

Advanced Retinal Imaging Workshop

APPLICATION FOR CEC CREDITS

Mount Snow Vermont September 18-20, 2008
Other dates and locations to follow

TITLE: "**ADVANCED Retinal Photography Workshop**"
APPLICATION FOR 21 HOURS JCAHPO / OPS CEC'S (1:1) Category A

- 2. Target Group:** Ophthalmic personnel **already performing** or reviewing fundus photographs and fluorescein angiograms.
- 3. Course Level:** Intermediate / Advanced – Students **must** have already begun doing angiograms.
- 4. Length of Course:** Course will be held over three days with 21 teaching hours.
- 5. Prerequisites:** A basic knowledge of fundus photography and fluorescein angiography
- 6. Course Description:** This course will teach the students anatomy of the posterior segments of the eye, common posterior segment abnormalities, the principles of angiographic procedures (including fluorescein and indocyanine dyes), injection techniques of fluorescein and indocyanine dyes by properly authorized medical personnel, potential dye reactions, digital and film imaging methods using various imaging cameras, the method for developing and printing black and white film, contact sheets and prints. The course review will cover stereo fundus photography, photo principles and step by step angiography. Lectures will cover descriptive interpretation of retinal vascular conditions, retinal pigment epithelial conditions, and choroidal conditions, and will review ethics in ophthalmic imaging.

Course Outline - 3 Days Total: 21 hours Category A

Advanced Retinal Photography Workshop - ‘The Why’ Course Outline - 3 Days Total: 21 hours Category A

Total Daily Continuing Education Credits:	Day 1	7.0 hours
	Day 2	7.0 hours
	Day 3	7.0 hours

**Day 1 Practical Photo Review / Photo Principles / Digital Imaging
7.0 Hours of Category A CECs for Day 1**

Section Leaders: James Gilman, John Michael Coppinger, Darrin Landry

8:15	Camera Anatomy Review : Comparative Camera Mechanics Fundus Camera Optics	0.5 Hour
8:45	Review of Artifacts (errors) in the Retinal Photo process Photographer Induced Patient Induced Errors specific to Angiography Artifacts of Digital Imaging	0.5 Hour
9:15	Camera Workshop Stereo Photography 7 Standard Fields	2.5 Hours
12:15	Lunch	
1:15	Anatomy and Physiology of the Posterior Segment Vitreous Internal Limiting Membrane Neurosensory Retina Retinal Pigment Epithelium Bruch's Membrane Choroid Proper Choriocapillaris Supra Choroid Sclera Optic Nerve Macula and Fovea	1.25 Hour
2:45	Posterior Segment Abnormalities Hemorrhage Exudate Occlusion Drusen Atrophy Nevus Edema Cyst Infarct Embolus Neovascularization Serous Detachment Colaboma Telangectasia	1.0 Hour
3:45	Digital Imaging Camera Computer and Printer Image Acquisition Image Manipulation Image Printing Image Storage	1.25 Hours

Day 2 Fluorescein Angiography / Slit Lamp for Intermediate Students
7.0 Hours of Category A CECs applied for Day 2

Section Leaders: James Gilman, John Michael Coppinger, Darrin Landry

8:15 Day 1 Review - The Camera and the Eye 0.5 Hour

8:45 Fluorescein Angiography Workshop 3.0 Hours
(with one 15 minute Break at 10:30)

Group divided into Black and White Film and Digital Imaging Sections
Photo assignments:

Patient Preparation
Perform Fluorescein Procedure with Patient
Expose Film or Create Digital Image File
Process Images in Darkroom or on Computer
Print / Output Images

5:00 End of Day 1

Fluorescein & ICG Angiography

1:15 Angiography: Principles I 1.25 Hour
Dyes – Fluorescein & Indocyanine Green
- Physical properties of dyes
- Filters and dye excitation

2:30 Angiography: Principles II 1.0 Hour
Side effects and potential reactions
Injection coordination
Sequencing the angiogram

3:30 Break

3:45 Angiography: Principles III 1.25 Hour
Practical Applications
Oral Angiography
Autofluorescence Photography

5:00 End of Day 2

Day 3 Descriptive Interpretation of Angiograms
7.0 Hours of Category A CECs applied for Day 3

Section Leaders: James Gilman, John Michael Coppinger, Darrin Landry

8:15 Descriptive Interpretation – Vocabulary 1.25 Hours

- Anatomy review
- Fluorescence
- The Normal Angiogram
 - Phases
 - Macular Angiogram
 - Peripheral Angiogram
- Abnormal Fluorescence
 - Hypofluorescence
 - Due to obstruction (blocked fluorescence)
 - Blood
 - Pigment
 - Ischemia
 - Due to filling defect
 - Vascular closure / nonperfusion
 - Delayed filling
 - Retrograde filling
 - Hyperfluorescence
 - Transmission Defect
 - Staining
 - Leakage
 - Pooling

9:30 Break

9:45 Descriptive Interpretation I– Retinal Vascular Conditions 1.25 Hours
 Fundus findings / Angiographic correlations

- Diabetic Retinopathy
 - Juvenile vs Adult
 - Progression of retinopathy
 - Background / Proliferative
 - Photographing laser treatment
- Vascular Occlusions
 - Arterial – branch and central
 - Venous Occlusions - branch and central
- Cystoid Macular Edema
- Acquired Immune Deficiency Syndrome
- Retinal Tumors
 - Retinoblastoma

11:00 Break

11:15 Descriptive Interpretation II – Retinal Pigment Epithelial Conditions 1.0 Hour
 Fundus findings / Angiographic correlations

- Drusen
 - Hard / Soft

- 5) Operate a computer and make digital images.
- 6) Identify the various anatomic structures of the posterior segment.
- 7) Recognize posterior abnormalities and diseases affecting these structures.
- 8) Improve their angiography techniques.
- 9) Develop and print fluorescein film based angiograms.
- 10) Acquire, save, manipulate and output digital based angiograms.
- 11) Explain the properties of fluorescein dye and potential complications.
- 12) Descriptively interpret the abnormalities recorded in fluorescein angiograms.

8. Teaching Methods: The course will utilize lecture and hands-on workshops. This course is designed as a self-contained, complete unit. Each section builds upon the previous one. Fundus cameras will be used to demonstrate each lesson, maximizing camera use. Students will be grouped by experience. Students will perform the same task in rotation in each group. Teams will compete with other groups to encourage student interaction. Students will be asked to dilate their non-dominant eye to serve as subjects during the workshops.

9. Faculty: (see enclosed master JMC Eye Photo faculty listing)

10. Course Brochure: sample enclosed

11. Course Evaluation Form : enclosed

12. Financial Interest: enclosed

13. Evidence of Attendance: enclosed

14. Handling Fee: enclosed