



# Evaluation of the Virtual Introductory Summer Course in Ophthalmology (VISCO): A national ophthalmology review course for medical students

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## INTRODUCTION

Medical students report deficiencies in basic ocular disease management due to limited teaching time and a dense curriculum, which may result in suboptimal patient care<sup>1,2</sup>. The COVID-19 pandemic has amplified existing curriculum deficits<sup>3</sup>. While studies report that virtual education tools can be successfully used to teach preclinical and clinical ophthalmology content<sup>4-6</sup>, these tools have not been assessed or widely adopted in Canadian medical schools.

## AIM

To assess whether a virtual session-based course can effectively teach ophthalmology to Canadian medical students.

## METHOD

- The Virtual Introductory Student Course in Ophthalmology (VISCO) is a free online ophthalmology course developed by the Canadian Ophthalmology Student Interest Group (COSIG) and the University of Toronto's Department of Ophthalmology and Vision Sciences.
- Live sessions were held on Zoom and encouraged interactive learning through participation in live quizzes, hosted on Kahoot!.
- Participants had access to a structured reading guide consisting of open-access resources to enhance comfort with learning materials.
- Pre-course and post-course surveys and quizzes before and after each session assessed comfort with session topics.

Week	Session Topic
1	Part 1: Anatomy and Physiology of the Eye
	Part 2: Orbital Anatomy and Oculoplastics
2	Part 1: Pediatric Ophthalmology and Optics
	Part 2: Cornea and Refractive Surgery
3	Part 1: Cataract and Glaucoma
	Part 2: Retina and Uveitis
4	Neuro-Ophthalmology
5	Basic Interpretation of Optical Coherence Tomography
6	Review of Eye Emergencies

Table 1. Course schedule

## RESULTS

- 353 participants completed the pre-course survey, and 136 (38.5%) completed the post-course survey. There was representation from 16 Canadian medical schools.
- Participants attended an average of 4.69 (SD = 2.99) sessions. Attendance at each session ranged from 49 to 116 participants.
- Participants' overall confidence rating in ophthalmology topics increased by 1.05 [95% CI: 0.90, 1.20] (3.03 to 4.08,  $p < 0.001$ ), with significant increases for every individual topic ( $p < 0.001$ ).
- Mean overall quiz scores improved by 35% [95% CI: 31%, 39%] (43% pre-session vs 78% post-session,  $p < 0.001$ ), with significant improvement in quiz scores after each session ( $p < 0.001$ ).
- Qualitative feedback identified interactivity, course content, and teaching quality as strengths of VISCO; and suggested that future courses include more learning resources and flexible session timing.

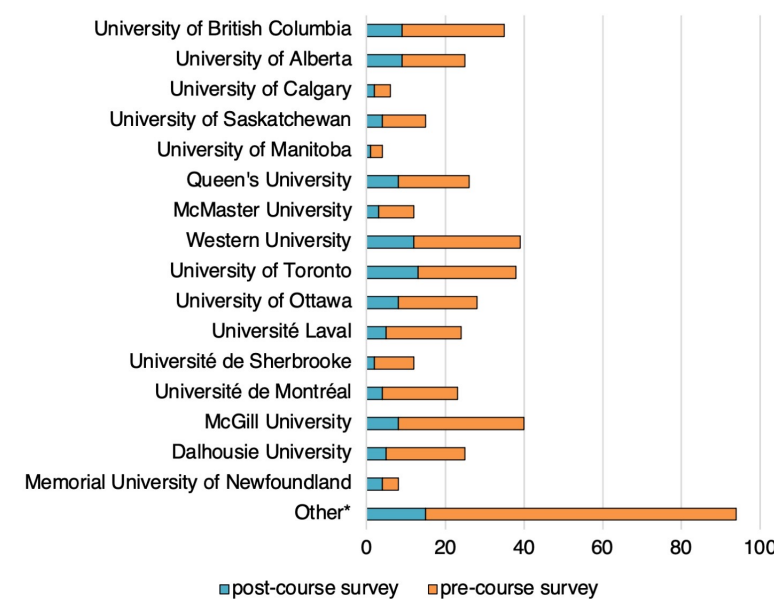


Figure 1. Number of participants by medical school.

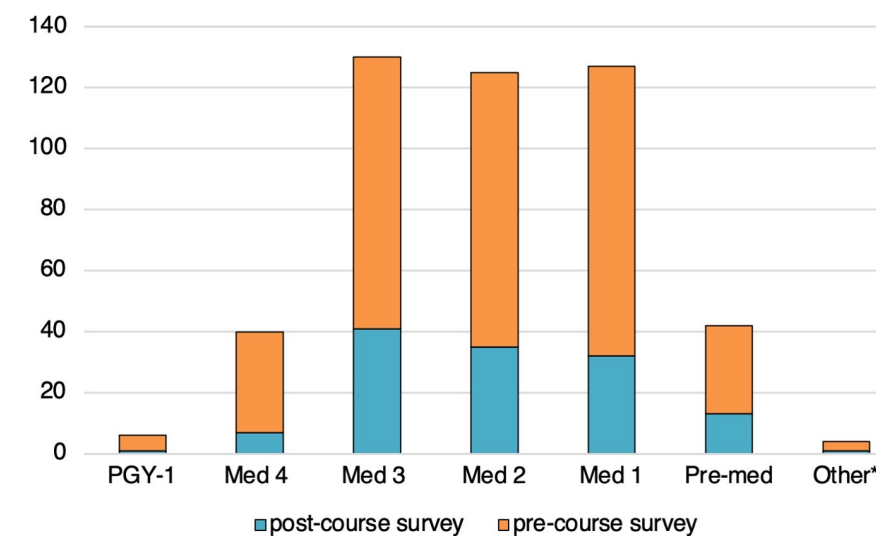


Figure 2. Number of participants by class.

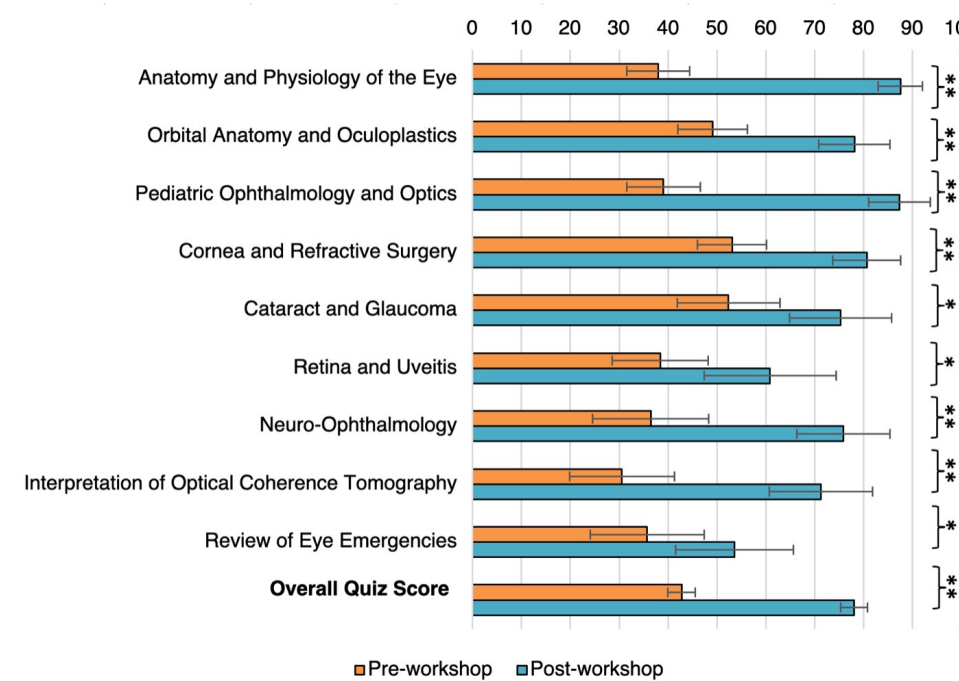


Figure 3. Average pre- and post-session quiz scores. \* $p < 0.05$ , \*\* $p < 0.001$

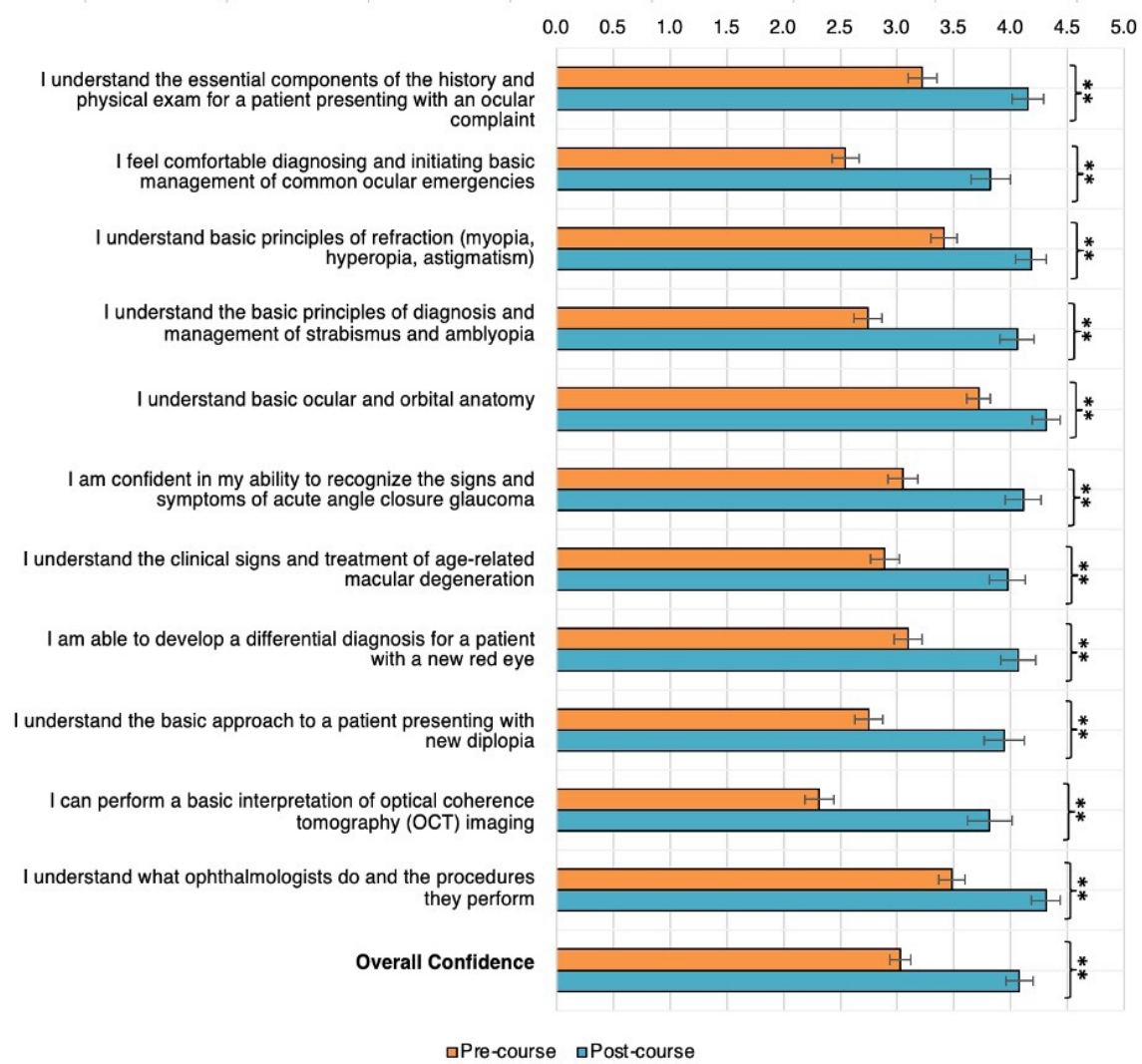


Figure 4. Reported level of confidence with different ophthalmology topics. \* $p < 0.05$ , \*\* $p < 0.001$

## CONCLUSIONS

- VISCO is an effective method of teaching ophthalmology to medical students.
- Virtual learning may act to supplement in-person medical school curricula in ophthalmology during the COVID-19 pandemic and thereafter.
- Future studies should assess long-term retention of virtual course content.

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