Basic Retinal Imaging Workshop

APPLICATION FOR CEC CREDITS

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

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

2. Target Group: Ophthalmic personnel who wish to learn to perform retinal fundus photography and fluorescein angiography.

3. Course Level: Basic. This course will teach students with little or no experience how to use a fundus camera and to perform retinal photography, stereo retinal photography and introduce them to fluorescein angiography.

4. Length of Course: The course will be held over three days and will include 21 teaching hours (see schedule below for breakdown of hours.)

5. Prerequisites: None.

6. Course Description: The basic level course is designed to teach all the necessary skills to perform retinal fundus photography, and introduce fluorescein angiography and film processing as it pertains to the above. It is also designed to teach the technique of stereo retinal photography. Course content includes anatomy and physiology of the eye, anatomy and design of the fundus camera, methods of dilation, photographic artifacts or errors , filter use in the fundus camera, the properties of fluorescein dye, injection of fluorescein dye by properly authorized medical personnel, potential reactions to fluorescein dye and proper medical management of such reactions, and introduce them visually to posterior segment abnormalities requiring fundus photography and fluorescein angiography. The course is Basic “how to do it”.

Course Outline - 3 Days Total: 21 hours JCAHPO Category A / OPS 1:1

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

Day 1 Retinal Fundus Photography

7 Hours of Category A CECs for Day 1

Section Lecturers: John Michael Coppinger, Darrin Landry, Denice Barsness

8:30	Anatomy of the Posterior Segment Basics	0.5 hour
9:00	Fundus Camera Anatomy	1.0 hour
	Mydriatic and Non Mydriatic Cameras	
	Optics	
	Illumination System	
	Image Capture Modes	
	Film – 35mm. / Polaroid	
	Digital	
	Mechanical Supports	
	Digital Imaging System	
10:00	BREAK	
10:15	Camera Operation STEP BY STEP	2.0 hours
	Preparation for Photography	
	Eyepiece Reticule	
	Computer Preparation	
	Camera Preparation	
	Patient Considerations	
	Patient Data Log Entry	
	Explanation of Procedure	
	Dilation	
	Positioning the Patient	
	Ocular Fixation	
	External Photography of the Eye	
12:15	Lunch BREAK	
1:15 – 5:00 pm	Dilated Fundus Photography Workshop (with one 15 minute BREAK at 3:15 PM)	3.5 hours
	Photo Assignments:	
	Review Eyepiece Setting	
	Wide angle posterior pole photo	
	Medium angle photo of Macula	
	High magnification photo of Optic Disc	
	Peripheral fundus photo	

Day 2 Retinal Anatomy / Stereo Photography

7 Hours of Category A CECs for Day 2

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

8:30	Review of Artifacts (errors) in the Retinal Photo process	1.0 Hour
	Photographer Induced	
	Patient Induced	

Digital Camera Artifacts
Errors specific to Angiography
Artifacts of Digital Imaging

9:30 Anatomy and Physiology the Posterior Segment 1.0 Hour
Vitreous
Internal Limiting Membrane
Neurosensory Retina
Retinal Pigment Epithelium
Bruch's Membrane
Choroid Proper
Choriocapillaris
Supra Choroid
Sclera
Optic Nerve
Macula and Fovea

10:30 Break

10:45 Posterior Segment Abnormalities 1.0 Hour

Hemorrhage	Cyst
Exudate	Infarct
Occlusion	Embolus
Drusen	Neovascularization
Atrophy	Serous Detachment
Nevus	Colaboma
Edema	Telangectasia

11:45 Using Filters in the Fundus Camera for Photography 0.5 Hour

12:15 Lunch BREAK

Stereo Retinal Photography

Section Lecturers : John Michael Coppinger

1:15pm Stereo Photography Principles / Stereo Images Show 1.0 Hour
Stereo Vision
Sequential Stereo Technique
Angiographic Stereo
Viewing Stereo

2:15 Break

2:30 Stereo Photography & 7 Fields Camera Workshop 2.5 Hours
Photo Assignment are :
Examine the Posterior pole with Green and Blue Light
Make 4 Stereo Pairs of a fellow students Optic Disk
- 2 pairs at Medium Magnification
- 2 pairs at High Magnification
Photograph and Montage 7 Standard Fields

Day 3 Introduction to Fluorescein Angiography
7 Hours of Category A CECs for Day 3

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

8:30	Day 2 Review Stereo Photo Evaluation	0.5 Hour
9:00	Fluorescein Angiogram Demonstration Step by Step	0.5 Hour
9:30	Fluorescein Angiography – I	0.5 Hour
	Explanation of procedure to the Patient	
	Side Effects and Potential Reactions	
10:00	BREAK	
10:15	Fluorescein Angiography – II	0.5 Hour
	Dyes – Fluorescein & Indocyanine Green	
	- Physical properties of dyes	
	- Filters and dye excitation	
10:45	Fluorescein Angiography – III	0.75 Hour
	Injection Coordination	
	Sequencing the angiogram	
11:30	Fluorescein Angiography – IV	0.75 Hour
	Black and White Film / Digital Imaging Processing	
12:15	Lunch	
1:15	The Angiogram : Step by Step Review	0.75 Hour
	The setup	
	The explanation	
	The injection	
	The sequencing of photos	
	The bookwork	
2:00	Mock Angiography Camera Workshop	2.75 Hours
	(2.5 Hours with one 15 minute Break)	
	Assignment : 1. Do a mock angiogram with faculty assistance and a fellow student acting as patient,	
	2. Critique of your technique by faculty member and fellow students	
5:00	Award Certificates Class Ends	

7. Instructional Objectives: Upon completion of this course, students will be able to :

1) set the reticule for a fundus camera use
2) create a computer patient record
3) make properly focused photographic images with a retinal fundus camera
4) photograph the ocular fundus using color film, black and white film and digital cameras
5) describe the basic anatomic components of the ocular posterior pole
6) recognize commonly photographed posterior segment abnormalities
7) produce stereo pairs of the retinal fundus as desired
8) use the various filters in the fundus camera to highlight abnormalities
9) prepare to perform fluorescein angiograms
10) develop the black and white film used for the angiogram or
or save, archive and print a digitally recorded angiogram
11) properly label and maintain the films, photos, CDs and associated patient records.

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