



5 teaching tips

Thomas A Oetting
University of Iowa

No Financial Issues to Disclose

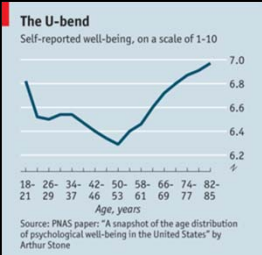
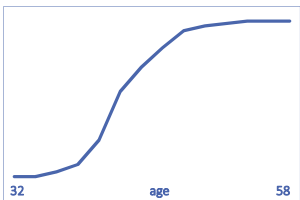


1
better to do some of a good case
than all of a bad case

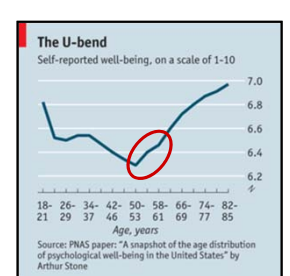
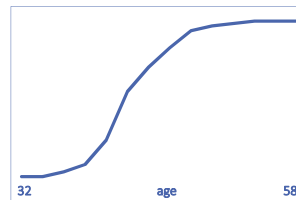
Likelihood Tom takes over case for a bit

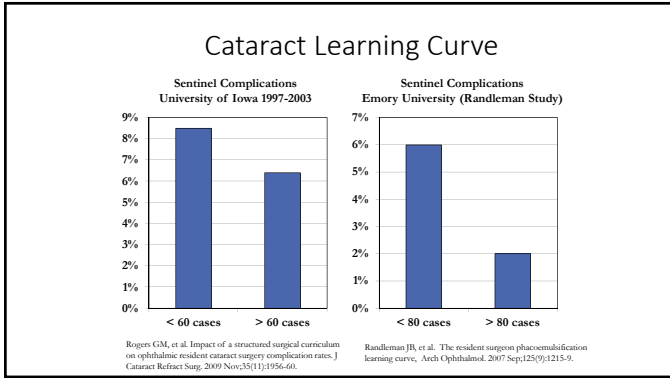


Likelihood Tom takes over case for a bit



Likelihood Tom takes over case for a bit





New Surgeon Outcomes and the Effectiveness of Training

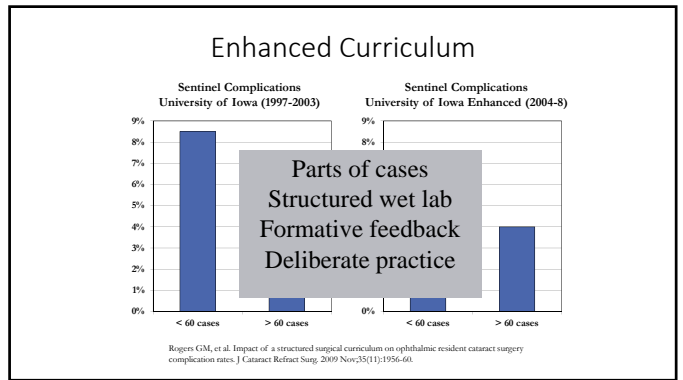
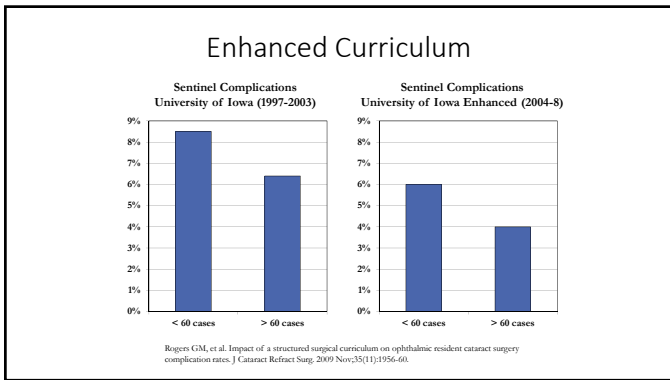
A Population-Based Cohort Study

Robert J. Campbell, MD, MSc,^{1,2,3,4} Sherif B. El-Difrawy, MD, PhD,^{1,2} Suleep S. Gil, MD, MSc,^{1,2,3} Mark E. Woodard, MSc,^{1,2} Eric de J.P. Campbell, MD, MHA,^{1,2} Philip L. Haeger, MD,^{1,2} Chuan M. Bai, MD, PhD,^{1,2,3,4} Martin van Heer, MD, MEng^{1,2}

Risk 9x
first year
out

Risk drops
10% per year
out

Purpose: Reports have questioned the technical proficiency of newly graduating surgeons. However, objective data supporting these concerns are limited. Surgical outcomes among recent graduates are an important indicator of residency programs' ability to graduate surgeons who are ready to meet the needs of their patients. This study aimed to investigate the association between a surgeon's number of years of independent practice and the risk of surgical adverse events.
Design: Population-based cohort study.
Participants: All patients 65 years of age or older undergoing isolated cataract operations in Ontario, Canada, between January 1, 1997, and December 31, 2013.
Methods: Cataract surgical outcomes for all operations performed by surgeons commencing practice in the study period were evaluated using linked health care databases.
Main Outcome Measure: Four serious complications were evaluated: posterior capsule rupture, dropped lens fragments, retinal detachment, and suspected endophthalmitis. Analyses controlled for patient-, surgeon-, and institutional covariates.
Results: The study evaluated 1,813,020 cataract operations. Surgeons in their first year of independent practice were more than 9 times more likely to have high complication rates (≥2%) than surgeons in their tenth year (odds ratio [OR], 9.8; 95% confidence interval [CI], 7.7-12.9). Each additional year of independent practice was associated with a 10% decrease in the risk of patients experiencing an adverse surgical event (OR, 0.90 per year of surgeon independent practice; 95% CI, 0.87-0.94).
Conclusions: In this population-based study, surgical complications were significantly more likely early in surgical careers. Interventions may be needed in postgraduate surgical training and early independent cases monitoring and mentoring processes to ensure patient safety while continually renewing the surgical workforce. *Ophthalmology*. 2017;124(6):528-538. © 2017 by the American Academy of Ophthalmology.
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Parts of cases – backing in

- 1st week fold IOL
- 2nd week insert IOL
- 3rd week insert IOL, remove OVD
- 4th week remove cortex, insert IOL, remove OVD...

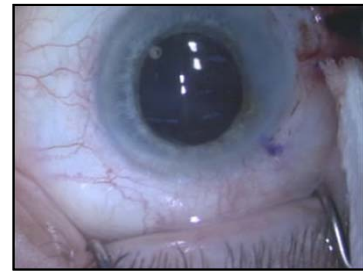
Parts of cases – backing in

- Takes about 20 cases to get AC depth
- Back part of case is safer for greenhorns

Parts of cases – one hand first



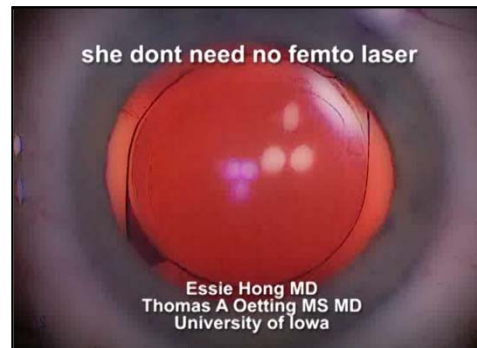
Parts of cases – join the dots



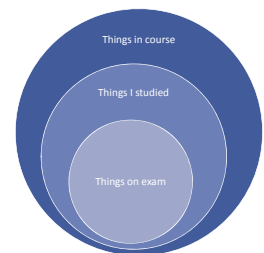
Deliberate Practice

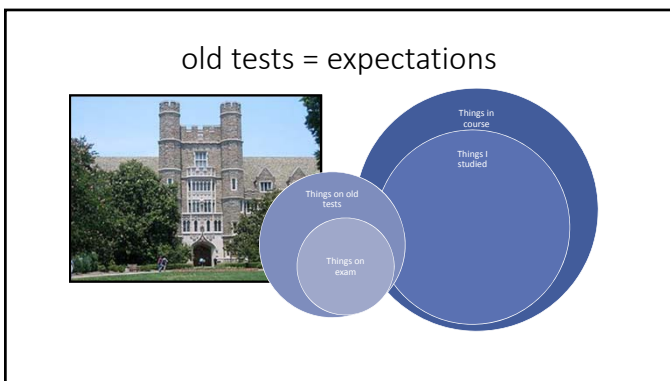
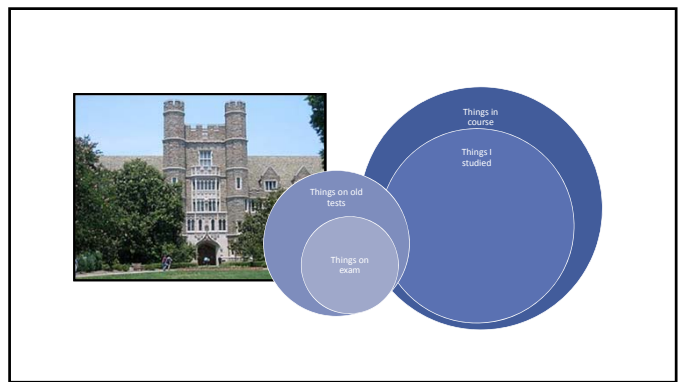
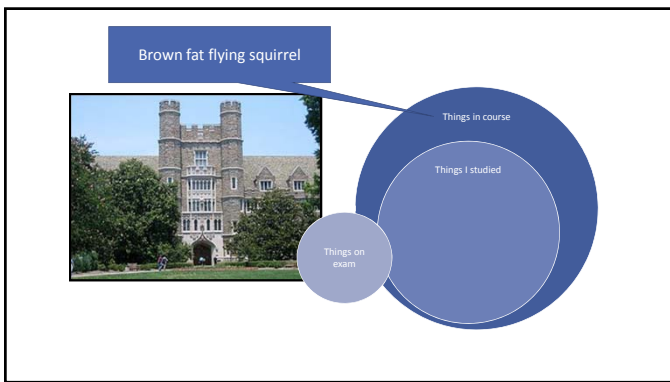
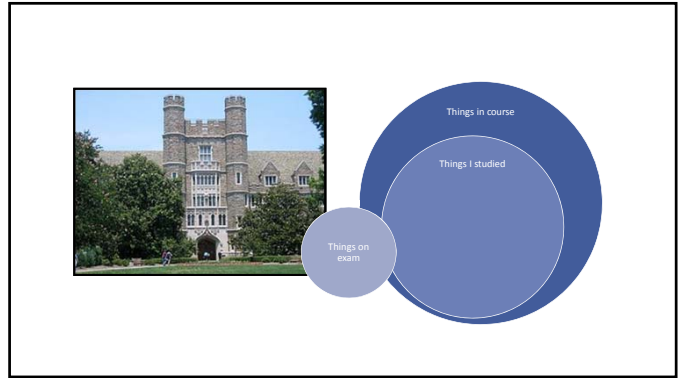
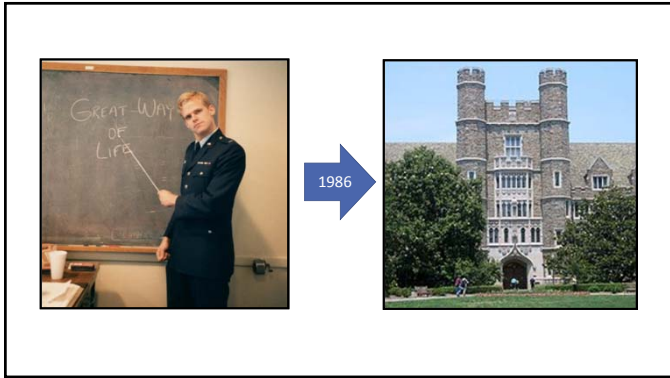


she dont need no femto laser



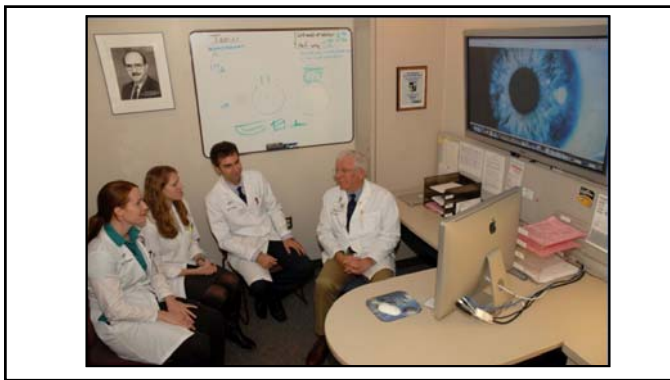
2
tell the people what you want





2
tell the people what you want

2
align expectation, assessments, resources



Set Developmental stages

Boy Scout stages

Set Developmental stages

| Stage | Characteristics | PGY Level |
|-------------------|--|------------|
| Novice | Has desire and not much else | Early PGY2 |
| Beginner | Has proven skills with the simulator/wet lab and can perform parts of cases with ample direction | Late PGY2 |
| Advanced beginner | Can slowly perform entire cases on his own but is not always adept at bimanually directing instruments within the eye | Late PGY3 |
| Proficient | Can perform cases with little help, is facile with both hands at directing instruments within the eye, and can handle most complications | Late PGY4 |
| Expert | Can perform routine cases almost without thought, can handle any complex cataract case or complication, and can develop new techniques | Alumnus |

Dreyfus Stages of Skill Acquisition. Getting TA, Lee AH... Teaching and Assessing ... OLSI 37(5):384-92

Set expectations for each Stage

Boy Scout Merit badges

Set expectations for each Stage

Beginner

- identify all instruments in VA cataract tray
- describe steps of phacoemulsification
- perform phaco in pig eye in wet lab
- fold and place IOL

Advanced Beginner

- perform 5 uncomplicated cases using 1 hand < 45min
- describe steps to convert to ECCE
- demonstrate ability to consent patient for cataract surgery

Set expectations for each Stage

Beginner

- identify all instruments in VA cataract tray
- describe steps of phacoemulsification
- perform phaco in pig eye in wet lab
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Advanced Beginner

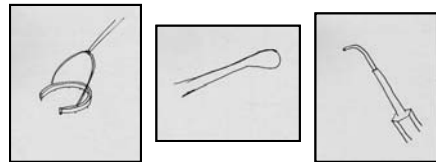
- perform 5 uncomplicated cases using 1 hand < 45min
- describe steps to convert to ECCE
- demonstrate ability to consent patient for cataract surgery

Developing resources

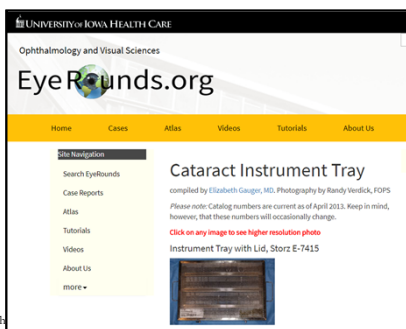
“know the name and purpose of every instrument on the cataract tray”



Residents develop resources

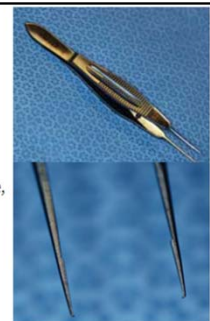


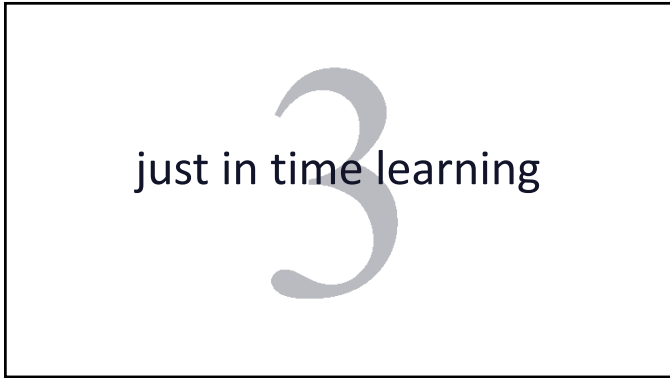
Paula Wynn Flash Cards



Forcep Thumb, Castroviejo .12 mm tissue
(aka .12 forceps)
catalog number: Storz E1796

Workhorse of ophthalmology; Holding sclera, fixing eye for suture, tying platform





CLASS NOTES

Shawen Earns a Bronze Star for Service in Afghanistan

U.S. Army Maj. Scott B. Shawen, MD/95, had been in Afghanistan for three months when a U.S. Army Special Forces helicopter arrived with an unusual patient: a pregnant woman with life-threatening ectopicgia.

Shawen, an orthopedic surgeon and his team—which also included a general surgeon and a nurse anesthetist—had limited knowledge about ectopicgia and very little experience performing C-sections. The woman was suffering seizures and the baby needed to be delivered right away.

The group consulted notes and watched a short online video about the surgery. Minutes later, they delivered a baby girl and saved the mother's life. It was one of the most rewarding experiences of Shawen's six-month deployment.

While Shawen's primary mission was to

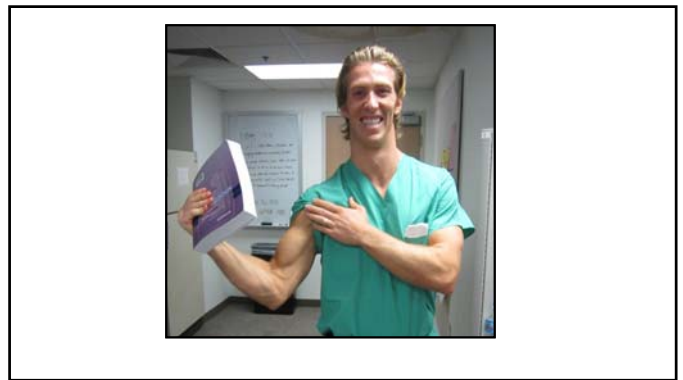
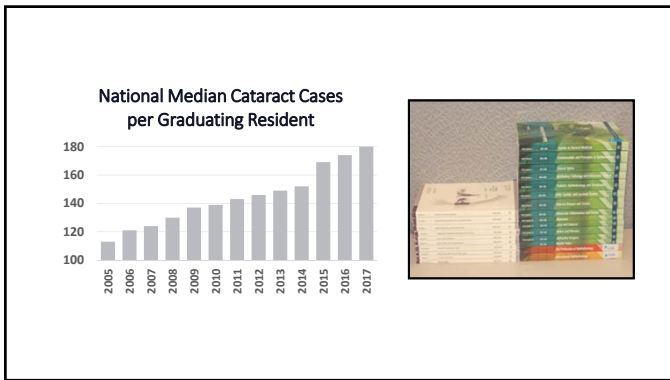
Scott Shawen and the baby he helped deliver and the other members of the surgical team performed more than 300 operative cases and took care of more than 1,000 patients in the clinic.

"We were there to provide as much humanitarian care as possible. I was extremely happy to be doing something in a humanitarian role."

Scott B. Shawen

While injuries occurred or torn off by doctors prior to surgery, the children often had nothing to wear once they left the hospital. "I was just amazed at how little they had," Shawen says.

Touched by the Afghan children's situation and looking for an Eagle Scout project, Shawen's 15-year-old son, Nick, decided to start a clothing drive. With help from his mother and four siblings (including 11,



Cataract Surgery @cataract.surgery

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little technique 1:16
little leeny little technique 2:10
Little too much lect 1:11

All Videos

early dropped lens 1:53
first too long then just right 2:04
cataracta biocapsular capture 2:10

4 simulated surgical eyes

- Traditional wet labs messy
- Use simulated eyes
 - Your OR
 - Your instruments
 - Your microscope

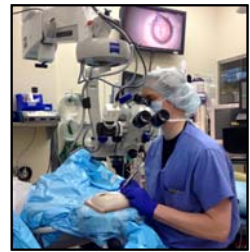


- Traditional wet labs messy
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Yamane practice on Simuleyes

- Traditional wet labs messy
- Use simulated eyes
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 - Your instruments
 - Your microscope



Nucleofractis practice on kitaro eyes

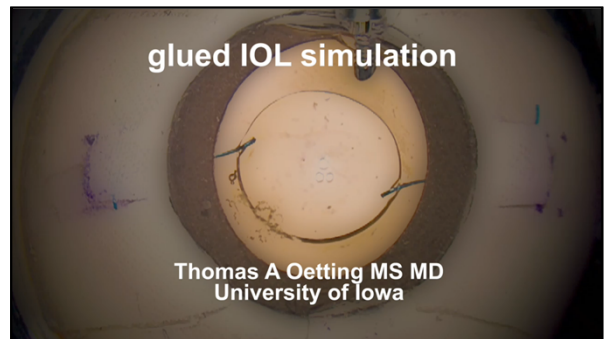
- Traditional wet labs messy
- Use simulated eyes
 - Your OR
 - Your instruments
 - Your microscope



capsule retractor practice on phillips eyes

glued IOL simulation

Thomas A Oetting MS MD
University of Iowa






Let's get efficient

Inefficient Training




Inefficient Training





AMERICAN ACADEMY™ OF OPHTHALMOLOGY

Integrating the Internship into Ophthalmology Residency Programs

*Association of University Professors of Ophthalmology
 American Academy of Ophthalmology White Paper*

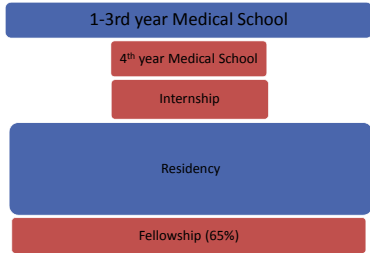
Thomas A. Oetting, MS, MD,¹ Eduardo C. Alfonso, MD,² Anthony Arnold, MD,³ Louis B. Cantor, MD,³ Keith Carter, MD,³ Oscar A. Cruz, MD,³ Steven Feklon, MD, MBA,³ Barry Mondino, MD,³ David W. Park, II, MD,³ Suzann Pershing, MD,³ Tara Uhler, MD,³ Nicholas J. Volpe, MD^{1b}

Future ophthalmologists will need to have broad skills to thrive in complex health care organizations. However, training for ophthalmologists does not take advantage of all of the postgraduate years (PGYs). Although the traditional residency years seem to have little excess capacity, enhancing the internship year does offer an opportunity to expand the time for ophthalmology training in the same 4 PGYs. Integrating the internship year into residency would allow control of all of the PGYs, allowing our profession to optimize training for ophthalmology. In this white paper, we propose that we could capture an additional 6 months of training time by integrating basic ophthalmology training into the intern year. This would allow 6 additional months to expand training in areas such as quality improvement or time for "mini-fellowships" to allow graduates to develop a deeper set of skills. *Ophthalmology* 2016;147:1-5 © 2016 by the American Academy of Ophthalmology.

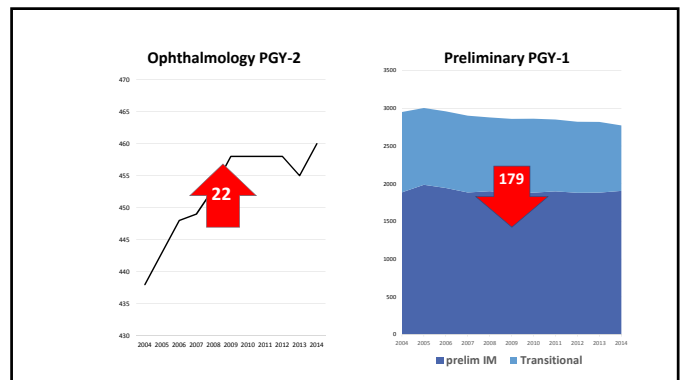
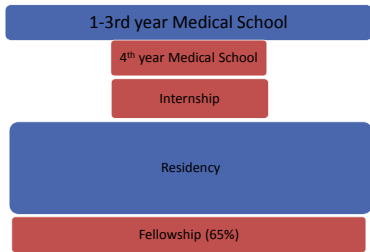
Ophthalmology Training

- 1-3rd year Medical School
- 4th year Medical School
- Internship
- Residency
- Fellowship

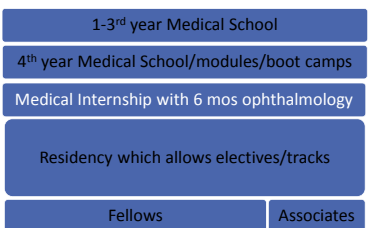
Ophthalmology Training



Ophthalmology Training



Ophthalmology Training 2.0



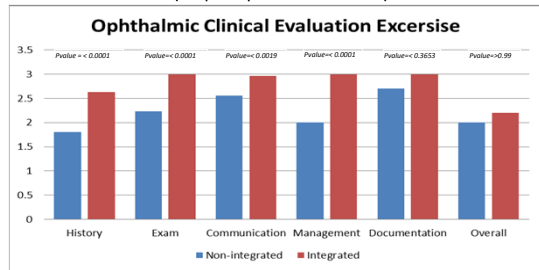
Iowa Integrated Ophthalmology internship

- 5 four week blocks of Ophthalmology
 - One intern at the VA (↑ about 5 pts/day)
 - One intern at the UI
- 8 four week blocks Internal Medicine
 - Rheumatology, endocrinology, ID, etc...
 - No units
- Meetings every 2 weeks with all interns
 - Prep for call
 - Examination and testing skills



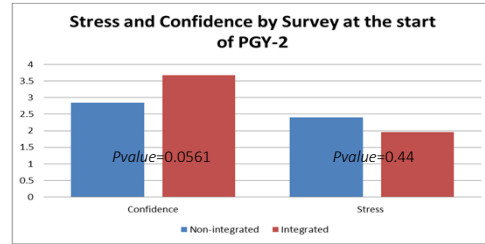
Intern Study OCEX Results

(Phillips et al presented at AUPO 2016)

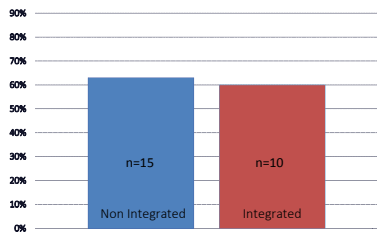


Intern Study Survey Results

(Phillips et al presented at AUPO 2016)



Iowa OKAP gen medicine



Internship integration

- Less unlearning
- Ease system fatigue
- Ease fatigue/stress of call
- All programs starting 2021
 - Integrated 4 year
 - Same site 3 year with prelim



bonus

captain of your ship

captain of your ship time

- Distributed elective
 - Half day every other week
 - About 7 weeks over 3 years
 - One anonymous survey
 - No judgement
 - None yet at the VAs



