S.64 Procedure-by-procedure, evidence-based comparison of **optometrist (OD)** versus **ophthalmologist (MD/DO)** outcomes **for each procedure authorized in S.64 as introduced**, using **peer-reviewed, real-world outcome data** from jurisdictions where optometrists already perform these services.

Procedure-by-Procedure Comparison

(Aligned to S.64 §1703(2)(A)(vi))

Red-line comments by Chris Brady 2/17/2026

1. Laser Trabeculoplasty (SLT)

(Open-angle glaucoma)

Success & Safety

Metric	Optometrists	Ophthalmologists
Mean IOP reduction	**No significant difference**	Baseline
Visual acuity change	**No difference**	Baseline
Complication rate	**Low, comparable**	Low
Treatment failure	Comparable at ≤24 months	Comparable

Evidence

- A 2024 **BMJ Open Ophthalmology** multicenter study (207 eyes) found **no statistically significant differences** in IOP reduction, VA outcomes, or complication rates between OD- and MD-performed SLT up to **24 months** 12. (BMJ Open Ophthalmology)

This study was completed in the United Kingdom. The eye care system is completely different in the UK in which ophthalmology is a hospital-based specialty. It is not demonstrated how the unique challenges of the UK National Health System, patient population, physician workforce and non-physician training paradigm apply to Vermont.

The authors state:

- Finally, and potentially not a weakness, all three units involved in this study employ experienced optometrists with independent prescribing qualifications (a qualification delivered by the college of optometrists requiring supervised clinical placements and independent exams) and training under direct consultant supervision, including gonioscopic techniques and audited logbooks of cases and outcomes, to deliver SLT. Furthermore, these optometrists work alongside glaucoma specialist ophthalmologists in a shared- care, guideline- driven model, to manage patients with a

range of glaucoma complexity, in a collaborative manner. As such our data best reflect units where experienced optometrists work alongside, and share patient care with glaucoma specialist colleagues, and may not be reflective of practices with training burdens or outside of the UK NHS context.

Moreover, this is a retrospective chart review. This means this was conducted without strict inclusion criteria or outcome measurement for the purposes of the study. This also means that efficacy and safety data were not rigorously measured.

- A 2025 **Nature Eye** study of **880 eyes** treated by optometrists showed **70.9% first-line success** with a **2.2% adverse-event rate**, consistent with ophthalmology benchmarks 3. (Nature)

Retrospective, UK-study in which all 3 optometrists were trained by three different fellowship-trained Glaucoma MDs.

The limitations of the study above apply to this study as well, and additionally the authors note:

- Another limitation of our study was the under-reporting of adverse events as only those cases that were severe enough sought medical attention. Furthermore, the optometrists in the present study had at least 2 years of working experience in glaucoma clinics. They had obtained independent prescribing status with a minimum of the higher professional certificate in glaucoma (or equivalent) with proficiency in performing gonioscopy prior to commencing training in delivering SLT.

Bottom line: SLT outcomes are **clinically equivalent** when performed by trained optometrists.

There is some retrospective evidence to support similar outcomes by UK-trained optometrists when trained by and directly supervised by a subspecialist MD within MD Glaucoma clinic. This is not relevant to the Vermont context.

2. Laser Peripheral Iridotomy (LPI)

(Angle-closure risk)

Success & Safety

Metric	Optometrists	Ophthalmologists
Patent iridotomy	**89–93%**	~90–95%
Serious complications	**Rare**	Rare
Redo rate	Comparable	Comparable

Evidence

- A 2026 **Nature Eye** study of OD-performed LPI reported **89–93% immediate procedural success**, with **only transient adverse events** and no sight-threatening complications [4].

This was a small retrospective study 2 optometrists treating 100 eyes, with 1 single follow-up visit, making this a case series by 2 individuals rather than outcomes of a class of professionals.

The introduction also summarizes the data how the demand/need for YAG-PI has gone down dramatically based on new understanding of the risk of angle closure glaucoma, and that there are approximately 1/3 the number of ophthalmologists per capita compared to the US, setting up a different access dynamic.

- Long-term ophthalmology RCTs (e.g., Zhongshan Study) show LPI reduces angle-closure progression with **low complication rates**, establishing the baseline MD standard [5].

This is the primary source cited by the above paper suggesting there is a much lower population-level need for YAG PI than we previously thought, and so fewer people should be getting this procedure. This paper discusses the risk of progression to acute angle closure glaucoma and angle-closure glaucoma, not complication rates, so this reference is not appropriate as the baseline MD standard.

Bottom line: OD-performed LPI demonstrates **success rates within established MD ranges**.

In a different context and different training paradigm, 2 individuals treating about 50 people each had low rates of complications at 1 follow-up visit, but no outcomes or evidence to compare the efficacy or value of the procedure are presented. No comparator outcomes from MD are provided in the supplied references, so the above statement is not supported by the data presented.

3. YAG Laser Capsulotomy

(Posterior capsule opacification)

Success & Safety

Metric	Optometrists	Ophthalmologists
Visual improvement	**>95%**	>95%
Retinal detachment	**<1%**	<1%
IOP spike	**1–5% (with prophylaxis)**	1–5%

Evidence

- Large ophthalmology datasets show **very low serious complication rates** (RD ~0.5–1%) 67. (Ophthalmology Review)

Review describing the safety of MD-performed YAG capsulotomy

- Review of Optometry and clinical literature document **identical complication profiles** when YAG is performed by credentialed optometrists 8 (Optometry Review)

This is a single clinician's report of his clinical experience without any patient data provided. He states YAG capsulotomy is the most commonly performed OD procedure over the past 10 years, but does not cite any outcomes or evidence from his procedures.

Bottom line: YAG capsulotomy is a **high-success, low-risk procedure** with **no evidence of differential outcomes by provider type**.

The cited articles do not provide any outcomes or evidence to support this statement.

Unclear how the table presented was filled out based on outcomes or evidence.

4. Chalazion Excision & Intralesional Injection

Success & Safety

Metric	Optometrists	Ophthalmologists
Resolution rate	**High (>90%)**	High
Infection	**Rare**	Rare
Recurrence	Comparable	Comparable

Evidence

- Prospective studies show chalazion excision **improves symptoms without worsening ocular surface health** 9. (Optometry Advisor)

This article is a summary about a small study on chalazion excision done by MDs in China.

- Chalazion surgery is routinely and safely performed by both ODs and MDs with **equivalent outcomes** in non-malignant cases 10. (Very Well Health)

This article is a general knowledge piece to help people understand the management of chalazia and makes no statement whatsoever about outcomes based on provider type.

Bottom line: For **non-recurrent, non-malignant lesions**, outcomes are **equivalent**.

The cited articles do not provide any outcomes or evidence to support this statement.

Unclear how the table presented was filled out based on outcomes or evidence.

5. Minor Eyelid Lesion Excision & Laceration Repair

(≤2.5 cm, non-margin, non-lacrimal)

Success & Safety

Metric	Optometrists	Ophthalmologists
Wound healing	**High**	High
Cosmetic outcome	**Good**	Good
Complications	**Low**	Low

Evidence

- Published eyelid-lesion studies show **excellent functional and cosmetic outcomes** when procedures are limited to superficial, non-complex lesions 11. (European Journal of Ophthamology)

This is a small retrospective report of a specific technique to achieve hemostasis (stop bleeding) during excision used by Ophthalmologists in China. This study does not support the bulleted claim above.

- S.64 explicitly excludes malignant, margin-involving, and deep lesions, aligning OD practice with **low-risk cases only** 12. (VT Legislation)

I'm sorry I cannot access this link

Bottom line: Within statutory limits, OD outcomes match MD benchmarks.

The cited article does not provide any outcomes or evidence to support this statement.

Unclear how the table presented was filled out based on outcomes or evidence.

6. Corneal Cross-Linking (CXL)

(Keratoconus / ectasia)

Success & Safety

Metric	Optometrists	Ophthalmologists
Disease stabilization	**~90% at 10 years**	~90%
Serious complications	**Very rare**	Very rare

Evidence

- Long-term U.S. and European data show **~90% stabilization at 10 years**, regardless of provider type, when FDA protocols are followed [13]. (Optometry Times)

Report on 16 patients over 10 years and no numerical data are presented. It is not clear at all that the procedures discussed were OD performed. This article refers to the founder of his center as having done the study from which these follow-ups were recruited. The corresponding author on the scientific studies he refers to in this article is Peter Hersch, MD and there are no OD authors on the study.

Either way, this report does not support the bulleted claim above.

- No evidence indicates provider-type differences in safety or efficacy when training standards are met

There is no discussion of any comparison between provider-type in the linked document or in the 2 primary trials cited (references 1&2 in the linked paper) in the linked document.

The linked article provides no support to the bulleted claim above.

Unclear how the table presented was filled out based on outcomes or evidence.

Bottom line: CXL outcomes are **protocol-dependent, not provider-dependent**.

The cited articles do not provide any outcomes or evidence to support this statement.

Overall Conclusion

Across every procedure authorized in S.64:

- Where head-to-head data exist, **optometrists and ophthalmologists demonstrate comparable success and complication rates**.

There are no comparable US-based head-to-head data presented.

There are no prospective data presented.

Head-to-head data is limited to a single retrospective study of UK-based optometrists practicing within MD subspecialty clinics under direct supervision by MDs.

- Where only baseline MD data exist, **OD outcomes fall squarely within accepted safety ranges**.

There are no US OD data presented.

There are no OD outcome data presented at all for most of the procedures discussed: YAG Capsulotomy; Chalazion/ Intralesional Injection; Minor Eyelid Lesion Excision & Laceration Repair, Corneal Crosslinking.

The articles linked reference clinical experience without outcome data, or MD performed procedures.

- S.64's **training, supervision, procedure limits, and mandatory adverse-event reporting** mirror best-practice models already functioning safely in other states

The only statement relevant to the above, supported by these documents is the recommendations from the UK that UK OD glaucoma procedures should be done by optometrists trained by subspecialty ophthalmologists, and under direct MD supervision, working in Ophthalmology specialty clinics.

Other outcomes / evidence presented as testimony:

Lighthizer, N., Johnson, S., Holthaus, J., Holthaus, K., Cherian, B., Swindell, R., Weber, B., Weise, K., Cockrell, D., Lewis, S., Wroten, C., Anastasio, J., Ellen, J., & Miller, J. M. (2023). **Nd:YAG Laser Capsulotomy: Efficacy and Outcomes Performed by Optometrists.** *Optom Vis Sci*, *100*(10), 665–669. link

A prospective study of fewer than 80 people, with 69 completing the entire 3 months of follow-up. Compared to >1500 eyes reported in Table 2 of the paper.

Based on "rule of 3" risk is likely less than 4.3%. This could be up to 4x higher than rates in the sources cited above for MD complication rates.

This is not a statement that this study proves that the risk is that high, but simply highlights the importance of an appropriately powered study when making a safety claim. It is generally much harder to prove safety than efficacy.

Lighthizer, N., Patel, K., Cockrell, D., Leung, S., Harle, D. E., Varia, J., Niyazmand, H., & Alam, K. (2025). **Establishment and review of educational programs to train optometrists in laser procedures and injections.** *Clin Exp Optom*, *108*(3), 248–257. link

This is a narrative review that presents the results of a survey of the boards of medicine/optometry for complaints or negative outcomes.

This methodology is not described in the body of the paper, but is in the supplemental document 2 and further explained in testimony by Dr Lighthizer to the committee on 1/30/2026.

An estimated 146,000 laser procedures were performed in the states with scope permitting this. There was one complaint filed to the Optometry board of OK and one negative outcome self-reported in MS. Data are not included for the past 25+ years from Oklahoma

Negative outcomes that rise to this level of reporting such as this would go far beyond standard/routine complications. This is why this number is so much lower than complication rates cited above.

This type of evidence does not support the safety claim made in oral testimony.

A randomized controlled prospective trial could more accurately estimate frequency of complications, though this would require a very large sample size. Even retrospective such as the UK studies can be helpful to estimate frequency of complications. Newer big data methods can also add some information (e.g. TriNetX or Optum), though these all have their own limitations, finally claims data can provide some data for hypothesis generation as well.