Scientific Poster 316

Unpredictability of Femtosecond LASIK Enhancement Following Femtosecond Intrastromal Arcuate Incision With Cataract Surgery

*Presenting Author: James C Loden MD**

Purpose: To report adverse event of iatrogenic astigmatism induction of over 6 D after uncomplicated femtosecond LASIK. **Methods:** Retrospective case review with video of LASIK enhancement procedure and intrastromal incision gape. **Result:** LASIK enhancement resulted in iatrogenic astigmatism induction of greater than 6 D with the axis being flipped and a loss of 1 line of BCVA. **Conclusion:** This case suggests PRK may be preferable to LASIK enhancements after intrastromal arcuate incisions as the overlying intact Bowman membrane provides significant incision stability.

Scientific Poster 317

eCME and Ophthalmology: The Toronto Visiting Professors Rounds Series

*Presenting Author: Zaid Mammo MD**

*Co-Author(s): Wai-Ching Lam MD**

Purpose: To assess how the Toronto Visiting Professors Rounds Series (TVPRS) influences the knowledge, perceptions, and practice patterns of Canadian ophthalmologists. **Methods:** Online surveys, utilizing multiple choice and reflection questions, were administered before and after online viewing of the University of Toronto Ophthalmology grand rounds as screencasts. **Results:** At 6 months, 124 users registered and watched 429 screencasts. Most participants found TVPRS to be organized and user friendly. Mean pre-screencast knowledge score was 65% vs. 89% post-screencast ($P = .002$). Post-screencast, 73% replied in favor of changing future practice. **Conclusion:** TVPRS was well received, with demonstrated knowledge gain and practice change. The long-term applicability of the results requires more research.

Scientific Poster 318

APAO Central Retinal Thickness and Refractive Power After Epiretinal Membrane Surgery

Presenting Author: Mao Kusano MD PHD

*Co-Author(s): Kiyoshi Suzuma MD, Eiko Tsuiki DOMS, Masafumi Uematsu MD, Takashi Kitaoka MD***

Purpose: To evaluate central retinal thickness (CRT) and refractive power following epiretinal membrane (ERM) surgery. **Methods:** In this prospective study, CRT and refractive power were evaluated in 20 eyes after cataract surgery with simultaneous vitreous surgery for ERM. **Results:** The mean CRT before surgery was 410.5 ± 80.9 µm and decreased after surgery. The mean difference between the predicted and actual postoperative refractive power within 2 weeks after surgery was -0.17 ± 0.55 D, and a gradual decrease in myopic shift was observed. A positive correlation was observed between CRT before surgery and postoperative refractive power within 2 weeks after surgery ($P < .05$). **Conclusion:** These findings suggest that CRT before surgery is a useful prognostic indicator for refractive power after ERM surgery.

Scientific Poster 319

APAO Anterior Vitrectomy at the Time of Cataract Surgery: A Whole-Population Study of the Incidence and Consequences

*Presenting Author: Jonathon Q Ng MBBS**

*Co-Author(s): Antony Clark MBBS, Nigel Morlet MBBS**

Purpose: To determine the incidence and long-term outcomes of anterior vitrectomy at the time of cataract surgery. **Methods:** Data linkage identified all cataract operations requiring anterior vitrectomy and occurrence of sight-threatening complications. Cases were validated using hospital medical record. **Results:** Of 129,982 cataract operations, 1342 (10%) required anterior vitrectomy. There were 2 peaks in incidence, the early 1980s and early 1990s. A sight-threatening complication occurred in 11% of cataract operations requiring anterior vitrectomy. **Conclusion:** Sight-threatening complications are more likely after operations requiring anterior vitrectomy. Anterior vitrectomy rates mirror learning curves associated with the adoption of new surgical techniques.

Scientific Poster 320

Calculation of Intraocular Lens Power After Laser Vision Correction Using a New Clinical Method Compared to Other No-History Methods

Presenting Author: Andrea I Zambrano MD

Co-Author(s): John G Ladas MD, Alisa Kim MD, Kimberly Pratzer COT, Oliver Douglas Schein MD, Kyle Huyn, Beatriz Munoz MSC, Walter J Stark MD*, John D Gottsch MD, Yassine J Daoud MD*

Purpose: Evaluation of a new method for IOL power calculation after LASIK/PRK for myopia in the absence of clinical history. **Methods:** Seventy-eight eyes of 60 patients with cataract surgery between 2002 and 2011. Flattest Km and a target refraction of -1.2 D were used for IOL calculation. Mean predicted refractive error (MPRE) and mean predicted IOL power error (MPIPE) were calculated and compared to Shammas and Haigis-L. **Results:** MPRE for the Flattest Km methods was -0.06 ± 1.2; Haigis-L, 0.3 ± 0.9; and Shammas, -0.01 ± 0.9 ($P < .001$). MPIPE were -0.1 ± 1.5, 0.5 ± 1.2, and 0.08 ± 1.2 ($P < .001$), respectively. **Conclusion:** Mean refractive errors were within 1 D. The flattest Km methods resulted in less risk of hyperopia; hence it provides a possible alternative to the existing formulas.

Computers, Information Technology

Session One
Saturday and Sunday

Presenters for Posters 40 and 41 will attend their posters on Sunday, Nov. 11, from 11:00 AM to 12:30 PM.

Scientific Poster 40

★ Digital Devices Are Not Always Helpful Tools

Presenting Author: Javier A Jardon MD

Co-Author(s): Maria C Fernandez, Omar García MBBS, Luis A Serrano MD

Purpose: We evaluated the accuracy and precision of cell phone digital color tests. **Methods:** Fifty eyes with vision of 20/200 or better were tested using Ishihara plates from *Ishihara's Test for Colour Deficiency*, concise edition, 2001, and 2 digital media applications (appA and appB) installed to an iPhone4G. **Results:** When the book was compared to the digital appA no differences were found among answers ($P = .315$); in contrast, differences were found when the book was compared to the appB ($P = .0026$). When both digital tests were compared, differences among answers were found to be statistically significant ($P = .027$). **Conclusion:** Our study showed that appA has accuracy and precision comparable to the book, but appB was neither accurate nor precise. Portable devices are not always reliable methods of testing color vision.

Scientific Poster 41

APAO Application of Computational Means to Develop Acoustic Approach to Aid the Visually Impaired

Presenting Author: Pavan Kumar MS

Co-Author(s): Durgesh Kumar MBBS, Pankhuri Johari MBBS MS

Purpose: To develop an algorithm-based acoustic system. **Methods:** To utilize the stored information pattern of an event stored in destination neuron of brain. A head-mounted stereo camera, radar based technique was employed to identify moving and static objects. The common objects identified by interpreter and other things made their sense via characteristic acoustic signal. Multistaged information processing was done by artificial intelligence, ANN, and GA. A temporal distribution of audio bit pattern is to support stereo-acoustic approach. **Results:** Stereo-acoustic imaging approach is capable of reproducing 3-D stereo-acoustic frame. **Conclusion:** Two-way object recognition-interpretation via speaking device and acoustic signal provide firm steps to user.

* The presenter has a financial interest. ** The presenter has not submitted financial interest disclosure information as of press date.
No asterisk indicates that the presenter has no financial interest.
Up-to-date information is available in the Program Search on the Academy's website: **www.aao.org/2012.**