

OPHTHALMOLOGY

RESIDENT MANUAL
AND
CURRICULUM

March 2004

Program Structure and Educational Standards

A. General goals of the training program

1. To produce a high-quality ophthalmologist who has the:
 - a. ability to exercise sound clinical judgment.
 - b. ability to communicate with patients.
 - c. desire to continue to update knowledge.
 - d. highest ethical standards.
2. To provide an opportunity to develop research skills.
3. To provide an opportunity to develop teaching skills.
4. To provide an opportunity to develop practice and quality review skills.
5. To provide the basic and clinical knowledge and skills to pass professional examinations (American Osteopathic Board of Ophthalmology and Otolaryngology Head and Neck Surgery).

B. Osteopathic management of Ophthalmologic disease.

As an Osteopathic Ophthalmologist you must understand and demonstrate the ability to use Osteopathic techniques and philosophy in your practice of ophthalmology.

1st, 2nd, and 3rd, Residents

Osteopathic techniques and philosophy should be used from the beginning of the program with progressing skill and understanding throughout the program.

Osteopathic Management of Ophthalmologic diseases with the ability to demonstrate knowledge of:

- a. Basic concepts of structure-function relationships and the body's inherent healing ability
- b. How to design a management plan, which promotes the body's ability to regulate itself toward health
 1. Patient education regarding ocular health
 2. Osteopathic manipulative treatment based on the musculoskeletal system's impact on circulation to and from all tissues, the autonomic nervous system and the promotion of lymphatic circulation and its role in reducing swelling and inflammation and stimulation of the immune system
 3. Medical and surgical intervention combined with patient education and appropriate musculoskeletal treatment.

Specific goals for each year

1st year Medical Ophthalmology

During the first 12 months, as a new resident, you will be focusing mainly on medical ophthalmology.

YOU WILL BE EXPECTED TO:

1. Learn all the different techniques of eye examination and be able to accurately refract patients and prescribe glasses.
2. You should complete at least half of the American Academy home study course with special emphasis on:

Anatomy Pathology
Histology Bacteriology
Optics Biochemistry
Refraction Physiology

YOUR GOALS DURING THE FIRST YEAR OF CORE TRAINING SHOULD BE TO DEMONSTRATE ABILITY TO:

1. Accurately recognize the presence of pathology
2. Recognize and determine the gravity of ocular injuries and initiate treatment
3. Have a detailed understanding of the pharmacology and therapeutic use of ophthalmic drugs. You should have mastered the various techniques of refraction.
4. Accurately (and appropriately) prescribe ophthalmic lenses.
5. Treat all routine conditions and have a good understanding as when to appropriately refer to a sub-specialist.
6. Use the special techniques required to examine the visual system of a child or infant. As well you should be aware of the special situations faced by the pediatric ophthalmologist
(e.g. amblyopia, etc.)

YOU SHOULD BE ABLE TO PERFORM THE FOLLOWING:

1. Gonioscopy
2. Cover test, measurement of strabismus in cardinal positions
3. Schirmer test
4. Color vision assessment
5. Measurement of exophthalmos
6. Measurement of corneal sensitivity
7. Measurement of corneal astigmatism - keratometry
8. Assess fusional status
9. Visual field examination: tangent screen and Goldman visual field
10. Conjunctival and corneal scrapings for Gram and Giemsa Staining
11. Recognition of organisms in smears and plates

12. Do retinal drawings, scleral depression

YOU SHOULD UNDERSTAND THE PRINCIPLES AND AS WELL BE ABLE TO ACCURATELY USE THE FOLLOWING INSTRUMENTS:

1. Lensometer
2. Slit Lamp
3. Gonioscopy
4. Tonometry
5. Ophthalmoscopy
6. Retinoscopy
7. Cross cylinders
8. Prisms
9. Perimetry
10. Fundus photography
11. Ishihara plates
12. Placido disc
13. Keratometer
14. Exophthalmometer
15. Distometer
16. Prism bars
17. Worth 4 dot
18. Titmus fly test
19. Opticokinetic drum
20. Fluorescein angiography

YOU SHOULD BE ABLE TO PERFORM AND UNDERSTAND THE FUNDAMENTALS OF PATIENT PREPARATION FOR OPHTHALMIC SURGERY, AS WELL AS, THE DIFFERENT METHODS USED FOR OPHTHALMIC ANESTHESIA.

2nd year Medical Ophthalmology

In addition to refining the above techniques, in this year you should be performing evaluations with greater involvement in care for:

1. Low vision aids
2. Medical and neuro-ophthalmology (consultations)
3. Plastics
4. Pediatric Ophthalmology
5. Intraocular surgery

At this point you should have:

1. Completed one reading of American Academy Home Study Course
2. A thorough knowledge of all ophthalmic procedures and instruments
3. Been exposed to most forms of routine ophthalmology cases in addition to subspecialty ophthalmic problems and know when to ask for assistance from third-year residents or subspecialty staff

2nd/3rd years Surgical Ophthalmology

During these two years, you will rotate through the teaching hospitals and will be exposed to intraocular surgery, strabismus surgery, oculoplastic surgery and laser surgery.

Additional responsibilities include:

1. Use of A & B scan
2. Use of laser photocoagulator
3. Extensive retina and vitreous examination and drawings
4. Assisting in surgery
5. The fitting of contact lenses

While an expertise with the following procedures is not necessary, a graduating resident should be familiar with the indications and technical aspects of:

1. Keratoplasty
2. Vitreous Surgery
3. Orbital surgery
4. Retinal detachment

Resident Duties (General)

Work hours dependent on clinical assignment – contact rotation supervisor

AOA WORK HOURS POLICY

AOA WORK HOUR PREAMBLE: IT IS RECOGNIZED THAT EXCESSIVE NUMBERS OF HOURS WORKED BY INTERN AND RESIDENT PHYSICIANS CAN LEAD TO ERRORS IN JUDGMENT AND CLINICAL DECISION-MAKING. THESE CAN IMPACT ON PATIENT SAFETY THROUGH MEDICAL ERRORS, AS WELL AS THE SAFETY OF THE PHYSICIAN TRAINEES THROUGH INCREASED MOTOR VEHICLE ACCIDENTS, STRESS, DEPRESSION AND ILLNESS RELATED

COMPLICATIONS. THE TRAINING INSTITUTION AND, DIRECTOR OF MEDICAL EDUCATION (DME) AND RESIDENT PROGRAM DIRECTOR MUST MAINTAIN A HIGH DEGREE OF SENSITIVITY TO THE PHYSICAL AND MENTAL WELL BEING OF RESIDENTS AND MAKE EVERY ATTEMPT TO AVOID SCHEDULING EXCESSIVE WORK HOURS LEADING TO SLEEP DEPRIVATION, FATIGUE OR INABILITY TO CONDUCT PERSONAL ACTIVITIES.

AOA Work Hours Policy

- a. The resident shall not be assigned to work physically on duty in excess of eighty hours (80) per week averaged over a four (4) week period, inclusive of in-house night call.
- b. The resident shall not work in excess of twenty-four (24) consecutive hours inclusive of morning and noon educational programs. Allowance for, but not to exceed up to six (6) hours for inpatient and outpatient continuity, transfer of care, educational debriefing and formal didactic activities may occur. Residents may not assume responsibility for a new patient after twenty-four (24) hours.
- c. If moonlighting is permitted, all moonlighting will be inclusive of the eighty (80) hour per week maximum work limit and must be reported (see Moonlighting Policy below).
- d. The resident shall have alternate week forty-eight (48) hour periods off or at least one (1) twenty-four (24) hour period off each week.
- e. Upon conclusion of a twenty-four (24) hour duty shift, residents shall have a minimum of twelve (12) hours off before being required to be on duty again. Upon completing a lesser hour duty period, adequate time for rest and personal activity must be provided.
- f. All off-duty time must be totally free from assignment to clinical or educational activity.
- g. Those rotations requiring the resident to be assigned to Emergency Department duty shall not be assigned longer than twelve (12) hour shifts.
- h. The resident and training institution must always remember the patient care responsibility is not precluded by this policy. In the case where a resident is engaged in patient responsibility which cannot be interrupted, additional coverage should be provided to relieve the resident involved as soon as possible.
- i. The resident may not be assigned to call more often than every third night averaged over any consecutive four (4) week period.
- j. The training institution shall provide an on-call room for residents, which is clean, quiet, safe and comfortable, so to permit rest during call. A telephone shall be present in the on-call room. Toilet and shower facilities should be present in or convenient to the room. Nourishment shall be available during the on-call hours of the night.

MOONLIGHTING POLICY

ANY PROFESSIONAL CLINICAL ACTIVITY (MOONLIGHTING) PERFORMED OUTSIDE OF THE OFFICIAL RESIDENCY PROGRAM MAY ONLY BE CONDUCTED WITH THE PERMISSION OF THE PROGRAM ADMINISTRATION (DME/PROGRAM DIRECTOR). A WRITTEN REQUEST BY THE RESIDENT MUST BE APPROVED OR DISAPPROVED BY THE PROGRAM DIRECTOR AND DME AND BE FILED IN THE INSTITUTION'S RESIDENT FILE. ALL APPROVED HOURS ARE INCLUDED IN THE TOTAL ALLOWED WORK HOURS UNDER AOA POLICY AND ARE MONITORED BY THE INSTITUTION'S GRADUATE MEDICAL EDUCATION COMMITTEE. THIS POLICY MUST BE PUBLISHED IN THE INSTITUTION'S HOUSE STAFF MANUAL. FAILURE TO

REPORT AND RECEIVE APPROVAL BY THE PROGRAM MAY BE GROUNDS FOR TERMINATING A RESIDENT'S CONTRACT.

DRESS

The dress code is of a health care professional in an outpatient setting. This is to the discretion of the resident but generally indicates a shirt and tie for men and the appropriate equivalent for women. No jeans/sandals/barefeet/gym wear. Lab coat and ID are to be worn at all times in the hospital and clinics.

OPERATING ROOM

1. The operating resident must be familiar with the indications, techniques and complications of the respective procedures.
2. When operating on clinic patients, the operating resident must have personally examined patient and placed note in chart including justification for surgery before performing the surgical procedure. In-patients must have been examined by the assisting resident.
3. On completion of his/her tasks in the OR, the resident is to return to the clinic.

MANDATORY ACTIVITIES FOR ALL RESIDENTS: (SEE *BASIC STANDARDS FOR APPROVAL OF RESIDENCY TRAINING IN OPHTHALMOLOGY* FOR DETAILS)

1. Attend all scheduled teaching sessions, lectures and Grand Rounds at area hospitals.
2. Obtain permission to be absent from regular duties, e.g. interview, personal appointments; requests should be made in writing to the service supervisor, hospital DME, chief resident and clinic administrator, if possible, at least one month in advance.
3. The resident must participate, annually, in the OKAP examination.
4. The resident shall maintain formal records of all activities related to the educational program. These records shall be submitted monthly to the program director and DME for review and verification. Copies of these records shall be kept on permanent file by the administration at the base institution and shall be available at the time of the inspection. These records should document the fulfillment of the requirements of the program, describing the volume, variety and scope, and progressive responsibility on the part of the resident for Ophthalmology cases and procedures performed under supervision.
5. The resident must submit an annual resident report to the AOCOO-HNS within thirty (30) days of completion of each training year. (Documents not received on time may incur a monetary penalty). The annual report consists of: the resident annual report (segregated LOGS), the program directors report, the professional paper, and the home study verification.
6. Complete the AAO Home Study Course during the 1st and 2nd years of training. Documentation of the entire home study course is required by the end of the second year of training. The resident is strongly encouraged to review the home study course in a group fashion, and to review it twice during the training program.
7. The resident is strongly encouraged to apply for and maintain Candidate status in the AOCOO-HNS.
8. It is recommended that the resident attend at least one Annual Clinical Assembly of the AOCOO-HNS prior to the final year of training.

9. Time spent away from the base institution.
- a. Extracurricular activities: The training program is a full-time responsibility; activities outside the educational program may not be mandated nor interfere with the resident's performance in the educational process as defined in the agreement between the institution and the resident.
 - b. Outside rotations: Outside rotations are permissible when included in the basic residency program as approved by the AOCOO-HNS Council of Medical Education and AOA. The purpose of such rotations is the enhancement of the basic program. The parent institution or organization is responsible for the outside rotations.

ON-CALL SCHEDULE

On-call schedules will be drawn up at least one month in advance by the senior resident. A first call schedule must be submitted to all attending and resident physicians, hospital switchboards and emergency departments prior to the beginning of the on call period. Residents who are on elective/rotation may be scheduled to take on call although all efforts will be made to avoid this. The senior resident will arrange the on-call schedule according AOA criteria:

Guidelines for On-call Resident:

- Residents must be immediately available for call;
- If specifically requested by a staff person to come in to hospital, the resident must do so;
- If in doubt as to diagnosis/treatment – The resident must go in and check;
- If any question regarding emergency management, please call senior resident and then the staff person on call.
- Contact all residents and attendings Sunday evening with report of patients seen and upcoming events for the week

SCHEDULING VACATION AND CONFERENCE TIME

Written requests must be received by the Program Director at least two months prior to the start of the period involved. Time away will usually be scheduled on a first-come-first-served basis. However, should a conflict arise, the more senior resident request will prevail.

PROFESSIONAL LIABILITY (MALPRACTICE) INSURANCE

Coverage will be provided by the resident's base hospital. The resident is encouraged to discuss the policy with the office of the DME.

Hospitals

First Year Residents

Ward

Help with admissions:

- Make sure complete history in chart
- Make sure reason for surgery is well documented
- Change dressings and follow post-op course

- Write progress notes with seniors' supervision (document post-op vision)
- Order any need tests

Operating Room

- Be able to administer various forms of local anesthesia (retrobulbar etc) prep/drape a patient and be familiar with the operating room
- Be able to write pre- and post-operative notes and orders and dictate operative reports
- Know how to assist at various types of surgeries
- Learn how to do post-mortem enucleations, temporal/artery biopsy, chalazion removal, removal corneal foreign body, lacrimal irrigation and probing and minor lid surgery

Clinic

- Learn to examine patients carefully and be able to refract accurately after 3 months
- Be able to see six to ten patients per clinic by end of first year
- First-year residents should not be responsible for volume of patients in clinic
- Be able to handle ophthalmologic emergencies.

Consults

Be able to perform hospital consultations and review them with attending physician

Teaching

- Teach ophthalmology medical students on elective rotations, interns and residents from other department on the service as required.

Rounds

- Make sure patients are available for examination by staff at rounds and explain to staff the pertinent problems
- Be able to present concise case histories for discussion

Second Year Residents

Hospital ward

- Be familiar with post-op patients
- Help senior residents with any ward problems
- Help with admissions - make sure complete history in chart

Operating Room

- Must be able to prep, drape and give retrobulbar anaesthesia
- Must have assisted at multiple intraocular procedures and perform portions of cases according to ability
- Must have worked on cadaver or animal eyes
- Must have assisted at and seen a procedure before performing it for the first time
- Assist and do plastics cases
- Do routine strabismus cases

Clinic

- Be able to see 8-12 patients in a half day clinic
- Rotate through Plastics, Retina, Neuro-ophthalmology, Glaucoma, and Cornea, and pediatrics as schedule permits

Consults

- Be responsible to see that non-urgent consults are completed within 24 hours of notification
- Urgent consults to be seen in Eye Clinic (or on ward if patient is immobile the day of request)
- All consults to be reviewed with a staff person

Teaching

- Teach ophthalmology elective medical students and residents as well as the general house staff

Rounds

- Be prepared to present cases and participate in discussions

3rd Year Residents

Ward

- Responsible for admissions and discharges (always arrange with staff regarding discharge)
- Responsible for booking OR time if not done by the attendings' private offices
- Contact staff if any post-op complications
- Make rounds with staff when they come to ward when possible
- Ensure all available residents are present at rounds
- Make sure complete history, physical and eye exam in chart
- Make sure doctors' orders are completed each day
- Be sure OR consent signed and properly completed
- Make sure daily progress notes are written on each patient
- Second call resident responsible for all urgent problems seen by first call resident
- Responsible for all emergency surgery

Operating Room

- Senior residents in OR on alternate weeks
- Try to equalize number of cases done and number of different procedures by operating residents
- Schedule post-op follow-ups when the operator is in clinic

Clinic

- Arrange and be able to perform A-scans
- Responsible for post-op follow-ups
- Responsible for pre-op visits
- Contact staff with any clinic problems, i.e. bookings, equipment, requests etc.
- Be able to see 10 - 15 patients in a half day clinic

Consultations

- Be responsible for consultations.

Teaching

- Help teach and supervise first and second-year residents

- Stimulate residents to read about cases and O.R.'s being done
- Help teach ophthalmology elective students and other house staff
- Be responsible for organizing and leading discussions for Home Study review sessions and chart rounds daily after clinic

Cataract Admissions

Attach copy of outpatient visit to hospital chart, which must include, at minimum:

History

- Duration and nature of onset of decreased vision
- Previous ocular history (glaucoma, amblyopia, macular disease, diabetic retinopathy)
- Previous medical history (cardiac, chest, haematologic)
- Ability to lie flat on back without moving
- Current medications (N.B. anticoagulants and antiplatelets)
- Allergies

Examination

- Best corrected vision (pinhole if necessary)
- Current glasses prescription
- Pupils and EOM's
- Slit lamp examination and IOP
- Fundus (if visible)

Childrens' Hospital and/or Pediatric Rotation

Learn the basic eye examination as it applies to children. Accordingly, his/her duties are based in the Eye Clinic where he/she will examine patients. Special areas that should be emphasized include analysis of vision in the infant and very young child, examination of eye movements and muscle balance in the strabismic patient, refraction techniques as applied to children, and use of the indirect ophthalmoscope for media and retinal assessment. In addition to mastering the technique of the pediatric ophthalmologic examination, the resident will participate in the various surgical procedures, with special emphasis on extraocular muscle surgery. He/she should thoroughly familiarize himself not only with the operative procedure, but also with the preoperative assessment and the ensuing postoperative care.

Subspecialties and Year Specific Objectives

The following objectives are to be used as an outline of the academic content of the Residency Program by sub-specialty and by year.

They have been produced to help residents delineate subject matter for which they are responsible. Residents should be sure they have mastered the appropriate subject matter by specialty and by year. It should be emphasized that these are minimal standards and the resident may feel free to master other subjects as well as these subjects in more detail.

The attending staff will use these objectives to be sure that individual rotational objectives are met as the residents progress through the program.

Optics, Refraction, Contact Lenses, and Low Vision

Residents are encouraged to read Reinecke: Refraction: A programmed text before entering their first year of clinical ophthalmology.

Further study (optional) may include Rubin: Optics for clinicians and Rubin and Milder: The Fine Art of Prescribing Glasses.

First Year Resident

Basic Science Knowledge

Principles of clinically relevant optics

1. Physical optics

- a. Nature of light (wave theory vs photon)
- b. Interference; coherence; polarization; diffraction
- c. Scattering; transmission; absorption

2. Geometrical optics (eg Rubin: Optics for Clinicians)

- a. Vergence; diopters; Snell's law; refraction
 - b. Reduced vergence: effect of index of refraction
 - c. Object/image relationships; real Vs virtual;
 - d. Multiple lens systems: calculation of image position
- e. Graphical analysis; cardinal points of a lens
- f. Power of a curved surface
- g. Spherical Vs cylindrical lenses
- h. Astigmatism; conoid of Sturm
 - i. Thin Vs thick lenses; equivalent Vs vertex power;
- j. Notation for spherocylindrical lenses; transposition
- k. Magnification: lateral, axial, angular
 - (1) calculation of magnification for various lens systems
 - (2) effect on accommodation
- l. Lens aberrations
 - (1) spherical
 - (2) chromatic
 - (3) coma
 - (4) astigmatism of oblique incidence
 - (5) radial astigmatism
 - (6) curvature of field
 - (7) caustic curve
- m. Reflection
 - (1) specular Vs diffuse
 - (2) plane Vs curved surface
 - (3) critical angle
 - (4) Purkinje-Samson images
 - (a) keratometer
 - (b) Hirshberg & Krimsky reflexes
 - (c) placido disk
- n. Prismatic deviation/displacement; prism diopter
 - (1) doubling prisms
 - (2) Prentice's rule

The Eye as an Optical System

- 1. Refractive components of the eye
- 2. Accommodation
 - a. physiology

- b. cycloplegia; relative rate of onset, duration, potency of various agents
- c. effect of age; presbyopia

3. Optics of ametropia

- a. principles of correction of refractive errors
- b. consequences of optical corrections
- c. spherical errors
- d. astigmatism
 - (1) types: simple, mixed, compound
 - (2) meridional magnification
- e. anisometropia

Opticianry

- 1. What the optician/optometrist does and how

Ophthalmic instruments - basic optics

- 1. Lensmeter
- 2. Placido disc
- 3. Direct ophthalmoscope
- 4. Indirect ophthalmoscope
- 5. Cross-cylinder
- 6. Ophthalmic prisms
- 7. Retinoscope
- 8. OR microscope; slit lamp microscope
- 9. Applanation tonometer
- 10. Gonioscope; fundus lenses; laser lenses
- 11. Pinhole & stenopeic slit

Ophthalmic devices - basic optics

- 1. Meniscus lenses
- 2. Bifocal lenses
 - a. types: flat top, round top, progressive
 - b. object displacement; image jump
 - c. induced phorias
- 3. Antireflective coatings
- 4. Absorptive lenses

Understanding optical effects of disease

- 1. Effect of ocular disease on refraction

2. Effect of systemic conditions on refraction

3. Effect of medications/drugs on refraction

Diagnostic Skills

- Retinoscopy - neutralization with spheres and cylinders

- Subjective refraction techniques, distance and near

1. Cross-cylinder

2. Astigmatic dial

3. Red-green test

4. Balancing refractions

- Inspection of glasses

1. Evaluation; sources of problems

2. Measuring sphere, cylinder, type and amount of reading addition

3. Neutralizing prism

- Color vision

1. Screening evaluation

- Assessment of visual function

1. Malingers

2. Visual acuity: Snellen; contrast sensitivity

3. Glare testing

4. Potential visual acuity tests

- Cycloplegia - advantages, disadvantages, indications and risks

- Pediatric refractive problems

1. Anisometropia

2. High astigmatism

3. High hyperopia

4. Myopia

- Acute changes in refraction - causes

- Phoria and vergence evaluation

- Ophthalmic instruments (skill) to use

1. Applanation tonometer
2. Schiottz Tonometer
3. Lensmeter
4. Orthoptic prisms
5. Retinoscope
6. Ophthalmoscope - direct, indirect
7. Phoropter
8. Prentice rule
9. Trial lens sets and frames
10. Slit lamp
11. Gonioscopes
12. Fundus lenses
13. Potential visual acuity tests
14. Glare tester
15. Placido disc/keratoscope
16. Vertex meter (distometer)

Management/Therapeutic Skills

- Prescribing for function and needs
- Presbyopia - management
 1. Effect of contact lenses
- Glasses problems - management
- Aphakia - optical correction - alternatives
- Astigmatism - clinical aspects
- High myopia - glasses Vs contact lenses
- Night myopia - management
- Low vision - basic management
- Knowledge of occupational and recreational ophthalmic devices and lenses

- Safety consciousness in all eye care
- Local visual requirements of driving

Second Year Resident

Basic Science Knowledge

- Principles of clinically relevant optics
 1. Physical optics
 - a. Photometry; illumination
- The Eye as an Optical System
 1. Optical development of the eye in childhood
 2. Aniseikonia
 - a. limits of tolerance; causes; correction
- Opticianry
 1. Construction of ophthalmic lenses
- Ophthalmic instruments - basic optics
 1. Keratometer (both types)
 2. Maddox rod
 3. Pachymeter
 4. Surgical loupes; astronomical telescopes
 5. Geneva lens clock
- Ophthalmic devices - basic optics
 1. Low vision aids
 - a. magnifiers
 - b. telescopes
 - c. high plus lenses
 - d. stand magnifiers
 2. Fresnel prisms
 3. Contact lenses
 4. Intraocular lenses
- Lighting consideration in environmental tasks
 1. Toxic effects of light

Diagnostic Skills

- Low vision patient evaluation
 1. Acuity measurements
 2. Design of acuity charts
 3. Notation
 4. MAR, log MAR, etc.
- Color vision
 1. Diagnostic evaluation
- Ophthalmic instruments (skill) to use
 1. Keratometer
 2. Operating microscope
 3. Loupes
 4. Vision screeners (awareness)
 5. Major amblyoscope (awareness)
 6. Geneva lens clock
 7. Pachymeter
 8. Fundus camera

Management/Therapeutic Skills

- Anisometropia - management
- Monocular diplopia - management
- Phoria and vergence problems - management
- Prisms - indication and prescription
- Children's refractive problems - management
- Low vision identification of candidates
 1. Causes, prevalence
 2. Local definition of visual handicap, legal blindness
- Low vision awareness of techniques of education and management

- Referral services
- Awareness of occupational criteria for visual performance and statutory
 - Requirements for reporting disability
- Awareness of alternative approaches to refractive problems
 - Atropine and bifocals in myopia
- Economics of dispensing
 - Pricing information for optical appliances

Third Year Resident

Basic Science Knowledge

- Principles of clinically relevant optics
 1. Physical optics
 - a. Laser optics
- Contact lenses; corneal physiology

Diagnostic Skills

- IOL power determination
 1. Formulae used
 2. Sources of error
- Ophthalmic instruments (skill) to use
 1. Contact lens measurement device
 2. Specular microscope
 3. Ultrasonography A-SCAN

Management/Therapeutic Skills

- Contact lens (fitting proficiency)
 1. Spherical soft
 2. Spherical rigid
 3. Soft toric
 4. Rigid toric

5. Bifocal

- Contact lenses - dispensing parameters
- Principles of contact lens care - patient education and teaching
- Contact lenses - special fitting techniques
- Awareness of community resources for visually handicapped

1. Non-optical aids

2. Orientation and mobility

- Awareness of disability rating (AMA scales)
- Awareness of occupational criteria for visual performance and statutory

Uveitis and Intraocular Tumors

First Year Resident

Objectives – General Medical

Rheumatoid Diseases

- Understand the disease process of a patient with a rheumatic disease or immune disease.
- Acquisition of basic knowledge in clinical immunology
- Know the rheumatic diseases that could present ocular involvement: Rheumatoid arthritis, ankylosing spondylitis, Sjogren syndrome, Lupus erythematosus, Reiter syndrome, Temporal arteritis and polymyalgia rheumatica, other collagen diseases.

Objectives – General Medical

Infectious diseases:

- Know the most common infectious agents, their identification methods, and their sensibility to therapeutic agents. A particular attention should be given to microorganisms that infect the eye: bacteria, adenovirus, herpes viruses, chlamydia, toxoplasma gondii.
- Resident must be able to differentiate the normal state from the pathologic state.

Diagnostic Skills

- History and complete eye examination
- Be able measure the visual acuity at near and distance
- Refraction (objectively and subjectively)

- Assess the visual field by confrontation and with Amsler grid
- Intraocular pressure measurement
- Examine the pupils, the cornea, the iris, the lens, vitreous and retina.
- To grade the anterior chamber cells, vitreous cells and keratic precipitates.
- Be able to do an indirect examination of the fundus, a gonioscopy, fundus exam with Goldman contact lens

Management

- The resident should understand the principles behind the usage of antiinflammatory agents and cycloplegics in the treatment of acute uveitis.
- Resident should be able to treat:
 - kerato-uveitis
 - acute uveitis
 - posterior synechiae
 - increase intraocular pressure associated with uveitis

Clinical Knowledge

UVEITIS AND ONCOLOGY PRINCIPLES:

- Knowledge of basic immunology
- Physiology of the uvea
- Terminology used in uveitis and intra-ocular tumors
- Classification of uveitis and intra-ocular tumors
- Personal and family history
- Signs of uveitis and intra-ocular tumors
- Goals of management
- Laboratory examinations
- Non specific treatment of uveitis

Second Year Resident

Diagnostic Skills

- Be able to precise the type of the uveal lesion: localization, type and activity
- Must be able to draw, using indirect ophthalmoscopy, the fundus of a patient.
- Must be able to measure clinically an inflammatory lesion and tumor of the fundus.

- Must know the ultrasonographic characteristics of a serous retinal detachment, choroidal melanoma, metastatic tumor, vascular tumor.
- Must learn to do A and B ultrasonography

Management Skills

- Be able to plan and observe the uveitis treatment

Clinical Knowledge

Resident should be able to diagnose and treat the uveitis clinical entities:

ANTERIOR UVEITIS
 IDIOPATHIC IRIDOCYCLITIS
 HLA-B27 + IRIDOCYCLITIS
 JUVENILE RHEUMATOID ARTHRITIS
 FUCH'S IRIDOCYCLITIS
 HERPES S. KERATOUEITIS
 ANKYLOSING SPONDYLITIS
 I.O.L. RELATED UVEITIS
 REITER'S SYNDROME
 HERPES Z. KERATOUEITIS
 SYPHILIS
 TRAUMATIC IRIDOCYCLITIS
 INFLAMMATORY BOWEL DISEASE
 GLAUCOMATOCYCLITIC CRISIS
 TUBERCULOUS IRIDOCYCLITIS
 POSTERIOR UVEITIS
 TOXOPLASMA RETINOCHOROIDITIS
 RETINAL VASCULITIS
 IDIOPATHIC POSTERIOR UVEITIS
 OCULAR HISTOPLASMOSIS
 TOXOCARIASIS
 CYTOMEGALOVIRUS RETINITIS

IDIOPATHIC RETINITIS
SERPIGINOUS CHOROIDOPATHY
A.M.P.P.E.
ACUTE RETINAL NECROSIS
BIRDSHOT CHOROIDOPATHY
LEUKAEMIA/LYMPHOMA
LARGE CELL LYMPHOMA
OCULAR CANDIDIASIS
TUBERCULOUS UVEITIS
LUPUS RETINITIS
PANUVEITIS
IDIOPATHIC PANUVEITIS
SARCOIDOSIS
VOGT-KOYANAGI-HARADA
BEHCET'S DISEASE
PHACOGENIC UVEITIS
SYMPATHETIC OPHTHALMIA
BRUCELLOSIS

Third Year Resident

Diagnostic Skills

- Know the indications of anterior chamber tap, vitreous and retinal biopsies in cases of chronic uveitis that do not respond to usual therapies.
- Be able to describe the various ocular tumors (melanoma, retinoblastoma, metastases, etc.) and their diagnostic methods.

Management Skills

- Understand the different methods of treatment of chronic uveitis, their indications and applications.
- Know the particularities about ocular surgery in patients with uveitis.
- Be able to explain the radiation treatment of intra-ocular tumors, external beam and plaque application, and ongoing clinical trial of choroidal melanoma (COMS study)

- Be able to perform an anterior chamber tap, a vitreous biopsy, injection of medication through the pars plana, and enucleation.

Vitreoretinal Diseases and Surgery

First Year Resident

Diagnostic skills

- Direct ophthalmoscopy
- Indirect ophthalmoscopy and scleral depression
- Fundus drawing
- Slit lamp biomicroscopy of fundus contact and non contact method
- Transillumination
- Use of indirect ophthalmoscopy in examination of infants

Interpret

- Fundus of photography: color and fluorescein angiography with emphasis on interpretation
- Visual fields, including Amsler grid
- A and B scan ultrasonography

Second Year Resident

Diagnostic Skills

- Continued development of skills in indirect ophthalmoscopy with demonstrated proficiency in scleral depression and identification of peripheral retinal disease.
- Demonstrated proficiency in interpretation of fluorescein angiography and ultrasonography.
- Introduction to electrophysiology and psychophysical testing.

Management therapeutic skills

- Age related macular disease and other disciform processes.
 - i) history and symptoms
 - ii) use of Amsler grid
 - iii) interpretation of treatable cases
 - iv) identification of treatable cases
 - v) counselling of patients for follow-up, including possible involvement of the fellow eye
- Retinal vascular disease - diabetic retinopathy
 - i) recognize background vs. proliferative retinopathy

- ii) understand recommendations of the Diabetic Retinopathy Study and the Early Treatment of Diabetic Retinopathy Study
- iii) indication for vitrectomy and diabetic retinopathy
- iv) indication for and interpretations of echography

- Retinal detachment

- i) distinguish rhegmatogenous tractional and secondary types
- ii) status of macula
- iii) status of vitreous
- iv) fundus drawing - indirect ophthalmoscopy with identification of retinal landmarks such as the equator, ora serrata, and vitreous base
- v) scleral depression
- vi) indication for vitrectomy
- vii) indication for intraocular air/gas tamponade
- viii) surgery:

- Anterior vitrectomy - particularly for indications of urgent application, i.e. unexpected difficulty in cataract surgery

- Vitreous tap - aspiration and injection

- Posterior vitrectomy: all residents should participate in preoperative evaluation and postoperative management, as well as assist in surgery

- Endophthalmitis: the resident should feel comfortable with aspiration and injection of antibiotics as part of the vitreous tap for diagnosis

- Scleral buckle (primary, uncomplicated cases)

Third Year Resident

Diagnostic skills

- refinement of PGY-2 and PGY-3

Management/therapeutic skills

- laser photocoagulation
 - i) diabetic retinopathy
 - proliferative diabetic retinopathy: panretinal photocoagulation introduction
 - PRP for rubeosis
 - ii) central retinal vein occlusion, branch retinal vein occlusion, sickle cell disease
 - iii) age-related macular degeneration: determination of treatable lesions
- medical management - for medical retinal diseases, e.g. retinitis of different etiologies
- cryotherapy
 - i) retinal hold/tear
 - ii) peripheral cryotherapy

Neuro-Ophthalmology

First Year Resident

Neuroanatomy - The learning of visual pathway neuroanatomy should be accomplished via the Houston Basic Science Course. Relevant central and peripheral nervous system anatomy should be learnt through clinical experience on the wards and in the consult service.

Neuro-ophthalmology patients - The resident should be able to discern if the etiology of a patient's complaint is on a neuroophthalmological basis or not.

Neuro-ophthalmological history - In this year the resident should develop the art of taking a detailed, but selective history. The history should be directed towards the particular patient's eye, complaint, medical, neurological and familial background.

Neuro-ophthalmological examination

Clinical Skills

- acuity - BEST CORRECTED! (including near vision)
- pupillary exam (size, shape, reaction to near and light, pharmacology of testing for anisocoria)
- color vision
- brightness comparison
- ocular motility (alignment, movements - saccades & pursuit, forced ductions)
- ocular adnexa - lids, orbit, face, exophthalmometry
- gross neurological exam including carotid auscultation
- corneal eye exam
- fundoscopy - direct ophthalmoscopy, 90D lens, 3 mirror lens
- examining the patient with functional visual loss
- Visual field - technique and interpretation; Goldmann and automated
- Tensilon test
- Electrophysiology - interpretation of ERG and VER
- Neuroradiology - CT/MRI; how to order and interpret orbit and brain views

Second Year Resident

Consult service

The resident is responsible for examining non-mobile ward patients with neuro-ophthalmological diagnoses.

Examination skills

All of the above mentioned examination and diagnostic skills should be familiar to the resident at this point. Upon completion of the history and exam, the physician should be able to formulate the location of the lesion, a differential diagnosis, and a plan of investigation.

Diagnostic/therapeutic skills

- Temporal artery biopsy
- Management of a central retinal artery occlusion

Presentation skills

The resident should be able to present the history, examination, relevant neuroradiological data and a review of the literature in reference to a patient to an audience.

Third Year Resident

Continued exposure to neuro-ophthalmology patients in both consult rounds and subspecialty clinics is important in order to maintain a familiarity with these diagnoses.

Pediatric OphthalmologyFirst Year Resident**Basic Science and Scientific Knowledge**

- embryology of the eye & orbit
- microbiology of neonatal infections(e.g. torch, ophthalmia neonatorum,etc.)

Clinical Knowledge

- diagnosis & management of pediatric refractive errors including the prescription of optical corrections
- diagnosis of motility disorders(strabismus, palsies)
- diagnosis & management of amblyopia
- management of neonatal ocular infections, periorbital and orbital cellulitis
- diagnosis & management of tearing disorders in children

Clinical Skills (In addition to the performance of a regular eye examination)

- specific questioning of parents relating to pregnancy, delivery, development, and family history of the child being examined
- assessment of vision in the preverbal child
- assessment of eye movements
- principles of measurement of strabismus deviations
- refraction in children
- introduction to the indirect ophthalmoscopic examination of infants

Surgical Skills

- assist at strabismus surgery on occasion (to include familiarity with sterile surgical technique, basic prepping & draping of patient)
- minor lid procedures (e.g. chalazion removal)
- assist at some examinations under anaesthesia

Second Year Residents

Basic Science Knowledge

- surgical anatomy of the changing ocular & orbital structures
- pathophysiology of sensorial adaptations & abnormal visual development
- electrophysiology (including ERG, VER, EOG)
- pharmacology of certain anaesthetic agents & conditions which relate to pediatric ocular surgery
- pathology of congenital ocular malformations, pediatric ocular and orbital tumors

Clinical Knowledge

- management of all strabismic & neuro-ophthalmic ocular deviations
- management of ptosis & related disorders
- management of pediatric intraocular & orbital tumors
- management of uveitis in children
- diagnosis & management of inherited eye syndromes
- diagnosis of pediatric cataracts, glaucoma, and leukocoria
- understanding the ophthalmic manifestations of pediatric systemic disease

Clinical skills

(In addition to the performance of a regular eye examination & skills acquired in the 1st year)

- expertise in the assessment of vision of the preverbal child
- expertise in the assessment of eye movements
- complete facility in the measurement of strabismus deviations and the assessment of any associated sensory adaptation
- clinical experience in the assessment of the child who is uncooperative or developmentally delayed
- expertise with the indirect ophthalmoscopic examination of infants

Surgical Skills

- satisfactory execution of horizontal strabismus surgery & some vertical/oblique surgery
- probing & irrigation of the nasolacrimal duct
- assist at examinations under anaesthesia & pediatric intraocular surgery
- some ptosis procedures

Third Year Resident**Clinical Knowledge**

- management of intraocular infections
- management of pediatric cataracts & glaucoma

Surgical Skills

- vertical, oblique, and reoperative strabismus procedures
- levator resection for ptosis
- pediatric cataract surgery
- ocular lacerations & surgical lid procedures

Cornea and External Disease**Basic Science Knowledge:**

Know and apply to understanding of cornea and external disease.

- Normal anatomy, physiology, immunology, pharmacology, biochemistry of:
 - a. Cornea
 - b. Conjunctiva
 - c. Lid Margins
 - d. Lid Skin
- Physiology and biochemistry of tears
- Principles of astigmatism
- Concepts of inflammation and infection
- Pharmacology
- Corneal Transparency, optics, refractive power
- Pathology of cornea and external disease

- Literature evaluation skills, statistics, clinical trials

Clinical Knowledge:

Know and apply to the diagnosis and understanding of cornea and external eye disease:

- Classification, natural history, treatment of cornea/external disease including:
 - a. Keratitis: bacterial, fungal, viral
 - b. Dry eye: etiology, systematic approach
 - c. Trauma anterior segment (use of imaging techniques)
 - d. Acute and chronic conjunctival inflammations, infections (adult and neonatal) (allergic, vernal, etc, chlamydia, GC, toxic, medications)
 - e. Contact lens related problems: toxicity, GPC, infections, etc.
 - f. Drug selection and complications and antibiotics, steroids, diagnostics, etc.
 - g. Lid margin disorders: blepharitis, other infections, tumors
 - h. Systemic disease effects on cornea/anterior segment
 - i. Corneal dystrophies: epithelial (e.g., map-dot, stromal (e.g., macular), endothelial (e.g., Fuchs')
 - j. Preoperative evaluation of cornea before cataract surgery or other intraocular procedures- clinical, see tests
 - k. Scleritis/episcleritis
 - l. Recognition and management of astigmatism (spectacles, contact lenses) (keratometry/keratoscopy)
 - m. Corneal edema (clinical evaluation, stepwise Rx)
 - n. Ocular surface disorder: exposure, toxicity (medications, chemicals)
 - o. Anterior uveitis systematic approach, syndrome identification
 - p. Lacrimal system disorders (e.g., dacryocystitis, canaliculitis, obstruction in infants)
 - q. Anterior segment neoplasms (e.g., conjunctival melanosis etc.)
 - r. Neurotrophic corneal problems
 - s. Corneal complications of IOL and other surgical procedures
 - t. Corneal/conjunctival degeneration
 - u. Muco-cutaneous syndromes: pemphigoid, etc.
 - v. Ocular-dermatologic associations (e.g., roseola, genetics, infections, etc.)

w. Postsurgical infections: Dx and Rx-cultures, therapy, antibiotic selections

x. Abnormalities of lid closure/blink mechanisms

- Long-term impact of chronic disease on patient/family/society

Diagnostic Skills:

Recognize the importance of and be capable of performing, interpreting, and recording:

- Fluorescein/rose bengal evaluation of cornea/conjunctive
- Tonometry in corneal abnormalities
- Exam in room light (skin, etc.)
- Bedside exams-infants, ICU, nursing home (use of portable slit lamp)
- Corneal astigmatism measurement: keratometry, keratoscopy, placido disc
- Assess visual potential: refraction, contact lens over-refraction, pinhole, stenopeic slit, PAM/interferometer
- Corneal sensitivity test
- Tear evaluation: Schirmer test, break-up time, dyes, tear meniscus
- Slit lamp exam of cornea layers
- Microbiological lab procedures: prepare and read smears, prepare appropriate cultures, knowledge of lab resources
- Endothelial evaluation (slit lamp specular reflections, thickness of cornea, evaluate specular photomicrographs)
- Measurement of corneal thickness (pachymetry)

Judgment:

- Good history: cornea/external disease, related systemic disease, related other eye disease
- Good, careful observer: clinical diagnostic skills (slit lamp, etc.)
- Performs indicated diagnostic procedure/lab: dye stains, cultures, etc.
- Collects all necessary clinical information:
- History
- Physical exam (eye)
- Laboratory
- Synthesizes information

- Establishes differential diagnosis
- Recognizes level of urgency-initiates therapy if necessary
- Recognizes further need for special lab studies or consultation and proceeds
- Has good personal data base of diagnostic criteria, natural history of diseases, therapeutic options, expected responses
- Knows where to turn for more information and help, when, and how (libraries, consultants, etc.)
- Establishes most likely diagnosis
- Initiates therapy
- Follow-up:
 - a. Recognizes improvement
 - b. Recognizes failure
 - c. Reevaluates; discontinues therapy
 - d. Refers as needed-knows what he doesn't know

Management/Therapeutic Skills:

- Integrate basic and clinical knowledge and diagnostic skills and data to arrive at an appropriate diagnosis and differential diagnosis
- Implement appropriate medical and surgical therapy including:
 - a. Repair of lid, cornea scleral laceration (and when to refer)
 - b. Tarsorrhaphy
 - c. Pterygium/surgery
 - d. Conjunctival tumor removal
 - e. Anterior segment foreign body removal
 - f. Punctal occlusion
 - g. Iris repair
 - h. Selection and management of antibiotics, steroids for infections/inflammation and their preparation
 - i. Tissue glue
 - j. Read cultures, plates
 - k. Evaluate donor material
 - l. Have knowledge of the following procedures: (may or may not perform)

- Keratoplasty, any technique
- Keratorefractive surgery in general
- Iridocyclectomy
- Corneal patch grafts
- Conjunctival transplant
- Thermokeratoplasty

Glaucoma

First Year Resident

Knowledge

- Anatomy, physiology, biochemistry of:
 - Drainage system
 - Iris ciliary body
 - Optic nerve
- Clinical classification of glaucoma
- Basic pharmacology of glaucoma medications

Skills

- Tonometry: applanation, Schifftz, portable tonometer
- Gonioscopy: slit lamp, Koeppe
- Visual Fields: confrontation, Goldman, automated perimetry
- Optic nerve head assessment: direct ophthalmoscope, contact lens exam

Management

- Ability to diagnose the various glaucomas and specifically acute glaucoma.
- Management of emergency acute glaucoma.
- Develop a notion of the medical management of glaucoma.

Second Year Resident

Knowledge

- Epidemiology of glaucoma
- Pharmacology of glaucoma
- Pathology of glaucoma

- Natural history of the glaucoma entities (primary and secondary)
- Indications of treatment:
 - medical
 - laser
 - surgical
- Complications and side effects of treatment
- Adequate follow up of this chronic disease

Management and Skills

Formulate appropriate management of the glaucomas considering:

- Diagnosis
- Associated ocular problems
- Associated medical problems
- Visual needs of the patient
- Explain condition to the patient
- Implement and follow up of management
- Initiate medical therapy recognizing indications contraindications and complications (ocular and systemic) of various medications.
- Introduction to laser surgical therapy

Third Year Resident

Management and Skills

Laser surgical therapy:

- Argon and Yag laser iridotomy
- Argon laser iridoplasty
- Argon Laser Trabeculoplasty
- Yag Cyclo destructive procedure

Management of cataract in glaucoma patients

- Cyclo cryo therapy
- Trabeculectomy
- Combined cataract extraction and Trabeculectomy

Management of complications of laser and surgical glaucoma therapy.

Cataract Surgery

First Year Resident

Basic Science Knowledge

The anatomy, histology, embryology, biochemistry, physiology, genetics and pharmacology of the lens and zonule.

The optics of the phakic, aphakic and pseudophakic eye.

Clinical Knowledge

The diagnosis and classification of cataracts.

Clinical Skills

The measurement of visual acuity in the cataract patient, including an understanding of the differences between various methods of assessing acuity in cataract patients and of the effects of illumination on the acuity of such patients in the examining room and in everyday life.

Participation in animal eye wet labs to learn the fundamentals of ocular surgery such as studying the various instruments and their uses, methods of cutting ocular tissues, types of suture materials, suturing techniques, and the advantages and limitations of working through the operating microscope.

Second Year Resident

Basic Science Knowledge

Biometry relating to intra-ocular lenses, including an understanding of the different types of keratometers and ultrasound instruments and of the various formulae for the calculation of intra-ocular lens power, their advantages and disadvantages.

Clinical Knowledge

The advantages and disadvantages of the major types of intraocular lenses and of the materials used in their manufacture. The different haptic and optic designs and their relative merits.

The indications and contra-indications for cataract surgery.

The various types of local and regional block anaesthesia used in eye surgery, the different anesthetic agents, their pros and cons.

The observation and assist at cataract surgery. Learn the basic steps of cataract surgery and the general methods of handling delicate ophthalmic instruments, the techniques of rigid asepsis, of the surgical preparation of the orbital area and of regional block and local anesthesia.

Clinical Skills

Participation in animal eye wet labs.

Individual practice surgery whenever eye bank eyes become available, to gain further surgical expertise and to learn the characteristics of human tissue.

The performance of regional block anaesthesia on cataract surgery patients.

Do parts of cataract surgery in a progressive fashion in the latter part of the year.

Third Year Resident

Clinical Knowledge

The identification of high-risk patients and the planning of their management.

Clinical Skills

The performance of various types of cataract surgery, as indicated

The diagnosis and management of intra-operative complications of cataract surgery.

The diagnosis and management of early and late post-operative complications of cataract surgery, including endophthalmitis, uveitis, ocular hypertension, shallowing of the anterior chamber, wound leakage, iris prolapse. Wound dehiscence, hemorrhage, cystoid macular edema, lens displacement, choroidal effusion, retinal detachment and capsular opacification together with its treatment by neodymium laser capsulotomy and the complications of this therapy.

The acquisition of judgment depends to a large extent on the resident's fundamental intellectual capabilities, including such things as memory and powers of deductive reasoning. However, a given resident can attempt to enhance his judgment by carrying out a preoperative review of every patient with the attending staff concerned as well as with his peers, in the hope of learning from the decision-making processes of others. Equally important is an assessment of the surgery performed, preferably immediately after its completion, with the attending staff. After every case the resident should ask himself what steps in the surgery could have been done better, and try to establish the reasons why they were not. This habit should be carried out throughout his professional career, for once he begins to work on his own a rigorous self-assessment of every operation may be the only means of quality control. Videotaping surgical procedures can help to make this process even more thorough. At the point where post-surgery glasses are finally prescribed, a further review should be carried out taking into account final visual acuity, refraction and complications.

Oculoplastics, Orbit and Anatomy

First Year Resident

Knowledge

- Lid Anatomy and Canthal Anatomy
- Lacrimal Anatomy and Physiology
- Radiologic Investigations
 - i) Orbital Fractures
 - ii) Dacryocystograms

Clinical Evaluation

- Examination of Ocular Adnexae
- Evaluation of Skin Tumors

- Palpation of the Orbit
- Exophthalmometry
- Nasal Exam

Skills

- Chalazion and Superficial Lid Lesions
- Lacrimal Irrigation
- Tarsorrhaphy
- Temporal Artery Biopsy
- Electrolysis and Cryotherapy
- Eyelid and Conjunctival Biopsy

Second Year Resident

Knowledge

- Orbital Anatomy
- Orbital C-T Scan and MRI
- Orbital Ultrasound

Clinical Evaluation

- Forced Duction Tests
- Optic Nerve Evaluation in Orbital Disease
- Orbital Trauma
- Ocular Adnexal Trauma

Skills

- Punctal Surgery
- Lacrimal Probing in Children
- Lacrimal Intubation
- Full Thickness Eyelid Reconstruction

Third Year Resident

Skills:

- Be able to perform the following procedures:
 - Ectropion

- Entropion
- DCR
- Enucleation/Evisceration
- Ptosis Repair
- Blepharoplasty
- Assisted and participate in the following complex eyelid reconstruction procedures:
 - Repair of Eyelid Malpositions in Graves'
 - Repair of Canalicular Lacerations
 - Harvesting of Skin Grafts, Cartilage or Fascia Lata
 - Secondary Orbital Implants including Dermis Fat Grafts
 - Mucous Membrane Grafts
 - Orbital Fracture Repair
 - Orbital Exenteration
 - Orbital Biopsy
 - Lateral Orbitotomy
 - Orbital Decompression

Ophthalmic Pathology

All Years

- Attendance of rounds with CPC presentations.
- Didactic lectures

Reading

- Read Section 11 of AAO BCSC annually.
- Read Yanoff and Fine's Ocular Pathology at least one time.
- Use Spencer's Ophthalmic Pathology as frequently as possible, especially for reference purposes.

Review of Kodachrome slides

- Review of teaching slides on your own.

Most hospitals and/or Clinic has a study set of slides which covers many of the important entities in ophthalmic pathology. Covering normal anatomy, pathology, congenital anomalies and neoplasms.

MODEL HOSPITAL POLICY ON ACADEMIC AND DISCIPLINARY DISMISSALS

In July 1993, the Board of Trustees of the American Osteopathic Association adopted the following policy:

The hospital and department have clearly defined procedures for academic and disciplinary action. Academic dismissals result from a failure to attain a proper level of scholarship or non-cognitive skills, including clinical abilities, interpersonal relations, and/or personal and professional characteristics. Institutional standards of conduct include such issues as cheating, plagiarism, falsifying records, stealing, alcohol and/or substance abuse, or any other inappropriate actions or activities.

In case of academic dismissal, the hospital and department will inform trainees, orally and in writing, of inadequacies and their effects on academic standing. The trainee will be provided a specified period in which to implement specified actions required to resolve academic deficiencies.

Following this period, if academic deficiencies persist, the trainee may be placed on probation for a period of three (3) to six (6) months. The trainee may be dismissed following this period, if deficiencies remain and are judged to be unremediable. In accordance with institutional policy, the trainee will be provided an opportunity to meet with evaluators to appeal decisions regarding probation or dismissal. Legal counsel at hearings concerning academic issues will not be allowed.

In cases of disciplinary infractions that are judged unremediable, the hospital and department will provide the trainee with adequate notice, in writing, of specific ground(s) and the nature of the evidence on which the disciplinary action is based. The trainee will be given an opportunity for a hearing in which the disciplinary authority will provide a fair opportunity for the trainee's position, explanations and evidence. Finally, no disciplinary action will be taken on grounds which are not supported by substantial evidence. The department and/or hospital intern training committee, or house staff education committee, or other appropriate committees will act as the disciplinary authority. Trainees may be allowed counsel at hearings concerning disciplinary issues. Pending proceedings on such disciplinary action, the hospital in its sole discretion may suspend the trainee, when it is believed that such suspension is in the best interests of the hospital or of patient care.