Coming in October is AAO and the annual Society of Military Ophthalmologists meeting. This will be the second year that SMO is giving an Ocular Trauma lecture and wet-lab at AAO. Please consider assisting with the wet-lab if you aren’t already. Contact LtCol Jon Ellis, SMO President, for additional details. There are additional ocular trauma and other symposia being presented by our colleagues so definitely go support them so we can continue to present these lectures. AAO considers past attendance and attendee critiques in deciding which lectures to continue.

Best Regards,
Kyle

Our schedule for the year:
Jan: Peds / Glaucoma
Feb: Retina / Comprehensive
Mar: Cornea / Neuro
Apr: Path / Plastics
May: Peds / Glaucoma
June: Retina / Comprehensive
July: Cornea / Neuro
Aug: Path / Plastics
Sep: Peds / Glaucoma
Oct: Retina / Comprehensive
Nov: Cornea / Neuro
Dec: Path / Plastics
Please pardon our progress! Recently, your SMO leadership renegotiated a contract with another contract management service company. We are now being managed by San Francisco Association Management Services (SFAMS). We have been planning this transition for the past few months, but nailing down the details of the contract took some time to make sure all of our needs would be met. Unfortunately, this puts us making a huge transition weeks before our annual meeting! For now, you can continue to register on smonet.net. We will continue to keep you in the loop as we make this transition! I hope to see you in San Francisco! It’ll be a fun night at ThirstyBear! We will start out with a happy hour with an open bar (beer and wine) while we socialize and have resident research discussions. Then for the second happy hour, our speakers will be Erin Seefeldt and Hoon Jung to give their advice/experience on transitioning to civilian practice while we dine on Spanish tapas. -Jon Ellis, President

President: LtCol Jon Ellis, USAF  
Vice-President: MAJ Gary Legault, USA  
Secretary: LCDR TJ Avallone, USN

**Perioperative Propranolol in Sturge-Weber Syndrome—Won Kim**

One of the great challenges in dealing with glaucoma in Sturge Weber Syndrome is that traditional filtration surgery, trabeculectomy and glaucoma drainage implants, are often complicated by a high rate of choroidal effusions both serous and hemorrhagic due to elevated episcleral venous pressure and choroidal hemangiomas. This group conducted a prospective study on the use of perioperative propranolol in conjunction with glaucoma surgery and compared them to historical controls. Patients received oral propranolol 2 mg/kg daily for 1 week before surgery and continued for 6 weeks after surgery. No prophylactic sclerotomies were performed with the glaucoma surgeries (which is done by some surgeons in anticipation of effusions forming allowing a pathway for them to drain). Only 1 of the 11 patients who received propranolol and underwent primary glaucoma surgery developed a peripheral choroidal effusion that did not encroach within the vascular arcades. By contrast 5 of 12 patients in the historical controls developed choroidal effusions. 3 eyes underwent repeat glaucoma surgery in the propranolol group and none of them developed sight threatening choroidal effusions within the vascular arcades. Whereas 5 of 6 eyes that underwent repeat glaucoma surgery in the historical control group developed massive choroidal effusions that required anterior chamber reformation. On the one hand, the study is severely limited and it’s hard to draw really convincing conclusions because the numbers are so small and the study group is being compared to historical controls. But for such a rare disease that has such a high rate of potentially serious complications with glaucoma surgery, it’s nice to be given some information on a relatively easy and benign medical adjunct that might decrease complication rates. Something I will definitely try if the opportunity presents itself.


[https://doi.org/10.1016/j.jogla.2019.03.006](https://doi.org/10.1016/j.jogla.2019.03.006)
Video Games: The Good & The Bad—Kyle Miller

I am very frequently asked by parents for my recommendations on screen time for their children. I usually refer to the AAP Guidelines (varies by age; <18mos none, 18mos-2yrs: watch with your child, 2-5yrs: 1hr max, 6 and up: consistent time limits); however, we have scant data on whether there is any benefit/harm to the eyes. The first study here shows the potential “bad” of video game use and the second looks at potential benefits to advancing video-game technology as a screening device. In the study out of Italy they found that children who played more than 30 minutes every day had higher rates of asthenopia, refractive errors and absence of fine stereovision compared to those who didn’t play as much. The authors state this may be evidence of a new entity: “Video Game Vision Syndrome”. I would caution that this study was not well controlled; however, asthenopia was reported in 85% of the video game group which even without comparison to a control group seems high for this patient population.

The second study related to video games is from a group that has done quite a bit of work in the field of vision screening and shows how video game technology can be of benefit. Dr. Arnold and his colleagues developed a vision screening device using a Nintendo 3DS handheld gaming device and in this study attempted to determine if it would provide a valid assessment. They reported that the device did provide a valid assessment of near vision in less than half the time of normal screening. Overall the device does appear to have good specificity for most tests it does lag a bit in its sensitivity in several areas. So not everything is bad with video games, but be aware of possible constellation of findings in our younger patients who are spending time with their games.


AWARDS

- Nominations for induction into the Society of St. Lucia are open year-round; however, SMO would like to be able to honor appropriate individuals during the Annual Meeting. Additional information can be found at the above link. Consider nominating those who have dedicated their careers to military ophthalmology.
Convergence Insufficiency in Adults—Kyle Miller

This is an article that was selected by the ABO as one of their quarterly questions articles and I thought that if they found it important the article was probably worth reviewing. One of the more common complaints I see in my clinic in the adult population is new onset convergence insufficiency (CI). This often presents as new difficulty with near work including diplopia or asthenopia. On examination the typical findings are an exotropia worse at near with a remote near point of convergence. This particular paper looked at all patients aged 19 years or older in Olmsted County, MN. They found that 118 patients were diagnosed with CI for an incidence of 8.44 per 100,000 residents. The median age at presentation was 68.5 years and slightly more than half were women. Their deviations measured 14 PD of exophoria or intermittent exotropia at near and 1.7PD at distance. The treatment choice in this cohort was mostly prism; however, some had orthoptic exercises and very few (4) underwent surgery. Overall convergence insufficiency is important to keep on the differential of adult patients presenting with new strabismus or complaints of new difficulty with near work.


https://doi.org/10.1016/j.ophtha.2014.12.010

Ganglion Cell Layer Loss Precedes RNFL loss—Jon Ellis

With emerging diagnostic equipment/modalities that can provide unprecedented levels of information, there are challenges in determining the best information to use to predict who is at risk of progression and which information should be used to accurately determine progression at the earliest possible moment to preserve the most vision possible. Marshall, et al published a study designed to investigate covariates that could help predict whether glaucoma progression would be detected at the optic disc or the macula. These groups were separated as those who showed progression at the macular ganglion cell-inner plexiform layer (mGCIPL) or the peripapillary retinal nerve fiber layer (pRNFL). The investigators took two baseline OCTs and required three OCTs that showed progression to identify the patient as having progression to minimize the effect of false positives due to test-retest variability of individual scans. Using the strict requirements, they decreased their pool from 1271 eyes of 686 participants to 808 eyes of 425 individuals. Of those, 271 eyes of 207 individuals showed progression. Of those that showed progression, 111 eyes of 80 participants showed structural progression on pRNFL first, 134 eyes of 108 participants showed progression on mGCIPL first, and 26 showed progression on mGCIPL and pRNFL at the same time. Looking at many factors, the most important associations arose to show where progression would most likely occur earliest. Individuals who had a maximal recorded pretreatment IOP less than 22 mmHg and an average baseline pRNFL thickness less than 80.5 microns were 2.91 times more likely to progress on mGCIPL first. Individuals with a pretreatment IOP of 22 mmHg or above with a baseline pRNFL of 80.5 microns or more were 3.6 times more likely to progress on pRNFL first. What this shows correlates with what we all see clinically. Those considered to have Normal Tension Glaucoma (NTG), have an IOP or 21 mmHg or less and tend to develop central visual field defects that appear earlier than what is seen in Primary Open Angle Glaucoma (POAG). Patients with POAG have IOPs greater than 21 mmHg and progress with peripheral visual field defects earlier. Yet, we screen both populations the same. What this paper adds is that for patients with NTG, setting a baseline macular ganglion cell analysis and following this instead of RNFL alone will allow earlier detection of glaucomatous progression whereas traditional OCT RNFL of the OCT remains sufficient for early detection of progression in POAG.


Recent publications by military authors:


If I missed your article please let me know so I can include it in the next issue!

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Please don’t hesitate to reach out with suggestions or comments to help improve this review.

CAPT Allan Steigleman performs an exam during Enduring Promise 2018 on the USNS Comfort. As of this printing, less than a year later, he is back out on the ship for a third time in as many years. (U.S. Navy photo by Mass Communication Specialist 1st Class Aaron Bewkes/Released)

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