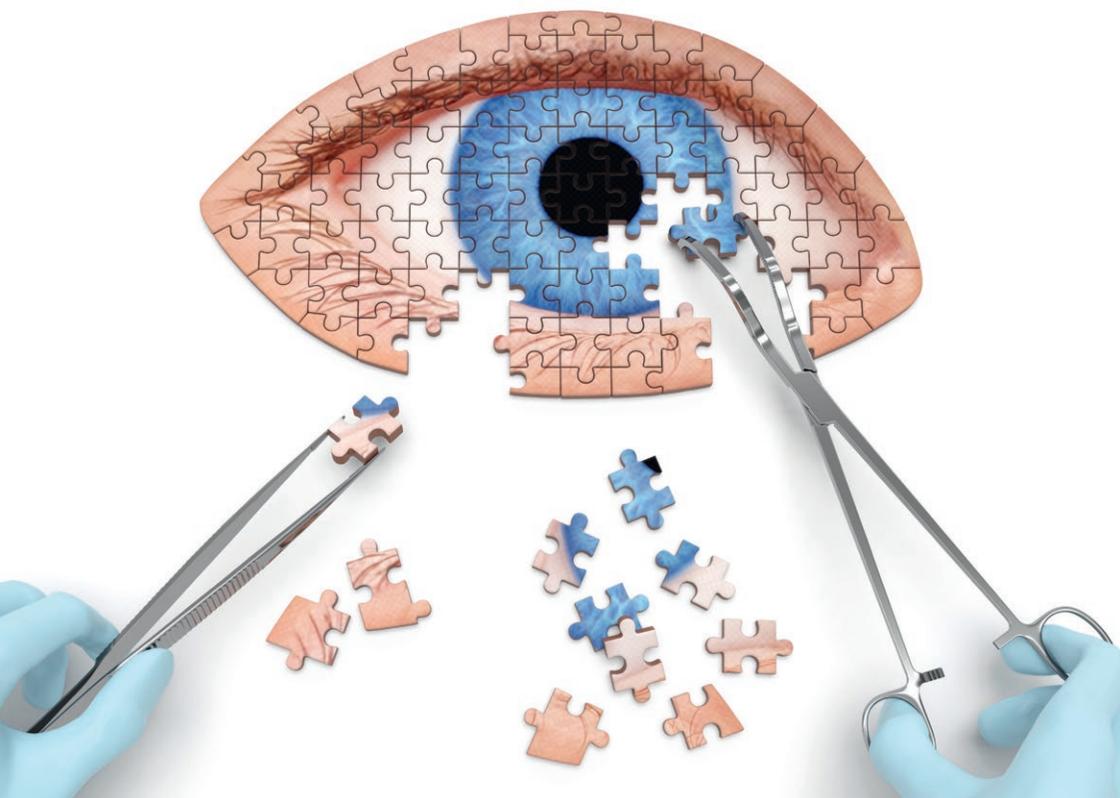


2019 HUG COURSE AND WET LAB: FUNDAMENTALS OF OPHTHALMIC MICROSURGERY

Saturday 26 and Sunday 27 January 2019

Centre Médical Universitaire, Rue Michel-Servet 1, Geneva



Hôpitaux
Universitaires
Genève

Presentation

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Course objectives

- ▶ Setting up the operating microscope
- ▶ Anatomic and physiologic bases of cataract surgery
- ▶ Preop preparation and positioning of the patient for routine intraocular surgery
- ▶ Aseptic technique in ophthalmic microsurgery
- ▶ 10-0 nylon suture handling
- ▶ Suturing conjunctiva and cornea
- ▶ Basics of biometry
- ▶ IOLs – Theory and practice
- ▶ Strategy phacoemulsification surgery part I
- ▶ Strategy phacoemulsification surgery part II
- ▶ Viscoelastics in the different steps of cataract surgery
- ▶ Phaco complications and anterior vitrectomy
- ▶ Introduction to Anesthesia including management of complications
- ▶ Phaco and I/A console settings and their effects
- ▶ Repair of lid skin lacerations
- ▶ Intravitreal injection technique

PDF handout will be emailed to participants before the course.

2019 Course Schedule

Saturday, 26 January

	Group 1	Group 2
8:00	Registration - Morning coffee	
8:20	Welcome and Course Objectives by Prof. Dr. G. Thumann	
8:30	Functions and set up of the phaco and I/A probes and console: industry's presentation	
9:00	Seminars 1-4	Wet Lab + Dry Lab
11:00	Wet Lab + Dry Lab	Seminars 1-4
12:20	Lunch	
13:30	Seminars 5-8	Wet Lab + Dry Lab
15:30	Wet Lab + Dry Lab	Seminars 5-8
16:50	Panel discussion	

Sunday, 27 January

	Group 1	Group 2
8:00	Questions and answers - Morning coffee	
8:30	Review of functions and set up of phaco and I/A probes, console, and trouble shooting: industry's presentation	
9:00	Seminars 9-12	Wet Lab + Dry Lab
11:00	Wet Lab + Dry Lab	Seminars 9-12
12:20	Lunch	
13:30	Seminars 13-16	Wet Lab + Dry Lab
15:30	Wet Lab + Dry Lab	Seminars 13-16
16:50	Questions and Course Evaluation	

Seminars

Saturday, 26 January, 2019

Morning Session

- 8:00 Registration – Morning coffee**
- 8:30 Functions and set up of the phaco and I/A probes and console – Industry**
- 9:00 Seminar 1: Setting up the operating microscope**
Set up protocols for first case of day and for each case. Bracing of hands and wrist rest. Surgeon position.
- 9:20 Seminar 2: Anatomic and physiologic bases of cataract surgery**
Lens size and hardness, incision location options, the zonule, Weiger’s ligament, IOP, positive vitreous pressure.
- 9h40 Seminar 3: Preop preparation and positioning of the patient for routine intraocular surgery**
Pupil dilation, position on the table, support of the head, head above the heart, anesthesia.
- 10:00 Seminar 4: Aseptic technique in ophthalmic microsurgery**
How to avoid postop endophthalmitis: prep, draping, draping of lashes and skin, no touch technique (instrument tips), pre-op and post-op prophylaxis controversy, intracameral antibiotic.
- 11:00 Wet Lab + Dry Lab**
The course is organized in two groups. One group will start with the seminars as outlined; the second group will start with the Wet Lab and have the seminars between 11:00 and 12:20. Group assignment will be done at the time of registration. During the Wet Lab participants have access to the microsurgery simulator to perform virtual surgery.
- 12:20 Lunch Break**

Afternoon Session

- 13:30 Seminar 5: 10-0 nylon suture handling**
10-0 nylon loading, suturing, tying, cutting. Burying of the knot. Pros and cons of suture elasticity.
- 13:50 Seminar 6: Suturing conjunctiva and cornea**
Perpendicular bites for cornea, depth of bites, tightness of sutures, closing corneal-scleral incisions/lacerations.
- 14:10 Seminar 7: Basics of Biometry**
How is IOL power chosen? Why is it important to get accurate axial length measurements? How axial length is best measured?
- 14:30 Seminar 8: IOLs – Theory and practice**
IOL fixation alternatives and their respective advantages and disadvantages (capsular bag, sulcus, sutured in sulcus, iris clip, angle).
- 15:30 Wet Lab + Dry Lab**
The course is organized in two groups. One group will start with the seminars as outlined; the second group will start with the Wet Lab and have the seminars between 15:30 and 16:50. Group assignment will be done at the time of registration. During the Wet Lab participants have access to the microsurgery simulator to perform virtual surgery.
- 16:50 Panel discussions**

Seminars

Sunday, 27 January, 2019

Morning Session

8:00 Registration - Morning coffee - Questions and answers

8:30 Functions and set up of the phaco probe, console review and troubleshooting; anterior vitrectomy – Industry

9:00 Seminar 9: Strategy and Tactics of Phacoemulsification Surgery Part I

Primary incision: clock hour, corneal vs limbal, water-tight vs leaky, construction options (1, 2, 3 plane; length vs width). Side port incision(s): 1 or 2, optimum location, construction. Capsulorhexis vs can-opener, size and guidelines for safe creation. Hydrodissection: why, when, and how?

9:20 Seminar 10: Strategy and Tactics of Phacoemulsification Part II

Nuclear removal techniques: 4 qdt or chopping or soft nucleus aspiration
Cortical clean up: I/A tip or “split” I/A; how much cortex can you leave?
Posterior capsular polishing: when, why, how?
Typical IOL loading and injection in the “bag” or “sulcus”.
Removal of viscoelastic. Water tight closure: hydration vs sutures.

9:40 Seminar 11: Viscoelastics

Which, when, why, viscoelastic acute ocular hypertension - cause and management, common viscoelastics and their uses, cohesive vs dispersive, viscoelastic “glaucoma”, when, why, treatment guidelines (medical vs release of aqueous and its technique).

10:00 Seminar 12: Phaco complications and anterior vitrectomy

Reiteration of rhexis guidelines, Why does a rhexis “go out”.
What to do when a rhexis goes out under the iris or if anterior capsular tear?
Signs of a ruptured posterior capsule and what to do about it.
Signs of zonular dehiscence intraop and what to do about it.

11:00 Wet Lab + Dry Lab

The course is organized in two groups. One group will start with the seminars as outlined; the second group will start with the Wet Lab and have the seminars between 11:00 and 12:20. Group assignment will be done at the time of registration. During the Wet Lab participants have access to the microsurgery simulator to perform virtual surgery.

12:20 Lunch Break

Afternoon Session

- 13:30 Seminar 13: Introduction to anesthesia for intraocular surgery including management of complications**
Open vs Closed Intraocular surgery; Positive Vitreous Pressure. Retrobulbar, peribulbar, parabolbar blocks with MAC vs general anesthesia (.pdf handout by email); why, when, and how canthotomy and cantholysis?
- 13:50 Seminar 14: Phaco and I/A console settings and their effects**
Phaco and I/A handpiece functions. Console setting (infusion height, vacuum, flow, power) and their effects. Phaco probe variations.
- 14:10 Seminar 15: Repair of lid skin lacerations**
Basic principles of skin wound suturing. Be sure it is just skin. Debridement (devitalized tissue and foreign material). Suture bites - apposition without crushing. Hemeostasis. Eliminate dead space. Suture materials and size. Closure under tension. Suture removal.
- 14:30 Seminar 16: Intravitreal injection technique**
Patient preparation and follow-up. Antibiotics. Anti-VEGF. Complications and management.
- 15:30 Wet Lab + Dry Lab**
The course is organized in two groups. One group will start with the seminars as outlined; the second group will start with the Wet Lab and have the seminars between 15:30 and 16:50. Group assignment will be done at the time of registration. During the Wet Lab participants have access to the microsurgery simulator to perform virtual surgery.
- 16:50 Question and course evaluation**

Wet Lab Exercises

Exercise 1. Operating Microscope Set-up

A: Before arrival of patient

- ▶ Center microscope focus (Z-axis)
- ▶ Center microscope X-Y axes
- ▶ Place foot controls (if available) and assistant microscope
- ▶ Oculars clean and adjusted: zeroed, interpupillary distance (PD), horizontal angle
- ▶ Adjust surgeon's stool height for comfort

B: With patient on the table: 6 critical set-up steps for every case

- ▶ Manually position microscope over eye; pull microscope so light on limbus
- ▶ Manually pull microscope up (lift) or down (lower) for best focus on limbus
- ▶ Foot control X-Y joy stick to center field on superior or temporal limbus
- ▶ Foot control zoom up to maximum magnification
- ▶ Foot control focus critically on the limbus
- ▶ Zoom down magnification to a field of about 2 corneal diameters

Exercise 2. Practice instrument tie of square knots with spring action needle holder

An essential microsurgical skill, using 5-0 suture without microscope on a cotton pad. Practice tying in different directions until it is easy. What is the shortest length of suture you can easily tie?

Exercise 3. Practice loading and tying 10-0 nylon safely

Without touching the needle with your fingers and without moving your eyes from the microscope oculars using a length of 10-0 nylon:

- ▶ Place 10-0 needle on the cornea or limbus of a practice porcine eye;
- ▶ Hold the suture 1.5-2.5cm above the needle with tying platform of Bonn or Colibri forceps so the outer convex edge of the needle rests on the eye by gravity and tear film capillary action (keep the eye moist);
- ▶ Rotate the needle on the surface of the eye in the direction desired (practice this forehand, backhand, to the right and to the left so you can easily make the needle face any direction);
- ▶ Grab the needle 2/3 from the tip with the spring action needleholder.

Exercise 4. Practice 10-0 nylon superficial corneal and scleral suture bites on porcine eyes and tie square knots (3-1-1) with tying forceps

- ▶ Practice suturing forehand, backhand, to right and left. Cut suture ends short with scissors before tying. Never touch the needle or suture with your gloved fingers, only the suture with forceps.
- ▶ Determine the shortest length of suture you can tie by trial and error.
- ▶ Determine the ideal length of cut suture ends for tying.

Exercise 5. Suture incisions with 10-0 nylon

An essential microsurgical skill which requires practice to perform easily and consistently without breaking or overstretching the suture. Practice this in now and in the future until it is very easy for you.

- ▶ Practice 10-0 nylon suturing of half thickness corneal and limbal incisions (vertical, horizontal, oblique incisions) and close the incision with triple throw square knots (3-1-1); cut the knots short with scissors and later with a superblade. Bury the knot with tying forceps. (When cutting with superblade, draw the suture across the blade edge, holding the blade stationary and moving the suture.) How short you can cut the suture close to the knot without it untying?
- ▶ Practice suturing full thickness corneal incisions (vertical, horizontal, oblique) with 10-0 nylon, tying and cutting knots with scissors and with a blade. These suture bites should be very deep. Bury the knots.
- ▶ Practice suturing very shelved keratome phacoemulsification incisions (Perfect apposition of these very shelved incisions is difficult).

Exercise 6. Preparation for phaco

Set up and test phaco emulsification machine, set console parameters.

Wet Lab Exercises

Exercise 7. Phaco – Clear Cornea

- ▶ Make side incision(s), instill viscoelastic, and make primary incision.
- ▶ Capsulorhexis under viscoelastic.
- ▶ Hydrodissection.
- ▶ Phaco the nucleus.
- ▶ Perform I/A or split I/A for cortical clean up.
- ▶ Load and insert IOL.
- ▶ Hydrate or suture the incision if necessary and bury knot(s). Test watertight.

Exercise 8. Phaco – Limbal tunnel

- ▶ Make a 3.2mm long, vertical, 1/3 – 1/2 depth, posterior limbal incision.
- ▶ Dissect scleral tunnel flap into clear cornea with crescent blade.
- ▶ Perform side port incisions and instill viscoelastic.
- ▶ Make primary phaco keratome incision into anterior chamber.
- ▶ Phacoemulsify and insert IOL.

Practical information

Registration and Information

Inscription fee for two days: CHF 250.-

Registration has to be sent by email by January 7, 2019.

Number of participants limited to 30.

Course language: English

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Sponsors



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