Workshop Goals and Overview

- **Intended audience:**
  - Optometry Residents and students new to the annual meeting and scientific program
  - Candidates for Fellowship in the American Academy of Optometry
  - Experienced clinicians submitting materials to the scientific program
  - Industry representatives interested in presenting research and developments in the

1. What is the Scientific Program?
   - The AAO Scientific Program Committee
     - Members
     - Activities
   - Purpose: To facilitate the presentation of high quality research within the academy

2. What is required for a successful scientific program submission?
   - Anatomy of the scientific abstract
   - Industry related research
   - Scientific Case Reports
   - Top 5 reasons for rejected submissions

- **Specific Advice for:**
  - Student submissions
  - Clinical case report submissions
  - Industry sponsored research

- **Some resources for scientific writing**
  - Tips for reviewing the literature
  - Study design and clinical research
  - Publishing Scientific research

3. Questions and Discussion
What is the AAO Annual Meeting?

- Education Program
  - Clinical Continuing Education Program
  - Workshops and Symposia
  - Section Meetings
  - Ancillary meetings: OGS, OCRT, Dry eye, etc.
  - Resident’s day
- Scientific Program
  - Research Paper Presentations
  - Research Poster Presentations
- Special Interest Groups (SIG’s)
- Industry Exhibitions
- Social Events
  - College Receptions
  - Australia party
- Much more...
The Scientific Program

• The Scientific Program Committee
  – Mark Dunbar, OD, FAAO
  – Andrew Gurwood, OD, FAAO
  – Kristine Hopkins, OD, MSPH, FAAO
  – Ruth Manny, OD, PhD, FAAO (Chair)
  – Andrew Mick, OD, FAAO
  – Kelly Nichols, OD, MPH, PhD, FAAO
  – Michael Twa, OD, PhD, FAAO
  – Jeffery Walline, OD, PhD, FAAO

• Task
  – To facilitate the presentation of high quality research at the annual meeting
  – Review between 500-700 submissions annually
  – Accept 400-500 papers and posters for presentation at the annual meeting
    • Papers: 100-120
    • Posters: 300-400
Committee Expertise

- **Academic Affiliations**
  - 5 Different Optometric Institutions
  - The VA system
  - School of Medicine

- **Years of clinical practice**
  - More than 90 years of combined clinical practice

- **Years of NIH funded research**
  - Nearly 50 years of NIH support

- **Peer Reviewed Scientific Abstracts**
  - More than 450 published abstracts

- **Peer Reviewed Scientific Publications**
  - More than 320 publications

- **Years of service to the SPC**
  - More than 40 years of service to this committee

- **Collective Talents**
  - Anterior/Posterior segment disease, Pediatrics, Imaging, Optics, Refraction, Binocular vision, Refractive surgery, Glaucoma, Retinal disease, Dry eye, Animal models, Contact lenses, Orhto-K, Myopia development, Industry funded research, Clinical trials, Biostatistics, Epidemiology, Public health, Machine learning methods, Mathematical modeling, etc.

- **Consultants**
  - Supplement committee talents
Before You Begin

• Know your topic well...your reviewers will
• Use available tools for researching the background and significance
• Follow the submission instructions
• Seek the guidance of someone successful
What is Scientific Research?

- Novelty
  - New information
  - Unique problem
  - Fresh perspective
  - Novel and useful information
  - Innovative methods
- Systematic evaluation
  - Study design addresses proposed question
  - Methods are sound
    - Subject selection
    - Controls
  - Analysis is appropriate
- Interpretation of Results
  - Findings and Conclusions
Communicating Results of Research

• The scientific abstract
  – Scientific meetings
  – Conference publications
• Society Memberships
  – FAAO
• The Scientific Publications
  – Thesis
  – Dissertation
  – Peer Reviewed Manuscripts
The Explosion of Information and The Importance of Scientific Abstracts

- Proliferation of publications
- Information is inexpensive
  - Electronic formats
- Knowledge is more valuable
  - And more difficult to acquire

The Abstract
- Concise summary of most important concepts
  - Archived
  - Searchable
Information Overload
Shouting Above the Din
Information vs. Knowledge

- Finding information is relatively easy today
- Finding relevant knowledge is the challenge

- Title  (millions will see)
- Abstract  (hundreds of thousands)
- Manuscript  (thousands)
What does this have to do with Haiku?

Within plum orchard,
Sturdy oak takes no notice
Of flowering blooms.
—Basho

- Scientific Abstracts are a similarly Restrictive format
- Requires concise and structured writing

Communicating
Striving for understanding
Few will ever know
The Scientific Abstract

Abstract MadLibs!!

This paper presents a ________ method for ________ (synonym for new) ________ (sciencey verb) the ________ . Using ________, the (noun few people have heard of) (something you didn't invent) ________ was measured to be ________ +/- ________. Results show ________ agreement with theoretical predictions and significant improvement over previous efforts by ________, et al. The work presented here has profound implications for future studies of ________ and may one day help solve the problem of ________ (buzzword)

Keywords: ________ ________ ________ (buzzword) (buzzword) (buzzword)
Anatomy of an Abstract:
The Structured Abstract

Eye movement during laser in situ keratomileusis

PURPOSE: To measure eye motion in patients having laser in situ keratomileusis (LASIK) using a video technique and determine centration and variance of the eye position during surgery.

SETTING: Laser refractive surgery center.

METHODS: The procedure was videotaped in 5 consecutive eyes having LASIK performed by a single surgeon with the VISX Star S2 excimer laser. Following surgery, video images of the eyes were digitized and stored in a computer for processing. Digitized images were obtained at a rate of 25 images per second during the laser procedure. The pupil margin and a visual landmark, such as a scleral blood vessel, were identified in the initial image of each eye. Custom software was used to track the location of the landmark and the pupil center in subsequent images.

RESULTS: Three of the 5 eyes were well centered on average. The remaining 2 eyes were decentered inferiorly by approximately 0.25 mm. The standard deviation in all eyes was approximately 0.10 mm.

CONCLUSIONS: With these techniques, the position of the entrance pupil center relative to the excimer laser axis could be determined. Although the system is not fast enough to be used during surgery, it does allow quantification of centration and intraoperative motion after surgery.
Comparative study of corneal strip extensometry and inflation tests

Strip extensometry tests are usually considered less reliable than trephinate inflation tests in studying corneal biomechanics. In spite of the evident simplicity of strip extensometry tests, several earlier studies preferred inflation tests in determining the constitutive relationship of the cornea and its other material properties, such as Young's modulus and the hysteresis behaviour. In this research, the deficiencies of the strip tests are discussed and a mathematical procedure presented to take account of these deficiencies when obtaining the corneal material properties. The study also involves testing 10 pairs of porcine corneas using both strip extensometry and trephinate inflation techniques and the results are subjected to mathematical back analysis in order to determine the stress-strain behaviour. The behaviour obtained from the strip extensometry tests and using the new mathematical analysis procedure is shown to match closely the inflation test results.
Knowledge of detail
Bestowed as gifts to science
Stunning as diamonds
Suggestions for Scientific Abstracts

• Title
  – Should briefly state the question at hand
Suggestions for Scientific Abstracts

• Purpose
  – One to three sentences, maximum
  – Background information, if necessary
    • Concise statement of the problem and motivation for the study
  – State specific scientific purpose of experiment
    • Clearly identify the unique contribution of this research
    • This should relate to the results you will show
  – No citations
Suggestions for Scientific Abstracts

• Methods
  – Study Design
    • Retrospective / prospective
    • Case control / clinical trial
  – Describe only procedures used in abstract
    • The study may do 10 other things, but limit description of methods to what is stated in results
    • Corollary: Limit results to the most important study finding(s)
  – How measurements are quantified
    • Brief description of statistical methods used, if necessary
  – No IRB/consent information
Suggestions for Scientific Abstracts

• Results
  – Describe sample briefly
  – Describe results related to the primary question
    • one or two other important features if necessary
  – Include quantitative data (mean +/- SD)
  – Include statistics and p-value (Student’s t-test, \( p = 0.01 \))
  – Minimize non-standard acronyms and clinical jargon
    • IOP vs. CHRPE
Suggestions for Scientific Abstracts

• Conclusions
  – Must be appropriate for the data presented
    • Briefly summarize or interpret your most important result(s)
    • This is a bad place to introduce a new idea
  – One to two sentences typically suffices
  – Do not overstate the results
Good Abstract, Bad Abstract

Good

Knowledge of detail
Bestowed as gifts to science
Stunning as diamonds

Bad

Words is abstracts
They are not advertisements
Show me the data!
Title

Good

CLINICAL PERFORMANCE OF A PEROXIDE-BASED CARE SYSTEM AND A MULTI-PURPOSE CARE SYSTEM FORMULATED FOR USE WITH SILICONE HYDROGELS

Bad

CLEAR CARE OUTSHINES OPTI-FREE REPLENISH FOR USE WITH SILICONE HYDROGELS

Bad

Solutions and SiHys
Purpose

Good
To investigate the clinical performance of a peroxide-based care system (CIBA Vision ClearCare - CC) and a multi-purpose lens care system formulated for use with silicone hydrogels (Alcon Opti-Free Replenish - OFR), when used with two silicone hydrogel lens materials.

Bad
To compare solutions when used with silicone hydrogel contact lenses.

Bad
To show that Clear Care (CIBA Vision) is better than Opti-Free Replenish (Alcon) when used with silicone hydrogel contact lenses.
Methods

Good
This study was a daily wear, contralateral eye (lens), clinical trial, with a single-masked and randomized crossover (care system) design. Data were collected at 7 visits (baseline, 2wks and 4wks/phase). Subjects wore lotrafilcon B (O2Optix - O2) and senofilcon A (OASYS - OA) contralaterally, with 2wk replacement for each lens type. Assessments included biomicroscopy, graded in-eye lens wettability and graded front surface deposition (0-4 scales). Fluorophotometry was conducted at 2wks and confocal microscopy at 4wks. Subjective ratings, comfortable wearing times (CWT), and a “final preference” questionnaire were completed.

Bad
This study was a randomized clinical trial. Data were collected at 7 visits. Subjects wore lotrafilcon B (O2Optix - O2) and senofilcon A (OASYS - OA) contralaterally, with 2 week replacement for each lens type. Assessments included biomicroscopy, graded in-eye lens wettability and graded front surface deposition. Subjective ratings, comfortable wearing times (CWT), and a “final preference” questionnaire was completed.
Results

Good

Twenty-four subjects completed the study. Fluorophotometry, confocal microscopy, and corneal staining showed no difference between solutions (all \( p > 0.05 \)). CC resulted in significantly longer CWT than OFR (\( 10.75 \pm 1.71 \) vs \( 9.80 \pm 1.53 \) hours; \( p < 0.01 \)), however there was no difference in subjective comfort ratings (\( p > 0.05 \)). CC was preferred over OFR for maintaining clear vision (\( p < 0.05 \)), reducing end-of-day redness with OA (\( p < 0.01 \)) and for overall performance with O2 (\( p < 0.05 \)). Although perhaps not clinically relevant, wettability and deposition were better with OFR vs. CC for OA (\( 0.95 \pm 0.7 \) vs \( 1.42 \pm 1.0 \); \( p = 0.01 \) and \( 0.33 \pm 0.5 \) vs \( 0.60 \pm 0.7 \); \( p = 0.03 \), respectively) with no difference between solutions for O2 (both \( p > 0.05 \)).

Bad

Fluorophotometry, confocal microscopy, and corneal staining showed no difference between solutions. CC resulted in significantly longer CWT than OFR, however there was no difference in subjective comfort ratings. CC was preferred over OFR for maintaining clear vision, reducing end-of-day redness with OA and for overall performance with O2. Wettability and deposition were better with OFR vs. CC for OA, with no difference between solutions for O2.
Conclusions

Good
This study demonstrated that subjects preferred CC over OFR, and that CC resulted in a longer CWT, regardless of lens type. Slightly better graded wettability and fewer visible deposits seen on OA with OFR were not associated with longer CWT, suggesting that these investigator assessed measures do not predict comfort.

Bad
This study demonstrated that Clear Care is much better for silicone hydrogel contact lens wearers than Opti-Free Replenish because Clear Care results in longer wearing time.
Additional Comments

Good

Financial support was provided by CIBA Vision, Inc.

Bad

??
Case Report Haiku

Clinic is a lab
Patients small experiments
Saved vision results
Writing a Case Report is a Process:
It involves much more than just seeing a case!

Interesting / Unique Clinical Case
- Diagnosis is not in question
- Follow-up is sufficient to support conclusions
- Role in management is appropriate for authorship
- Relevant imaging, photography, test results available

Thorough Literature Review:
- Reassuring the diagnosis is correct
- Assessing extent of previous reporting
- Identification of previously unknown aspects

Greater likelihood of acceptance

Read submission requirements
- Clearly write the abstract emphasizing novelty
- Include all details reviewers will need for decision
- Check spelling / grammar
Top 5 Reasons for Rejection (2010)

Reason: (Frequency)

Lacking Novelty (86)
Inadequate Methods (20)
Unsupported Conclusions (18)
Incomplete or work too preliminary (17)
Duplicate submission topic (12)
Examples of Common Rejection Reasons

Lacking Novelty

Oral doxycycline in the treatment of posterior blepharitis

Case: A 56 year-old caucasian American male presented with a complaint of chronic red eyes and foreign body sensation. Examination was significant for rosacea skin changes, telangectatic lid margins, foamy tears, and capped meibomian glands. There was interpalpebral staining of the inferior cornea. A diagnosis of posterior blepharitis was made and 100 mg of oral doxycycline twice daily was started. Results: At the one month follow-up visit there was marked improvement in both signs and symptoms.
How do I know that my case is novel enough?

The concept of a “Gap Statement”

Does your case bridge a “gap” in our understanding of the anatomy, pathophysiology, epidemiology, or natural history of a disease?

Does your case bridge a “gap” in the current treatment options for a particular disease or use of a particular medication?

Does your case fill a “gap” in the knowledgebase of the community?

Make sure your abstract clearly delineates your “Gap Statement!”
Filling a gap?  Looking for novelty!
Rosacea: A Review.

Culp B, Scheinfeld N.

Ms. Culp is a fourth-year medical student at Texas Tech University School of Medicine in Amarillo, Texas. Dr. Scheinfeld is Assistant Professor at Columbia University and a dermatologist in private practice. He can be reached at 30 Central Park South, Suite 2D, New York, NY 10019 (212-991-6490).

Abstract

Rosacea is a chronic inflammatory condition of the facial skin affecting the blood vessels and pilosebaceous units. Rosacea is more common in persons of northern and western European descent with a fair complexion, but it can affect skin of any color. Although symptoms may wax and wane during the short term, rosacea can progress with time. Patients usually present with complaints of flushing and blushing and sensitive skin, and their skin may be especially irritated by topical preparations. Rosacea has a variety of triggers; however, they may be unnoticed by the patient. Standard treatments approved by the FDA include azelaic acid, topical metronidazole, and oral tetracyclines, in particular minocycline and doxycycline. Other topical treatments include topical clindamycin, subantimicrobial-dose doxycycline, and sulfur products. Azithromycin and controlled-release minocycline are possible options for treating rosacea, but the FDA has not approved either agent for this indication.

PMID: 19562004 [PubMed - as supplied by publisher] PMCID: PMC2700634 Free PMC Article

Related citations

- Treatment options for acne rosacea [Arch Dermatol. 2009]

All links from this record

Related Citations
References for this PMC Article
Free in PMC
Oral tetracyclines for ocular rosacea: an evidence-based review of the literature.
Resources are more available than you think!

Free Services:
- highwire.stanford.edu (Stanford)
- Clinicaltrials.gov (NIH)

Pay Services:
- visioncite.com (ICO)
- visionet.sco.edu (SCO)
- Loansome Doc (Through Pubmed)

Libraries in your community
- Public / private hospital libraries
- Public university medical libraries
- Optometry school libraries
Examples of Common Rejection Reasons

Inadequate Methods (Follow-up)

Betadine ophthalmic solution for the treatment of viral conjunctivitis

Case: A 32 year-old Asian female presented with unilateral diffuse conjunctival injection. She was currently suffering from an upper respiratory tract infection. There was a follicular conjunctival reaction. Corneas exhibited scattered sub-epithelial infiltrates. There was no preauricular node involvement. She was diagnosed with viral conjunctivitis. After anesthetic, three drops of topical 0.5% betadine were instilled in office followed by irrigation with balanced salt solution. The patient was scheduled to return in 48 hours.

Results: The patient did not show up for follow-up, but was contacted and reported improvement in her symptoms.
Examples of Common Rejection Reasons

Unsupported Conclusion (Diagnosis)

Case: A 56 year-old Caucasian male presented with complaint of distance and near blur. Best corrected vision was 20/70 OD and 20/150 OS. The central macula was significant for bull’s eye pattern of retinal pigment epithelial disruption. Electrophysiology testing was ordered and results are pending. Discussion: Cone-rod dystrophy is a progressive retinal dystrophy..........................
Examples of Common Rejection Reasons

Role in management insufficient for authorship

Case: A 72 year old Caucasian male presented with a complaint of a chronic red right eye. Examination of anterior segment showed an inflamed vascular lesion of the nasal conjunctiva that spread to involve the nasal cornea. He was diagnosed with an inflamed pterygium and started on topical 0.25% fluoromethalone. After one week there was no improvement, so he was referred to a local corneal specialist for evaluation of pterygium removal. One year later he returned for an update to his glasses prescription. He brought notes from the specialist detailing his diagnosis of ocular surface squamous cell carcinoma and subsequent treatment with surgical excision and topical mitomycin C. Discussion: Ocular surface squamous cell carcinoma is ..............
Examples of Common Rejection Reasons

Incomplete or work too preliminary

Topical Moxifloxacin vs. Polytrim in community acquired MRSA infection

Methods: Consecutive patients presenting with culture confirmed community acquired MRSA blepharoconjunctivitis were randomly assigned to either commercially available topical moxifloxacin or polytrim opthalmic solutions. Outcome measures were time to resolution of signs and symptoms. Results: Between January and July of 2010 a total of three patients with culture confirmed MRSA blepharoconjunctivitis presented to the clinic. Two were randomly placed on moxifloxacin and one on polytrim. At the 48 hour follow-up visit, the conjunctivitis had completely resolved in the polytrim patient but was still present in one of the moxifloxacin patients. Conclusion: Polytrim is more efficacious than moxifloxacin in the treatment of MRSA blepharoconjunctivitis.
Examples of Common Rejection Reasons

Duplicate Submissions

Case Report #1:
Spectral domain OCT of patient with adult onset foveomacular vitelliform dystrophy

Good Case. Unfortunately Rejected

Case Report #2:
Spectral domain OCT of three patients with AOFVD with accompanying fluorescein angiograms and fundus photos showing progression of lesions over ten years.

Same topic, but Better: Accepted
Make sure you clearly convey novelty!

Classic case of bull’s eye maculopathy in a patient taking hydroxychloroquine. Fundus photos and fluorescein angiography included.

Author did not clearly convey the novelty:
A case of bull’s eye maculopathy in a 160 pound woman taking the standard dose of 400 mg of daily hydroxychloroquine for only 3 months. She was concomitantly taking a systemic statin that labs confirmed was resulting in impaired liver function. Author hypothesizes impaired liver function resulted in abnormally high concentrations of plaquenil and led to retinal toxicity.

** On-line form has a place for authors to directly inform reviewers of desirable attributes of the case
Summary

The Scientific Programs Committee wants you to showcase your work!

Remember that published abstracts are a direct reflection of the academy.

Often reviewers are forced to reject for variety of discussed reasons.

You will go a long way toward acceptance if:

- Pick a case that you managed with sufficient work-up and follow-up.
- Go to the literature and thoroughly review topic. Think "Gap Statement".
- Read directions on academy website before writing.
- Make sure you write clearly and convey the novelty in your writing.
- Check for grammatical and spelling errors.

We look forward to reading your submissions next year!
QUESTIONS AND DISCUSSION
Resources

- AAO submission guidelines: http://www.aaopt.org/