 Ocular Disease IV: Orbital and Neurological Disease
6295 Clinical Practice IV
7062 Optometry Project III
7081 Optometric Case Studies III

Fourth Professional Year

Summer (8 hours)

7031 Ophthalmic Applications of Lasers
7042 Office-Based Surgery
7095 Clinical Practice V

Fall (16 hours)

7101 Systemic Therapy in Ocular Disease and Trauma
7132 Differential Diagnosis of Ocular Disease and Trauma
7143 Practice Development and Administration II
7153 Contact Lenses III
7171 Optometric Case Studies IV
7196 Clinical Practice VI

Spring (13 hours)

7293 Clinical Practice VII

Access To Eye Care In New Hampshire

Submitted by Timothy Blake M.D.

Optometry has positioned HB 349 as a solution to an access problem. They propose New Hampshire residents need laser eye surgery that is not currently sufficiently available to them. I will provide data showing that this proposed legislation does not improve access.

Geography and Driving Times

New Hampshire is favorably positioned compared to the average state regarding drive times to an ophthalmologist. New Hampshire is a small state by area, the seventh smallest geographically in the union.

More than 90% of New Hampshire residents live within a 30-minute drive of an ophthalmologist and every optometry office that serves New Hampshire Medicare patients falls within a 30-mile area of an ophthalmologist.ⁱ

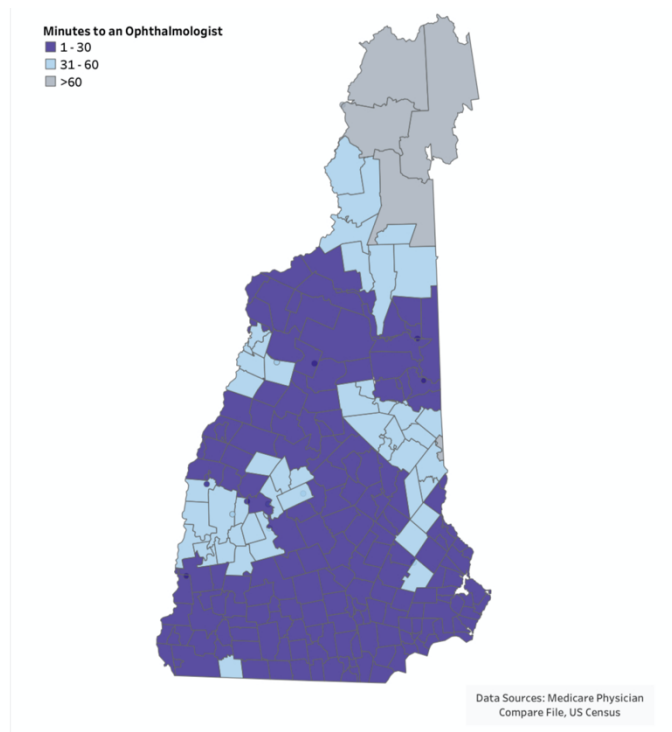


Figure 1- Drive Time to an Ophthalmologist

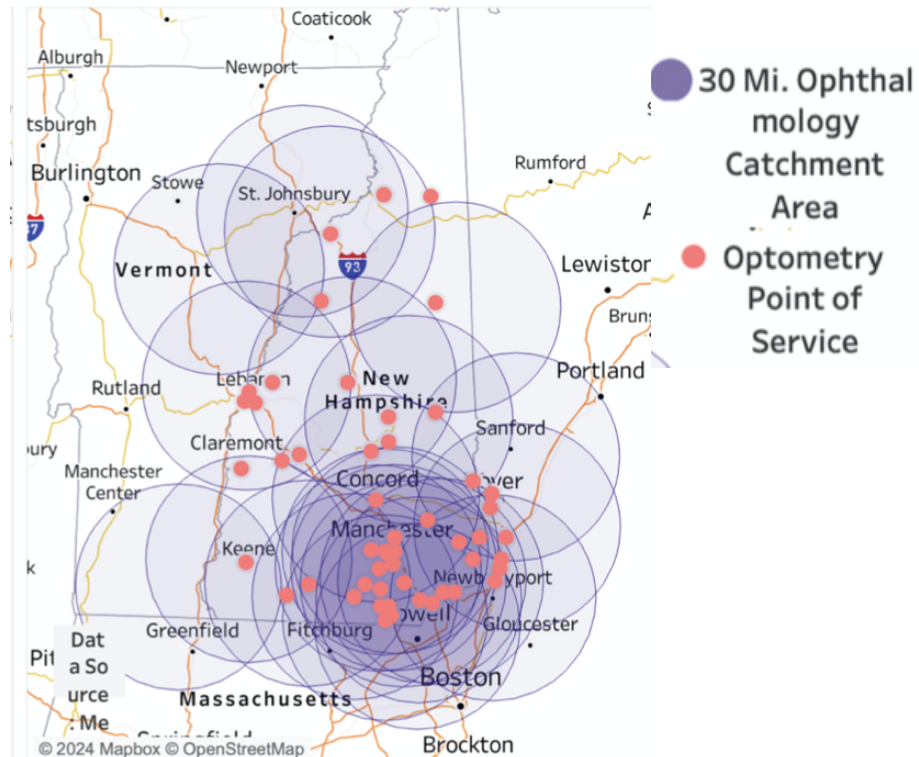


Figure 2- Every optometrist in NH (pink dot) is located within 30 miles from Ophthalmologist

Additionally, states where legislatures that have authorized optometrist’s laser eye surgery privileges are the states with the low population density (residents per square mile). Alaska and Wyoming, for example, are ranked 50th and 49th respectively in population density in the United States. New Hampshire has more than twice the population density of the 11 states allowing optometry laser eye surgery.

Other state lawmakers are considering population density as an important metric regarding the question of access. In 2022 and 2023, in four of the more densely populated states, legislatures voted against allowing optometry laser surgery privileges.

What do we know about how authorizing expanded scope in other states has impacted access to laser eye surgery? A 2023 study using Medicare utilization claims data in Oklahoma, Kentucky, and Louisiana examined patient driving times to laser eye surgery.ⁱ In each state, upon expanding optometry privileges, drive times did not decrease. In fact, in Kentucky, for after cataract laser surgeries, patients who saw an optometrist for their surgery had a greater likelihood of living within 30 minutes of an ophthalmologist than an optometrist. *In other words, a subset of patients who were referred for laser eye surgery had to drive past an ophthalmologist to see an optometrist for the procedure.* The authors hypothesize that pooled purchasing of laser equipment by low volume optometrists distorted referral networks. In any case, authorizing optometrists to do laser eye surgery did not improve patient drive times in all three states.

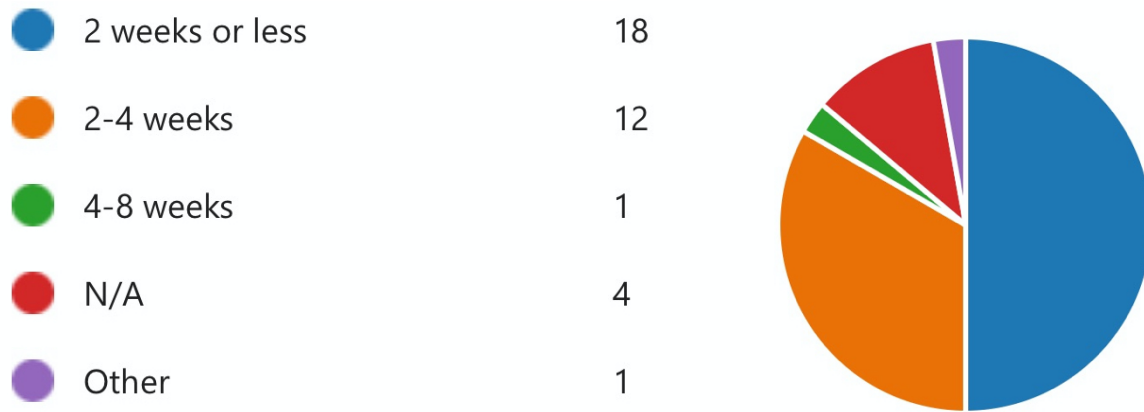
Access to Ophthalmologists and Optometrists in New Hampshire

Ophthalmologists

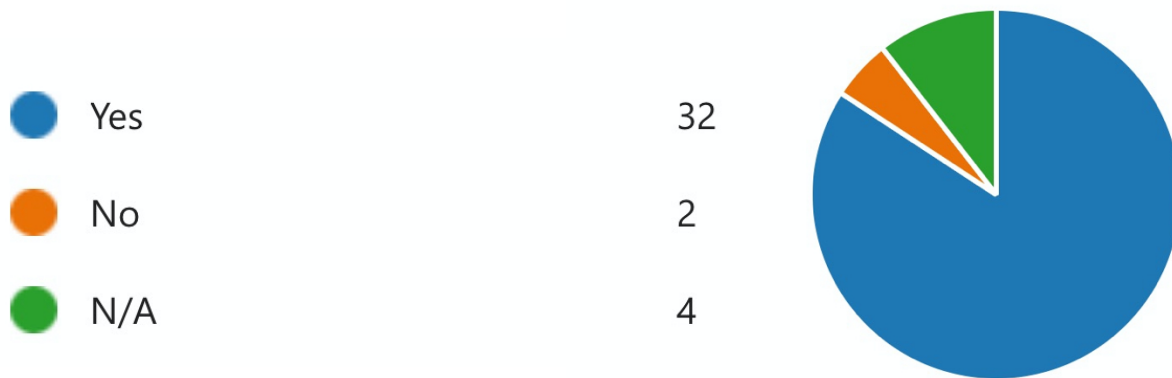
Let's consider the optometry claim that allowing laser surgery privileges will help New Hampshire patients by relieving ophthalmologist's workload. For the specific laser eye surgeries in question, there is no data to support excessive demand of these services or long wait times to an ophthalmologist. Additionally, glaucoma lasers and after cataract lasers are elective, non-urgent surgeries. These treatments are also generally one-time surgeries.

ⁱ Shaffer et al. Evaluating Access to Laser Eye Surgery by Driving Times Using Medicare Data and Geographical Mapping. *JAMA Ophthalmology*. 2023;141(8):776-783

In a recent survey of ophthalmologists in New Hampshire, 94% of respondents stated that the average wait time for a post cataract laser was 4 weeks or less.ⁱⁱ



Additionally, among ophthalmologists that perform glaucoma lasers, post cataract lasers and eyelid surgery, 94% stated that they could accommodate a referral within one week if specifically requested by an eye care provider:



Optometrists

According to the New Hampshire Office of Professional Regulation, there are currently 333 licensed optometrists in the state of New Hampshire.ⁱⁱⁱ Given the

ⁱⁱ NH Society of Eye Physicians and Surgeons Survey, March 2024.

ⁱⁱⁱ Email from NH OPLC 3/18.24

experience in other states that have passed similar legislation, we estimate that significantly low number of optometrists (<5%) will be performing these lasers.

A review of Medicare Part B claims in 2021 for post cataract lasers in states that currently allow optometrists to perform these lasers shows an average of 7.6% of total optometrists per state:

State*	Total No of OD FFS Claimants	No. of OD Claimants Filing Claims for Performing Yag Capsulotomies (CPT Code 66821)	Percentage of Total Claimants Filing Claims for Performing YAG Capsulotomies
AK	114	2	1.75%
AR	352	9	2.56%
KY	501	39	7.78%
LA	272	18	6.62%
MS	293	14	4.78%
OK	565	83	14.69%
WY	101	2	1.98%
TOTAL	2198	167	7.6%%

*Medicare Fee for Service Claims data is not yet available for CO and VA.

In states that do not have optometry schools, the average number of optometrists performing lasers is 4%. Given the above data, the expected number of optometrists performing post cataract lasers would be approximately 13 in the state of New Hampshire.

For glaucoma lasers, the total percentage of optometrists performing lasers is even less at 1.05%. This statistic would predict an expected 4 optometrists performing glaucoma lasers in the state of New Hampshire:

State*	Total No of OD FFS Claimants	No. of OD Claimants Filing Claims for Performing SLTs/ALTs (CPT Code 65855)	Percentage of Total Claimants Filing Claims for Performing SLT/ALTs (CPT CODE 65855)
AK	114	0	0%
AR	352	3	.85%
KY	501	10	.20%
LA	272	1	.37%
MS	293	0	0%
OK	565	9	1.59%
WY	101	0	0%
TOTAL	2198	23	1.05%

There is also the claim that optometrists may be leaving our state to move to other states where they can perform lasers. Of the 239 optometrists that filed Medicare Part B claims from 2013-2020, zero filed a part B claim elsewhere for laser surgery in 2021. This means if they relocated, they did so for other reasons.

In fact, not being allowed to perform lasers is not stopping new, young optometrists from relocating to New Hampshire. From 2013-2023, New Hampshire has added 73 young optometrists, giving a growth rate of 45.8%. The population growth rate overall for the state has only been 5.6%. Young optometrists are coming to our state to take advantage of what our state has to offer, and that goes well beyond their licensing laws:

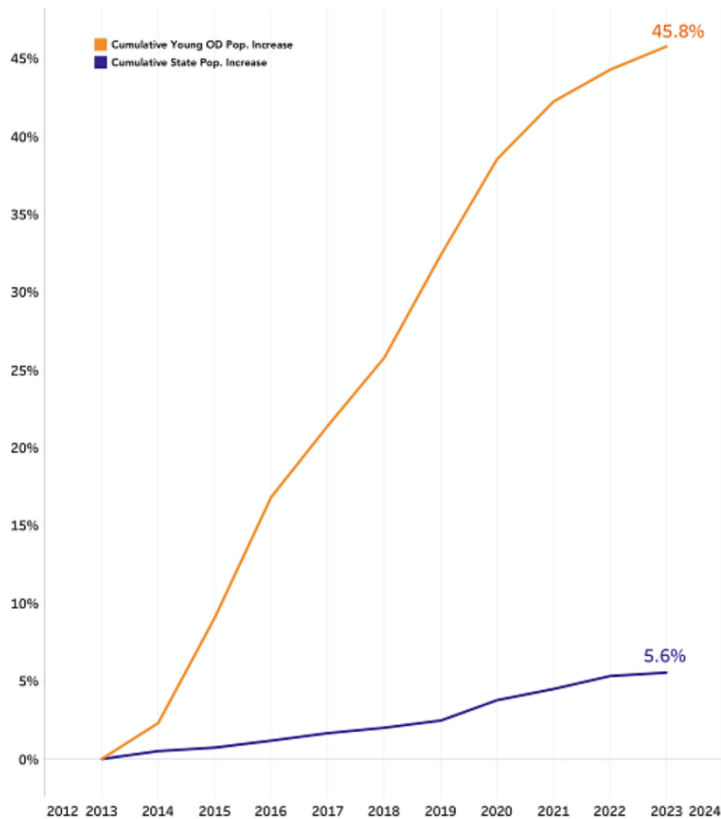
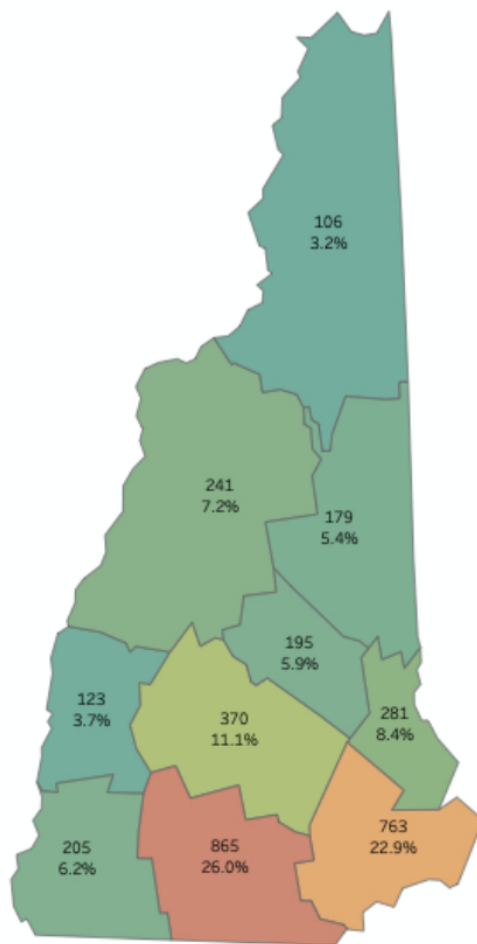


Figure 3- Increase in optometrists from 2013-2023 versus population growth rate in New Hampshire

Competency

Let's consider how this legislation may or may not address a purported access problem. First, laser machines and maintenance are expensive. The combined SLT and YAG capsulotomy laser costs in the range of \$60,000, with on the order of \$9000 per year. Do the optometrists who serve our rural communities have the number of patients needed to support purchasing a laser? Perhaps capital is pooled among optometrists offices in disparate locations to purchase and maintain a laser. But then this is not an access solution. Other sources are private equity, which is increasingly permeating the health care space, or chain corporations such as Lenscrafters or Walmart Optical.

Secondly, does the number of patients in a rural location support the number needed to treat to achieve an adequate and proficient skill set? Studies in the surgical literature demonstrate that one of the most important predictors of surgical complications is low surgical volume. Surgeons who do fewer surgeries than a critical threshold have more complications. Additionally, the expected number of lasers and surgery proposed in HB349 is low:



The estimated total number of post cataract lasers performed in NH on Medicare Beneficiaries in 2023 was 3328

In Coos County, for example, we expect only 106 cases of post cataract laser per year or approximately two per week.

In conclusion, access crises to primary care and many other services are critical. However, HB 349 does not improve patient access to laser eye surgery, and, in fact, a demand problem for laser eye surgery in New Hampshire does not exist.

Biography:

My name is Timothy Blake and I am an ophthalmologist practicing for 18 years at Nashua Eye Associates, Nashua Eye Associates is the collaborative effort of 7 ophthalmologists and 7 optometrists.

Patient Safety: Technical Aspects and Complications of Ophthalmic Lasers

Submitted by Catherine Marando M.D.

Background on LASER:

Laser stands for “light amplification by stimulated emission of radiation.” Laser is used surgically to obliterate or melt tissues within the eye. In my experience, the lay public takes a misguided comfort in the word “laser” thinking it is somehow safer or less invasive. This is simply incorrect and laser has major blinding risks and requires technical skill to accurately employ.

What lasers do the optometrists want to perform?

There are three (3) main laser-based surgeries that the optometry lobby is seeking privileges to perform. I’d like to review these with you now so you can understand why surgery is best left in the hands of surgeons.

- (1) Selective laser trabeculoplasty (SLT)
- (2) Laser peripheral iridotomy (LPI)
- (3) YAG capsulotomy

SLT -what is it and how is it performed?

Selective laser trabeculoplasty (SLT) is a surgery used to lower eye pressure and manage glaucoma. If appropriately performed, it takes ~4-6 weeks to have an effect on lowering the pressure, and the pressure lowering effect is often modest (~20-30% reduction). This means the SLT is never used as an acute vision saving surgery. This surgery, if successful and without complications, will yield the exact same results as medical management with eye drops, which the optometrists can already prescribe.

Technically, this surgery is performed by delicately holding a prism lens on the eye and visualizing the outflow pathway (internal drain) of the eye [Fig 1]. This internal drain is ~500µm (half of a millimeter) thick and the anatomy varies widely between persons. Figure 2 demonstrates normal anatomy of this drain. It is essential to correctly identify the right structure to treat with the laser. In this

diagram, that is #2. If the surgeon accidentally treats #1 or #3, then not only will the laser be completely ineffective, but the patient will likely have an inflammatory reaction and that needs steroids to treat, they may have pain, or even corneal swelling. When I say that the anatomy varies widely, this means that some people have no pigment, some people have dark pigment, some people have none of the angle structures visible, and some people have scar tissue or blood vessels growing in this angle. The variation in anatomy cannot be simulated in a model or a lab; this requires surgical experience with patients and direct mentorship by experienced surgeons to accurately identify.

The power of the laser is then selected based on the degree of pigmentation (~0.4-1.2mJ) and ~100 applications are placed 360 degrees around the trabecular meshwork. The surgeon presses a button each time they want to shoot the laser while simultaneously holding the prism on the eye of the awake patient and looking through the microscope to aim the beam at the correct structure. Small champagne-like bubbles can be seen when the laser is applied correctly. The surgeon then decreases the laser power so that bubbles are seen only ~every 4-5 shots. If you see bubbles every laser application, this means that the power is too high and the patient is more likely to have inflammation or scarring. If no bubbles are seen, then the power may be too weak and the treatment may be ineffective.

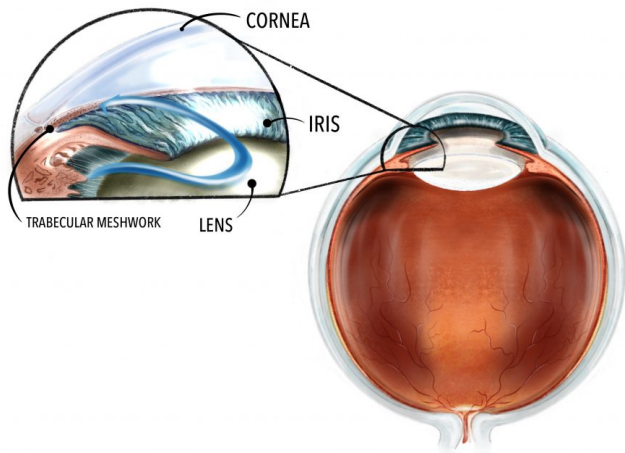


Figure 1: Location where fluid inside the eye drains out into blood vessels. This is called the outflow pathway and is comprised of the trabecular meshwork tissue. To visualize this in the office, a special gonioscopic prism needs to be manually applied to the surface of the eye. This drain is ~0.5mm thick. [photo from <https://gene.vision/knowledge-base/trabecular-meshwork/>]



Figure 2: This photo shows the target area for treatment in SLT. #2 is the tissue that needs to be treated and it is ~0.5mm wide. If #1 or #4 are treated the laser will have no effect and cause harm to the surrounding tissues. This anatomy is HIGHLY variable and some people have no pigment in their tissues making it hard to discern structures. This view is picture perfect and often our clinical view is not as ideal. [photos from <https://jfophth.com/an-introduction-to-gonioscopy/> & <https://www.reviewofophthalmology.com/article/is-slt-ready-for-a-leading-role>]



Figure 3: The photo on the left shows a narrow angle where the trabecular meshwork (drain) is not visible. If laser was incorrectly applied to this area or even the iris, then scar tissue can form that causes worsening glaucoma. The photo on the right shows the development of these permanent scar tissues that then block the drain further and cause eye pressure to rise, which causes blindness if untreated. [photos from <https://decisionmakerplus.net/case-report-post/narrow-angle-glaucoma-2/>; <https://www.glaucomaassociates.com/glaucoma/types-of-glaucoma/>]

Complications of SLT¹:

- Retinal swelling (“cystoid macular edema”) causing vision loss
- Retinal burns (“foveal burns”) causing permanent vision loss
- Anterior uveitis (inflammatory cells in the fluid bathing the inner cornea, iris and lens)
- Choroidal effusion (an inflammatory swelling of the layer behind the retina)
- Elevated intraocular pressure
 - Which is more common with patients who have more darkly pigmented drains (trabecular meshwork). This highlights the need to titrate the power actively between each shot and use the lowest possible settings to achieve tissue reaction.
- Hyphema (bleeding in the eye)
- Worsening diabetic retinopathy
- Corneal haze

Recent patient example of inappropriate referral for SLT from optometry:

I recently saw a patient referred from optometry for “SLT evaluation.” She was on 4 eye drops each used between 1 and 3 times daily (that’s a lot) and yet her eye pressures were still 40 (this is extremely high – normal is <20!). At these pressures she could go permanently blind quickly. SLT is a terrible option for this patient

because (1) it will not lower her pressure with the speed and magnitude needed and (2) it will delay access to the proper treatment (incisional surgery), during which time she could go completely blind. If the optometrist had been able to perform the SLT, which they thought was the correct treatment based on the referral, then the patient would sit with a very high pressure for 4-6 weeks while “waiting to see if the laser had an effect.” When it was found to be ineffective, they would be referred to me. Sadly, they would have permanently lost vision during this time. The correct treatment for this patient is urgent incisional surgical care in the operating room.

LPI – what is it?

Laser peripheral iridotomy (LPI) is a surgery where a YAG laser is used to create a permanent hole in the iris with photodisruptive technology, which you can think of as micro explosions. This laser is performed for patients with “narrow angles,” which means the iris is blocking the drain of the eye and there is a risk that the eye pressure can rise and cause glaucoma. The hole allows fluid to equilibrate between the chambers of the eye and prevents this pressure rise.

Technically, the patient is positioned at the microscope and a lens is placed on the eye. A shallow crypt in the peripheral iris is identified where there are no vessels present. The power of the laser is selected based on the iris thickness and pigmentation (1-8mJ). The laser defocus is set to zero and the beam is aimed at the mid stroma. While holding the lens with one hand, the other hand is used to aim the laser through the microscope and shoot in the iris tissue repeatedly until a full thickness hole is created [Figure 4].

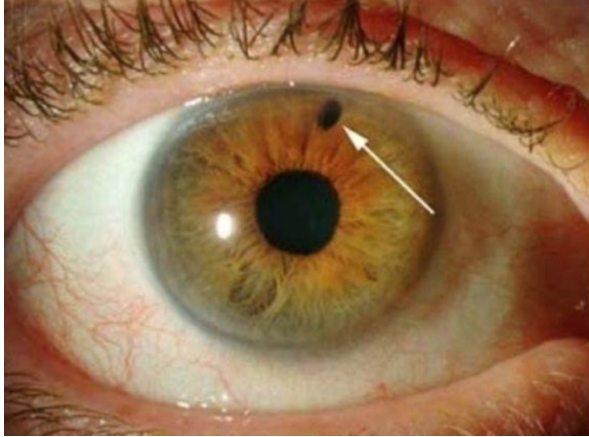


Figure 4: The arrow shows the location of the peripheral iridotomy – the full thickness permanent hole in the iris. [Photo from <https://www.synergyeye.com/investigation-yag-laser-pi.html>]

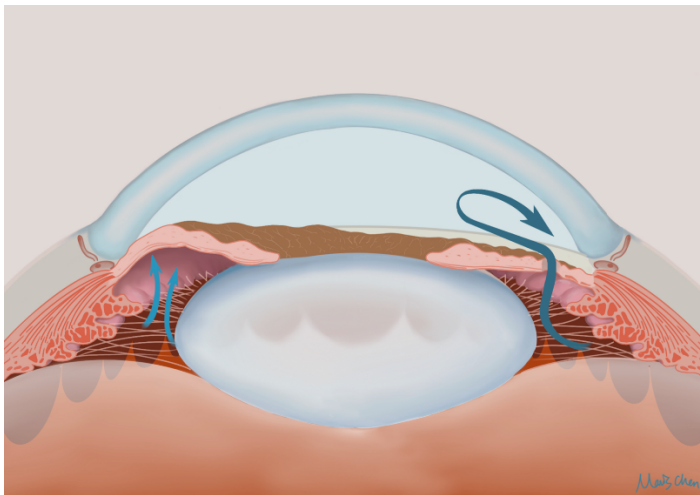


Figure 5: Anatomical diagram showing a cross section of the location of an iridotomy. The arrow shows flow of fluid in the eye once the laser is completed. Note that directly behind that hole are the support fibers that hold the lens (cataract) in place. [Photo from <https://www.waterlooeeye.ca/procedures/laser-iridotomy>]

Complications of LPI^{2,3,4,5}:

- Foveal (retinal) burns causing permanent vision loss
- Macular (retinal) hole causing permanent vision loss

- Elevated intraocular pressure (6% to 10% of cases have at least an 8 mmHg increase from baseline)
 - If untreated, can cause permanent vision loss.
- Hyphema (i.e.; bleeding inside the eye) seen in 30%–41% of cases
 - Acutely, pressure needs to be held on the eye with the iridotomy lens to tamponade bleeding. Post operatively, patients need to be followed closely for pressure elevations and treated medically with pressure and steroid drops. If the pressure cannot be controlled the patient may need incisional surgery to prevent blindness.
- Cataract progression seen in 23%–39% over a follow-up period ranging from 1–6 years
 - Permanently decreased corneal endothelial cell count that can cause permanent corneal edema that requires a corneal transplant
- Excessive energy use. When less experienced surgeons use this laser, there is a risk of needing higher energy amounts to successfully make the hole in the iris.
 - The makes cataract surgery more dangerous. Figure 5 shows that the zonules (thin fibers holding the lens in place) are directly behind the iris and underlie the iridotomy hole. Excessive energy use breaks these supports irreversibly. This makes cataract surgery much riskier; patients may need a retina surgery if the lens is unstable and falls back on the retina.
 - Increased energy also increases the rate that the iris can get stuck to the lens in certain areas (aka synechiae), which also makes cataract surgery more complicated.
- Inability to fully penetrate through the iris in one setting. This would require a second surgery to complete.
- Dysphotopsia (ie: glare, starbursts of light, etc...) seen in 2%–11% of cases and varies based on technical placement of the iridotomy
- Chronic uveitis (inflammation) inside the eye requiring long term steroid use

- Reactivation of herpetic uveitis or corneal disease requiring antiviral pills and steroids

YAG capsulotomy – what is it?

A YAG capsulotomy is a surgery where a laser is used to obliterate the back of the capsule holding the new lens implant after cataract surgery [Figure 6]. As a little background, this capsule is only $\sim 4\mu\text{m}$ thick and separates the back of the eye (where the retina is) from the front of the eye (where the iris and lens are) – and for reference a piece of computer paper is $\sim 20\text{x}$ thicker than this capsule. This capsule can become cloudy in ~ 1 in 3 patients, causing symptomatic blurry vision typically of very slow onset. This is reversible blurry vision and is never an emergency. The laser to clear up this capsule is elective.

Technically, a lens is delicately placed on the eye and held in place with one hand while the other hand carefully aims the laser at the clouded capsule. If this laser is aimed just a few MICRONS off from the target tissue, it can crack the artificial lens implant and require major surgery to explant that lens and put in a new lens. This is riskier than initial cataract surgery now that the capsule has been violated – it means the risk of retinal detachment is much higher as well. Other risks include causing lens dislocation or instability by opening the capsule incorrectly that would necessitate a surgical lens exchange and retina surgery to extract the fallen lens. Numerous laser applications are required and can be placed in either a circular or cross shaped application depending on the clinical scenario and surgeon judgement.

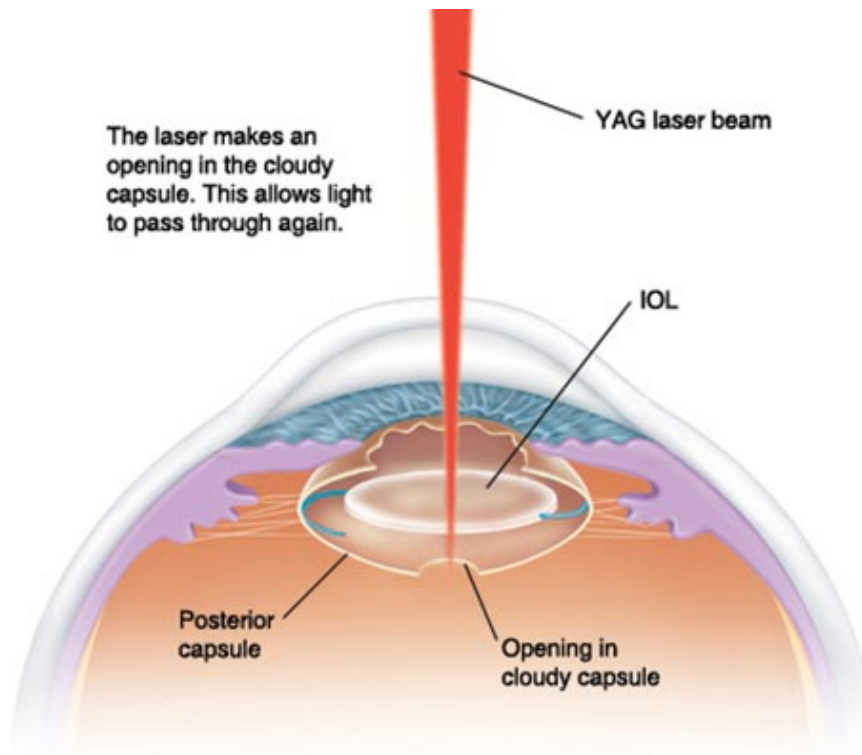


Figure 6: A cross section of an eye where the YAG laser is aimed into the eye behind the new artificial lens implant to destroy the capsule and create an opening. [Photo from <https://www.eyedoctorophthalmologistnyc.com/treatment/yag-capsulotomy-complications/>]

Complications of YAG capsulotomy^{7,8}:

- Macular edema (retinal swelling) occurs in ~6% of patients
- Retinal detachment occurs in 0.5% of patients
- Elevated intraocular pressure that can cause permanent vision loss
- Cracked intraocular lens implant
 - Requiring a surgical lens exchange, which is a risky and highly skilled intraocular surgery only performed by certain ophthalmologic surgeons. This is very easy to do if the laser aiming beam is inaccurately applied by only a few microns or if the patient moves their head.
- Dislocated intraocular lens

- If the capsule is enlarged too much, the intraocular lens implant can shift or move back towards the retina. This could require a retinal surgery to repair.
- Retinal burns causing permanent vision loss
 - There is a case of a patient who was having a YAG laser, but the dual mode laser system was accidentally set on the SLT settings, and this caused an immediate blinding retinal burn.

Recent patient example of inappropriate referral for YAG capsulotomy from optometry:

I recently had a referral from optometry to perform this laser in a patient who never even had cataract surgery and therefore had no capsule opacification! If this laser was shot into their eye, they would have been severely harmed and require urgent surgery!! I'll explain - She was young and had refractive eye surgery to get out of glasses. In this surgery, a lens was placed inside the eye ON TOP of her native lens. This surgery frequently causes cataracts to form underneath this refractive lens implant. The optometrist was confused by the exam and didn't know what they were even looking at. They completely failed to realize that underneath this refractive implant was her native lens (aka a cataract)! And if a laser was used to "clear up" what they thought was a cloudy capsule but was ACTUALLY her lens, then she would have sustained vision threatening harm. The laser could have violated the lens capsule, caused cataract material to spill out into the eye and potentially leak back toward the retina as well. This patient would need emergency surgery by a cataract surgeon and potentially a retina surgeon as well.

Why supervised training on live patients is imperative:

In my time as a glaucoma fellow at Mass Eye and Ear, I helped train the residents on laser surgery. One of the residents was performing this surgery with me guiding and watching through the side scope. I intentionally have them start the surgery in the periphery of the lens so that if there is a complication it will not be serious. My resident accidentally hit the lens with the laser and caused a small

crack. I calmly asked the resident to pause so that I could take over and safely finish the surgery. Fortunately, this patient had no issues since the crack was in the periphery of the lens, but if this had happened in the center of the lens it could have been a very different outcome. I then reviewed the surgery with my resident and advised how to adjust her technique to avoid this again in the future. This type of direct, hands on, learning with real patients is the ONLY way to achieve proficiency. A weekend class on an eye model is completely insufficient.

Summary:

I hope this helps you have a better understanding of what types of laser surgeries are being discussed in this bill. In my experience, some people often imagine that “laser” is some automated and risk-free futuristic process. In fact, laser surgeries are skill based and highly technical and they have potentially blinding risks like any other surgery. The optometry lobby may try to explain how simple and safe these surgeries are, but I assure you, these are difficult surgeries that take several years of specialized training to be able to perform safely and effectively. When the optometry lobby says that they have done hundreds of thousands of procedures, these include pulling out eyelashes and pulling pieces of debris out of the eye, which does not require surgical training and is completely different than the laser surgeries being discussed in this bill. In fact, this is intentionally misleading. The truth is that optometric residency has NO hands-on laser or injection training with patients. If you found out that your “surgeon” had only done a weekend course on model eyes (never on a real human under supervision of another trained surgeon), would you let them operate on you? This answer tells you what you should do for your patients.

BIOGRAPHY:

My name is Catherine Marando, and I am an ophthalmologist and glaucoma specialist at Concord Eye Center. I have a degree in biomedical engineering, after which I spent a year in London doing engineering research in glaucoma. I then went to medical school for four years and graduated Alpha Omega Alpha. I then

completed a combined medical and surgical internship followed by a three-year ophthalmology residency at Harvard Medical School's Massachusetts Eye and Ear. I stayed at Harvard for an additional year as a surgical glaucoma fellow where I also assisted in the training of residents. I am now in my second year of practice as a glaucoma specialist.

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North Country Access Project

Submitted by Timothy Peters M.D.

During the past legislative session, many legislators, understandably, raised a concern about access to ophthalmological services for people living in the North Country. This 9-10% of the residents of NH does indeed need better access. We heard these shared concerns and have been working over the past 8 months to find a solution.

We are pleased to report that we have been collaborating with the Androscoggin Valley Hospital (AVH), an affiliate of North Country Healthcare, to bring about a solution to access and are in the final stage of offering these important services to the North Country on the AVH hospital grounds. AVH has stated this is a major goal for them and they anticipate that we can offer these services in the next 8 months to a year. Major progress has already happened. AVH has identified space on their campus and architectural plans have been made. A site visit with all parties is scheduled as the next step.

Laser surgery access in the North Country is important, but the frequency of these surgeries is low and the vast majority are non-urgent. The North Country Project will offer these surgeries, but so much more. We will offer on-site care for the major issues affecting the population. We will offer care for Macular Degeneration, Diabetic Retinopathy, Cataracts, and Glaucoma. True comprehensive high-level care delivered by experienced Physician locally.

This is significant commitment by the ophthalmologist community, we hope that it may serve as a model for other specialty practices to offer their services to the North Country and other rural areas. We are pleased to share this free market solution with you today as a great example of what the Granite states can do for each other, without the need for legislation.

We are excited to be able to share this news with you and as things progress we will be offering more details about this solution to North Country access to ophthalmology services.

BIOGRAPHY:

My name is Timothy Peters. I am an ophthalmologist practicing at Eyesight Ophthalmic Services in Portsmouth.

Patient Safety: Risk of Complications and Lessons Learned from Other States

Submitted by Christie Morse M.D.

Thank you, Madam Chairman and members of the committee.

Thank you for your service to New Hampshire. My name is Christie Morse, and I am a board-certified pediatric ophthalmologist practicing in Concord, and I oppose House Bill 349. My opposition to HB 349 does not in any way discount the contributions and essential services that optometrists provide. Every day, I work closely with the 3 optometrists in my practice - we are a collaborative team.

This bill would allow optometrists – who are not medical doctors or trained surgeons - to perform surgery on **the inside** of one of the most sensitive, complex and important parts of our bodies – our eyes. The laser surgeries in this bill involve surgery: 1) on the colored portion of the eye (iridotomy), 2) on a structure that cannot be normally seen with normal optics (trabeculoplasty), and 3) on the fragile shell that holds the intraocular lens placed during cataract surgery.

Not being able to manage the complications that arise from these procedures can lead to blindness. This is important, because if urgent additional surgery is needed as a result of a procedural complication, optometrists would not be able to perform these sight-saving techniques.

To put this into broader context, expanding surgical privileges to optometrists does not solve the problem of providing the constituents of New Hampshire access to safe surgical care. In contrast, ophthalmologists are medical doctors and trained surgeons who undergo years of standardized training to perform surgeries safely and to manage complications that arise.

Here are a few examples. Laser iridotomy and laser trabeculoplasty may lead to bleeding in the eye and high eye pressure. If severe enough, fluid may need to be surgically evacuated from the inside of the eye. The inability to manage this in real time could lead to vision loss. Preventable vision loss. During laser capsulotomy, the laser may put craters in the lens inside the eye, and if bad enough, this lens may need to be replaced. If during laser capsulotomy the laser opens up too much of the capsule – the lens could fall to the back of the eye. And with any laser surgery, there is always the risk of a retinal detachment. The procedures to treat any of these complications are performed by ophthalmologists, and any revision surgeries are far more difficult than the original surgery.

Currently, there are 10 states that allow laser surgery to be performed by optometrists. In most of the states that allow optometrists to perform laser surgery, there is no requirement to report the negative outcomes of laser surgery to the board of optometry. Optometrists often cite a study by Nathan Lighthizer, an optometrist on the study, who claims that optometrists can safely perform capsulotomy surgery. The medical community has many issues with this publication. First, the study introduces selection bias because it does not indicate that the patients nor the optometrists were randomized, and it does not indicate that the participants in the study were those serially eligible to participate in the study. Second, the results of the study are not generalizable, because the experience of the authors is likely far more extensive than the optometrists who would be performing the procedures in New Hampshire. Lastly, the study notes no significant adverse effects. From real world experience, we know this is not representative of laser surgery. A recent study in Ophthalmology reported a rate of 13% of adverse events amongst experienced ophthalmologists performing almost 8000 YAG lasers. Furthermore, a study published in a major medical journal in 2016 looked at 1,400 eyes of patients that underwent a surgical laser procedure used to treat glaucoma in Oklahoma. The study found that there was a 189% increased hazard of requiring additional laser treatment in the SAME eye

when the surgery was performed by an optometrist, compared to the same laser done by ophthalmologists. Let me repeat that: a 189% increased hazard. That is not just a statistic...it's a warning. The study concluded this could be due to multiple reasons, all of which are highly concerning. It could mean optometrists are not adequately trained in the laser procedure itself, it could mean that optometrists do not understand how to perform gonioscopy, which is a tricky test that evaluates whether a patient is even a CANDIDATE for that type of laser, or it could mean that optometrists don't understand that you have to wait 6-8 weeks before you know if the laser worked. This study illustrates a real concern for patient safety and it shows that it is NOT cost effective to have optometrists do surgery. To quote the investigators of the study, "Health policy makers should be cautious about approving laser privileges for optometrists practicing in other states...."

It is important to consider how professional malpractice insurance companies view optometrists performing surgery. The Ophthalmic Mutual Insurance Company insures over 6500 ophthalmologists and 800 optometrists, and they **will not** provide malpractice insurance to optometrists to perform surgery, citing a lack of data available on liability and lack of necessary of education, training, and expertise.

In the handful of states that have authorized optometrists to perform surgery on the eye there are cases involving surgical complications, misdiagnoses, overlooked problems, and harmed patients—some of whom have suffered permanent vision impairment. Some of you may remember the name Vicky Rutledge, who suffered permanent vision loss after having laser surgery by an optometrist and testified to this same committee last year. If you haven't seen her testimony, I urge you go back in the record and view it.

It is simply not true that the surgical procedures listed in this bill are simple and uncomplicated. The patients harmed during procedures performed by optometrists in Oklahoma, Kentucky, and Louisiana would certainly attest to

that. They are real people who experienced real harm. My opposition to House Bill 349 is firmly rooted in patient safety and I hope that you will also oppose this bill. Thank you for your time.

BIOGRAPHY:

My name is Christie Morse, I am a pediatric ophthalmologist practicing at Concord Eye Center. I am currently the vice president of the New Hampshire Society of Eye Physicians and Surgeons.

APPENDIX: SUPPLEMENTAL MATERIALS



Oklahoma Academy of Ophthalmology

www.oklahomaeyes.org

O: 573-635-2173

January 8, 2025

The Honorable Carol McGuire
Chairman, House Executive Departments and Administration Committee
The General Court of New Hampshire
107 North Main Street
Concord, NH 03301

Dear Chairman McGuire and Members of the Committee:

We are urging New Hampshire's lawmakers not to enact legislation that was unfortunately adopted in our state of Oklahoma. Specifically, we are writing to ask that you oppose HB 349, which would allow optometrists—who are not medical doctors or trained surgeons—to perform eye and eyelid surgery on the citizens of New Hampshire.

As the leading organization representing Oklahoma's ophthalmologists—medical doctors specifically trained in eye surgery and comprehensive medical eye care—we have all too often heard those in the optometry profession claim to lawmakers in other states that there have been "great experiences and no complications" with regards to surgery being performed by optometrists in our state and that there have been "no complaints" made to the state's board of optometry. To hear these assertions is alarming to us, as many of our members have had to treat far too many complications or mistreated patients by optometrists attempting to perform some of the same surgeries (which often turned out to be the incorrect treatment for the patient's conditions) authorized in HB 349.

We would like to share just a handful of professional observations and concerns based on a few sample patients, which demonstrate that a mere weekend worth of "additional training" (32 hours)—which is all that would be required for optometrists to perform the surgeries outlined in HB 349—is grossly inadequate as a pathway to become properly trained to perform eye surgery. Allowing optometrists to perform surgical procedures in Oklahoma has not increased access and has indeed caused patient confusion and complications. The patient summaries below are various examples:

- **Patient #1:** A patient who—after months of evaluation for a painful red eye by not one, but TWO different optometrists—was (finally) sent to the emergency room for pain relief. The medical doctor on staff at the emergency room (not the optometrists) diagnosed chronic angle closure glaucoma and referred the patient to an ophthalmologist. A peripheral iridotomy (which optometrists would be authorized to perform in HB 349) would have been an appropriate early treatment, but due to delay in diagnosis and scar formation from lack of a proper diagnosis the patient required a much more invasive glaucoma filtering surgery. The two optometrists that repeatedly saw the patient (and failed to properly diagnose or refer to an ophthalmologist) were "laser certified" by the Oklahoma Board of Examiners in Optometry (the same certification requirements that New Hampshire optometrists would need to meet in HB 349). The patient filed a lawsuit

against the optometrists, but died shortly thereafter. While the cause of death was not necessarily due to his ocular issues, it technically ended any litigation against the optometrists.

- **Patient #2:** This patient was a woman with symptoms of visual distortion in one eye. Her optometrist performed a laser iridotomy (which would be authorized for optometrists to perform under New Hampshire's HB 349). In this surgery, a laser is used to burn a small opening in the iris so that fluid can flow through the hole and move forward, thereby deepening the front chamber of the eye. The objective of performing this procedure is to decrease the pressure in the eye if the drainage system angle is narrow or blocked. In this example, the optometrist performed this surgery in both eyes of the patient. The patient continued to experience visual distortion and sought a second opinion from an ophthalmologist.
 - Records from the optometrist were obtained and reviewed. There was no documentation of history or examination findings to warrant the laser surgeries. There was however, documentation that insurance would pay for the laser surgeries. Only after visiting an ophthalmologist, was the patient that properly diagnosed the cause of her symptoms of distorted vision—a wrinkle in the retina. **The patient did not need the laser surgeries that the optometrist performed, and the insurance company paid for unneeded an unnecessary surgery.** Net result - patient risk without any chance of benefit, and increased health care costs, not to mention failing to diagnose and treat the patient's actual problem. **Exactly the opposite of the goal of medical care which is patient benefit and the lowest risk with reasonable cost.**
- **Patient #3:** Another patient presented emergently to the hospital after an optometrist attempted to perform a laser iridotomy and encountered hemorrhaging at the surgical site. The optometrist could not proceed with the surgery and left the laser opening incomplete. The optometrist then moved to the second eye and tried to perform a laser iridotomy and once again encountered hemorrhaging and could not complete the procedure. The bleeding in both eyes resulted in very elevated eye pressures, which then became an emergency. An ophthalmologist, a medical doctor and surgeon, came to the aid of the patient, addressing the complication.
 - There is no doubt that performing these procedures requires the proper level of medical education, clinical surgical experience and the judgment that comes with years of medical and surgical training to learn not to put patients' vision at risk. A significant part of an ophthalmologist's training consists of performing complete surgical cases on live patients under the direct supervision of an attending surgeon over a period of three years. This cannot be obtained in the optometry school 32-hour training course.
 - Even with ophthalmology's medical and surgical residency training that is established and proven to be necessary to perform eye surgery proficiently and safely, complications may still occur. If one decreases the education and experience legally required to perform these procedures, there is no doubt there will be *increased* complications. In the case of Patient #2, he realized that he had to

2

go to another doctor who could take care of his problem and he went to the hospital. It later was identified that the patient was on anticoagulants. The patient said he had told the optometrist about his anti-coagulant use, but the optometrist said it would not be a problem. However, to anyone properly trained, it **should not** have been surprising for the patient to hemorrhage. The patient was hospitalized and managed by ophthalmologists at the hospital. **Ultimately it was determined that the patient did not even need the laser treatment that the optometrist performed.** From the weekend laser course (which is all the “additional training” required for optometrists in Oklahoma to legally perform the procedure, as it would be in New Hampshire), **the optometrist clearly did not understand if the laser treatment was needed, and did not recognize the significant risks for this patient.** The patient suffered damage to both eyes and there were high additional costs that were entirely unnecessary. Poor quality of patient care with increased costs is not what patients in Oklahoma or New Hampshire deserve.

- **Patient #4:** A patient was supposed to receive a YAG capsulotomy (which would be authorized in HB 349) from an optometrist. However, the optometrist could not adequately visualize the posterior capsule with the slit lamp (a microscope with a bright light used during an eye exam to provide a closer look at the different structures at the front of the eye and inside the eye.) Therefore, a special lens was utilized for improved visualization of and laser administration to the posterior capsule (a thin membrane that forms a physical barrier between the anterior and posterior segments of the eye). **Unfortunately for the patient, the optometrist selected the wrong lens, so the laser was focused on the retina instead of the posterior capsule. A focused YAG laser treatment was administered by the optometrist to the macula (in the back of the eye) resulting in immediate damage with resultant scarring of the retina and permanent blindness in that eye.**
- **Patient # 5:** A patient diagnosed with acute angle closure by an optometrist was referred to an ophthalmologist for laser iridotomy (a surgery authorized in HB 10099), **but only because the optometrist did not have access to a laser at that time.** However, when the patient was examined by the ophthalmologist, the patient did NOT have acute angle closure, but rather had neovascular glaucoma. Not only was a laser iridotomy NOT the correct procedure to perform on this patient, but it would have been extremely harmful if one had been done in the setting of neovascularization of the iris which would have resulted in hemorrhaging in the eye, and worsening of the eye pressure with NO alleviation of the underlying disorder. The patient’s condition would have been made worse if this optometrist’s diagnosis and treatment plan were followed. If skilled slit lamp exam was utilized instead (which should have been done with this patient, but was not), this would have been diagnosed properly in the first place.

The fact is complications and mistakes indeed happen during some laser eye surgeries. To claim zero complications amongst optometrists or any practicing health practitioner should raise significant questions on: data collection methodology, the practitioners’ ability to recognize an adverse event, the practitioners’ ability to perform the necessary patient follow up to check for adverse events after surgery, or simply refusal to self-report any complications. Any of which on their own or in combination should raise tremendous concern about professional standards and capabilities.

The five aforementioned patient cases are just the tip of the iceberg. **The truth is that Oklahoma's Board of Examiners in Optometry does NOT collect data on surgery outcomes, and as such, Oklahoma optometrists have no reason to self-report complications and adverse outcomes from their surgeries.**

Our member-ophthalmologists in Oklahoma have also had certain situations where patients came in and said that while getting new glasses, the optometrist saw a "minor lump or bump" on the eyelid and told them they needed to have it removed. The optometrists wanted to surgically excise the eyelid lesion. Fortunately, the patients did not consent to this. What turned out to be a "minor lump or bump" turned out to be small cysts that did not need to be surgically removed.

The five patient cases highlighted above demonstrate the significant negative impact on the safety and quality of care—with *increased costs*—when a state legislature enacts a bill that decreases the educational and clinical training standards to perform eye surgery.

As a professor of ophthalmology who teaches residents to perform surgery, it is an extended process over the course of three years (but only after they complete medical school) to educate future ophthalmologists on:

- How to medically diagnose;
- How to know what the management should be *if* surgical intervention is even the appropriate option;
- Which procedure is the best treatment for that patient's specific conditions;
- Recognize potential risks of the procedure, and;
- How to immediately handle any surgical complications that arise during or after the procedure.

None of this experience can be gained in optometry school or in any 32-hour weekend course.

In Oklahoma, scope of practice expansion for optometry to include surgery has *not* resulted in increased access, but it has *increased patient risk with higher cost of care* due to lowering of the educational and training standards. For the sake of maintaining patient safety and the quality of surgical eye care, while controlling costs, I urge you and your colleagues to protect the citizens of New Hampshire by rejecting HB 349.

Sincerely,



Ben J. Harvey, M.D.
President, Oklahoma Academy of Ophthalmology
Clinical Associate Professor of Ophthalmology
Dean McGee Eye Institute
University of Oklahoma College of Medicine

Kentucky Academy of Eye Physicians and Surgeons

John Franklin, M.D., President

Ryan Smith, M.D., President-Elect

Benjamin Proctor, M.D., Secretary/Treasurer

Benjamin Mackey, M.D., Immediate Past President

January 8, 2025

The Honorable Carol McGuire
Chairman, House Executive Departments and Administration Committee
The General Court of New Hampshire
107 North Main Street
Concord, NH 03301

Dear Chairman McGuire and Members of the Committee:

We understand that your committee is considering House Bill 349 in the New Hampshire Legislature. We are writing to inform you about a similar bill that was regrettably enacted in our state in 2011, which was misleadingly titled *Access to Quality Eye Care* (Kentucky Senate Bill 110). Similar to New Hampshire's HB 349, the bill in Kentucky allowed optometrists—who are not medical doctors or trained surgeons—to perform a wide range of surgery on and around the eyes including the laser eye surgeries in HB349. Since its enactment, the law has in no measurable way expanded access to quality eye care as it was sold to our lawmakers at the time.

You may be hearing from proponents of HB 349 who claim there have been “no complaints” or “no adverse outcomes” from optometrists performing the surgeries authorized as part their scope of practice expansion in some other states. Unfortunately, for a number of patients across the Commonwealth of Kentucky, those claims are simply not true. The following cases are just the tip of the iceberg after consulting with only a few ophthalmologists, and many more exist:

- Central KY: In an adult patient who had pediatric cataract surgery and was stable for decades, an optometrist lasered the vital capsule that was separating the two chambers of the eye, causing a severe glaucoma with eye pressures three times what is normal, resulting in permanent harm to the optic nerve. Fixing this tragedy took two operations by ophthalmologists (medical doctors and trained eye surgeons).
- Eastern KY: While attempting to perform a YAG capsule surgery, another “teacher of optometric surgery” subjected a patient to a multi-hour procedure. This procedure takes a seasoned ophthalmologist about 5 minutes. These struggles yield multiple laser injuries to the lens of the eye and corneal abrasions.
- Central KY: A patient who saw an optometrist for a peripheral iridotomy on one eye was subjected to having the procedure done multiple times, over multiple visits. For her second eye, the patient begged the practice to have an ophthalmologist perform the surgery so it would be performed correctly the first time.
- Central KY: An optometrist performed a laser peripheral iridotomy (PI) on a patient with neovascular glaucoma, when laser PI isn't indicated at all! This delayed a patient's care causing further glaucoma damage.

These surgical complications are in addition to numerous misdiagnoses, inappropriate therapy and overlooked problems by Kentucky Optometrists that many of our members have personally treated. There are multiple cases of missed corneal infections, inappropriately treated corneal ulcers, and missed glaucoma that were never reported because there is no medical board oversight or supervision of optometrists in Kentucky, and optometrists here are not required to report adverse outcomes or complications to their licensing board. The absence of a malpractice lawsuit or a recorded complaint filed with the board of optometry does not equate to the absence of harm to the patient.

As was the case in Kentucky, you are also probably hearing that HB 349 will expand “rural access” for patients requiring surgical eye care. While there was already sufficient coverage of ophthalmologists statewide prior to the bill introduction in Kentucky, its enactment over a decade ago has not expanded rural access to these procedures in any statistically significant manner. After a thorough analysis of Medicare claims data, peer-reviewed research has shown that despite expansion of laser privileges to Kentucky optometrists, ophthalmologists continue (as they had prior to 2011) to serve an overwhelmingly higher percentage of the population for these procedures. This conclusion comes as no surprise considering there are only about 33 optometrists statewide performing these procedures, and most of them are in our populous urban cities like Louisville and Lexington.

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Kentucky Academy of Eye Physicians and Surgeons

John Franklin, M.D., President

Ryan Smith, M.D., President-Elect

Benjamin Proctor, M.D., Secretary/Treasurer

Benjamin Mackey, M.D., Immediate Past President

You may also be told by supporters of HB 349 that malpractice insurance premiums have remained flat for optometry since being allowed to perform surgery. This is in no way indicative of whether these procedures are safe for them to perform. The stability of optometric malpractice rates is proportional in nature. The majority of optometrists in the United States do not perform laser and incisional surgery. A statistically miniscule number of individuals performing these procedures on and around the eye will yield a very small number of opportunities for malpractice as compared to the rest of the entire profession. Therefore, this will have a minimal impact on insurance rates—for now. This does not mean that the procedures are safe for optometrists to perform, but rather there are statistically so few of them doing these procedures which in turn, does not expand access to any significant degree. Allowing providers with substandard training to perform surgery on and around the eye is not in any way an increase in “access” to safe quality surgical eye care for rural America.

There is nothing “simple” or “minor” about eye surgery and that is why an ophthalmology resident-in-training spends three years diagnosing, treating, and operating on live patients with real conditions under direct one-on-one supervision of an attending ophthalmologist after completing medical school. Regardless of what proponents of HB 349 may imply, there are frequent complications when it comes to surgery, and it takes the proper level of medical education and training to immediately handle those complications as they arise.

For example, a critical rescue procedure for managing an eyelid bleeding complication simply cannot be experienced in an optometry school, especially given that 23 out of the 25 U.S. schools of optometry are located in states where optometrists are legally prohibited from performing laser surgery. This translates to 95% of optometry students attending schools where optometrists are prohibited from performing laser surgery on live patients. One cannot possibly learn how to become an eye surgeon and manage surgical complications with such an inadequate training curriculum. That’s why medical school, internship, and surgical residency exist and are vitally important components of surgical eye care.

In the interests of patient safety, we do not want to see the state of New Hampshire make the same mistakes as the Commonwealth of Kentucky—mistakes which have led to increased costs for patients, threats to their vision, and no meaningful increase in “rural access” to surgical eye care. We ask that you give our comments full consideration, and that you vote “no” on HB 349.

Sincerely,



John Franklin, M.D.
President



Ryan Smith, M.D.
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Statement on Optometric Malpractice Rates January 30, 2019

OMIC currently insures more than 5,250 ophthalmologists and more than 800 optometrists nationwide. During our 30+ years in operation, we have handled over 10,000 medical professional liability incidents and claims arising from the actions of the entire eye care team, from ophthalmologists to optometrists to technicians.

This statement addresses two issues that are frequently inquired about:

1. The stability of malpractice rates for optometrists; and
2. The complications that can arise from the performance of certain surgical procedures.

Insurance Premiums

Regarding the stability of optometric malpractice rates, the answer is very straightforward and is actuarial in nature.

- Most optometrists in the United States do not manage patients with complex ophthalmic conditions or perform laser and incisional surgery.
- Therefore, the number of “opportunities” for potential malpractice is relatively small, and such cases typically take three to four years to come to final adjudication.
- Without large numbers of cases having yet moved through the courts, there is little statistical information on which to base rate increases.
- This is particularly true compared to ophthalmologists who spend much of their time managing (including surgically) complex and sight-threatening cases and therefore have significantly more “opportunities” to incur malpractice allegations.

Surgical Complications

Regarding outcomes, every surgical procedure has associated potential complications. OMIC has drafted consent forms for most ophthalmic surgical procedures that explain the risks – or potential complications – for those procedures.

- For example, the consent form for laser iridotomy, which involves making a hole in the iris with the laser to treat narrow angle glaucoma, lists risks for this procedure that include:
 - Inflammation or bleeding in the eye,
 - Cataract formation, and
 - Damage to the cornea or retina from the laser light.
- All ocular surgical procedures have their own associated risks, including permanent loss of vision, even for surgeries seemingly as safe as draining a chalazion (an inflamed oil gland) of the eyelid.
- These complications cannot always be prevented, but the likelihood can be decreased by having a trained and skilled surgeon perform the procedure.



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OMIC is committed to risk management, loss prevention, and patient safety. To this end, we have implemented underwriting guidelines to ensure that coverage is extended to health care providers only for those procedures for which they have the necessary education, training, and expertise. For this reason, as well as the company's assessment that it does not have the experience to properly underwrite, rate, and administer claims arising from surgical procedures performed by optometrists, and the lack of data available on this liability risk, OMIC does not offer coverage to optometrists for most surgical procedures (exceptions being, e.g., limited forms of epilation, insertion of punctal plugs, and use of diagnostic lasers).

Timothy J. Padovese
President & CEO
Ophthalmic Mutual Insurance Company

Comparison of Outcomes of Laser Trabeculoplasty Performed by Optometrists vs Ophthalmologists in Oklahoma

Joshua D. Stein, MD, MS; Peter Y. Zhao, MD; Chris Andrews, PhD; Gregory L. Skuta, MD

IMPORTANCE Oklahoma is one of the few states where optometrists have surgical privileges to perform laser trabeculoplasty (LTP). Optometrists in other states are lobbying to obtain privileges to perform LTP and other laser procedures. Little is known whether outcomes of patients undergoing this procedure by optometrists are similar to those undergoing LTP by ophthalmologists.

OBJECTIVE To compare outcomes of LTPs performed by ophthalmologists with those performed by optometrists to determine whether differences exist in the need for additional LTPs.

DESIGN, SETTING, AND PARTICIPANTS This retrospective longitudinal cohort study used a health care claims database containing more than 1000 eyes of Medicare enrollees with glaucoma who underwent LTP in Oklahoma from January 1, 2008, through December 31, 2013. For each procedure, the data specify the type of eye care professional who performed the LTP. The rate of LTPs performed by ophthalmologists that required 1 or more additional LTPs in the same eye was compared with the rate of LTPs performed by optometrists. Regression models determined factors affecting risk of undergoing more than 1 LTP in the same eye.

MAIN OUTCOMES AND MEASURES Proportion of enrollees requiring additional LTPs, hazard ratio with 95% CIs of undergoing additional LTPs.

RESULTS A total of 1384 eyes of 891 eligible patients underwent LTP from January 1, 2008, through December 31, 2013. There were 1150 eyes that received LTP (83.1%) by an ophthalmologist and 234 eyes (16.9%) that had the procedure performed by an optometrist. The mean (SD) age at the initial LTP was 77.7 (7.5) years for enrollees with ophthalmologist-performed LTP and 77.6 (8.0) years for those with optometrist-performed LTP ($P = .89$). Among the 1384 eyes receiving LTP, 258 (18.6%) underwent more than 1 LTP in the same eye. The proportion of eyes undergoing LTP by an optometrist requiring 1 or more subsequent LTP session (35.9%) was more than double the proportion of eyes that received this procedure by an ophthalmologist (15.1%). Medicare beneficiaries undergoing LTP by optometrists had a 189% increased hazard of requiring additional LTPs in the same eye compared with those receiving LTP by ophthalmologists (hazard ratio, 2.89; 95% CI, 2.00–4.17; $P < .001$) after adjusting for potential confounders.

CONCLUSIONS AND RELEVANCE Considerable differences exist among the proportions of patients requiring additional LTPs comparing those who were initially treated by ophthalmologists with those initially treated by optometrists. Health policy makers should be cautious about approving laser privileges for optometrists practicing in other states until the reasons for these differences are better understood.

JAMA Ophthalmol. 2016;134(10):1-7. doi:10.1001/jamaophthalmol.2016.2495
Published online July 28, 2016.

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➤ CME Quiz at
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Evaluating Access to Laser Eye Surgery by Driving Times Using Medicare Data and Geographical Mapping

Jamie Shaffer, MS; Anand Rajesh, BS; Michael W. Stewart, MD; Aaron Y. Lee, MD, MSCI; Darby D. Miller, MD, MPH; Cecilia S. Lee, MD, MS; Courtney E. Francis, MD

IMPORTANCE Recently, several states have granted optometrists privileges to perform select laser procedures (laser peripheral iridotomy, selective laser trabeculoplasty, and YAG laser capsulotomy) with the aim of increasing access. However, whether these changes are associated with increased access to these procedures among each state's Medicare population has not been evaluated.

OBJECTIVE To compare patient access to laser surgery eye care by estimated travel time and 30-minute proximity to an optometrist or ophthalmologist.

DESIGN, SETTING, AND PARTICIPANTS This retrospective cohort database study used Medicare Part B claims data from 2016 through 2020 for patients accessing new patient or laser eye care (laser peripheral iridotomy, selective laser trabeculoplasty, YAG) from optometrists or ophthalmologists in Oklahoma, Kentucky, Louisiana, Arkansas, and Missouri. Analysis took place between December 2021 and March 2023.

MAIN OUTCOME AND MEASURES Percentage of each state's Medicare population within a 30-minute travel time (isochrone) of an optometrist or ophthalmologist based on US census block group population and estimated travel time from patient to health care professional.

RESULTS The analytic cohort consisted of 1 564 307 individual claims. Isochrones show that optometrists performing laser eye surgery cover a geographic area similar to that covered by ophthalmologists. Less than 5% of the population had only optometrists (no ophthalmologists) within a 30-minute drive in every state except for Oklahoma for YAG (301 470 [7.6%]) and selective laser trabeculoplasty (371 097 [9.4%]). Patients had a longer travel time to receive all laser procedures from optometrists than ophthalmologists in Kentucky: the shortest median (IQR) drive time for an optometrist-performed procedure was 49.0 (18.4-71.7) minutes for YAG, and the the longest median (IQR) drive time for an ophthalmologist-performed procedure was 22.8 (12.1-41.4) minutes, also for YAG. The median (IQR) driving time for YAG in Oklahoma was 26.6 (12.2-56.9) for optometrists vs 22.0 (11.2-40.8) minutes for ophthalmologists, and in Arkansas it was 90.0 (16.2-93.2) for optometrists vs 26.5 (11.8-51.6) minutes for ophthalmologists. In Louisiana, the longest median (IQR) travel time to receive laser procedures from optometrists was for YAG at 18.5 (7.6-32.6) minutes and the shortest drive to receive procedures from ophthalmologists was for YAG at 20.5 (11.7-39.7) minutes.

CONCLUSIONS AND RELEVANCE Although this study did not assess impact on quality of care, expansion of laser eye surgery privileges to optometrists was not found to lead to shorter travel times to receive care or to a meaningful increase in the percentage of the population with nearby health care professionals.

JAMA Ophthalmol. 2023;141(8):776-783. doi:10.1001/jamaophthalmol.2023.3061
Published online July 20, 2023.

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➕ Supplemental content

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