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## I.

### STATEMENT OF PURPOSE

The primary purpose of the Residency Training Program is to train knowledgeable, skilled, and compassionate clinical ophthalmologists. Experience in teaching and research is also provided. It is expected that the graduating residents will be exceptionally well-prepared to practice general ophthalmology or carry on in further subspecialty training.

One of the major strengths of the program is the opportunity for residents to participate in a full range of subspecialty services where state-of-the-art care is given and to work directly with the staff. In order to maximize the value of that experience, the program is designed with a graduated clinical course. The first year is devoted primarily to learning the skills and developing some competency in general ophthalmic care. The subsequent years build on this with subspecialty rotations.

The basic academic design of the subspecialty rotation is a preceptorship. The experience is clearly best when the staff and resident can learn and deliver care as colleagues. The development of such a relationship requires a serious commitment on the part of both staff and resident and a fundamental recognition of the importance of offering the highest quality care to the patient.

Although a very considerable amount of information is presented in formal lectures and preceptorships, independent study of texts and journals is mandatory to supplement this. The ability to critically read and evaluate the ophthalmic literature is necessary to the continuing education of an ophthalmologist.

Providing top-quality medical and surgical care is a priority of the department of ophthalmology at the University at Buffalo and participation in this care is an advantage of the residency program. While some of the surgery is beyond the scope of residency training, most of it is not and participation is largely determined by the skill of the resident. Development of technical skills and surgical judgement is one of the major objectives of the program. In order to make this learning experience compatible with optimal patient care, lectures, videotapes and microsurgery lab experience are provided in addition to operating room experience.

Preservation of the essential ethical values and dignity of patients, colleagues and self is important to the residency program. Respect for this tenet must be unequivocal and uncompromising.

In summary, the goal of the residency program is to provide an environment in which compassion and intellectual curiosity can be combined with a practical application of increasing skills and knowledge to prevent, diagnose, and treat ophthalmic disease.

## II OVERVIEW OF THE RESIDENCY

The Residency Review Committee of the ACGME approves programs to train residents. It is the responsibility of the Residency Program Director to certify that each of the residents has achieved acceptable levels of performance. If a resident does not perform acceptably, it is the responsibility of the program director to assist him or her if possible or, if not, to discharge him or her from the program. Areas in which the resident=s performance is judged include cognitive skills, surgical skills, clinical judgement, and professional conduct. Physicians accepted into the University at Buffalo Ophthalmology Residency Program are unlikely to have insoluble problems in any of these areas. However, in order to critically evaluate and fairly assess trainees, it is important to outline minimum goals and expectations.

- A. Cognitive skills are assessed in the following ways: the OKAP exam (Ophthalmic Knowledge and Assessment Program) is required and each resident is expected to score appropriate to his/her capabilities. With the quality of our residents, we would expect scores equal or higher than the national average. Faculty evaluations are made quarterly by the staff responsible for each of the resident=s rotations. Preparations for and presentations of research projects, Grand Rounds, along with participation in Journal Club and weekly conferences, are also evaluated by the staff.
2. Surgical skills are evaluated by the staff supervising the resident=s rotations and during didactic and laboratory surgical sessions. It is important to recognize that surgical skills encompass more than technical ability (although this is certainly important): the areas of case selection, pre- and post-operative care, avoidance and management of complications and surgical judgement in the operating room are included and are of utmost importance.
- C. Clinical judgement is difficult to define but it is used here to describe the various skills which separate simple cognitive skills from the ability to practice clinical medicine. Quite often PGY-2 ophthalmology residents can answer enough questions correctly on the OKAP examination to pass the written portion of the American Board of Ophthalmology examination Part I, but no one would suggest that such individuals are completely competent to practice ophthalmology. Three years of clinical experience, with a variety of patients under a wide variety of circumstances and pressures, offers the opportunity for the residents to synthesize skills (information gathering, problem solving, surgical technique, relations with patients and colleagues, etc.) into an effective means of caring for patients. It is this which is measured under the heading of judgement. This also is assessed by the staff responsible for the resident=s rotation. Attendance at all clinics and conferences is mandatory except when on vacation or in the O.R. as a senior resident.

Each of the resident rotations has been described and goals and expectations outlined. A copy is appended (see rotations).

D. Resident Development

First Year

In general, first year residents are expected to show clear evidence of increasing knowledge derived from a continuous program of reading to supplement their learning in the clinics and operating room. Histories and physicals are expected to be thorough. Findings overlooked or unnoticed are considered serious deficiencies. As the year progresses, the first year resident should become competent in the following areas: retinoscopy and refractions, general ophthalmic examination, including external exam, motility and pupillary observations, slit-lamp examination, tonometry, gonioscopy, screening neuro-ophthalmic exam, fundus exam with a direct and indirect ophthalmoscope, and perimetry. Residents should develop the ability to evaluate and treat minor ophthalmic emergencies and triage more serious conditions. All pages must be answered in a timely manner. Surgical skills achieved should include corneal foreign body removal, minor lid surgery, and the rudiments of cataract surgery, including a thorough familiarity with the operating microscope and the techniques of bimanual intraocular surgery. Regular use of the microsurgery lab is expected. By the end of the first year, residents should have learned to overcome any tremors and anxieties which might limit their technical proficiency in the operating room. By the end of the first year, residents are expected to be able to examine all patients and understand the basic pathophysiology so that they can either make the correct diagnosis and render care or know the appropriate further tests or referral in order to do so.

Second Year

During the second year, the resident is expected to meet and hopefully exceed the academic and other requirements defined for each of his or her rotations. In general, the second year resident is expected to be able to perform the complete examination, arrive at an appropriate working diagnosis and a reasonable differential diagnosis, and make recommendations for treatment. In the subspecialty areas that the resident is exposed to through his rotations, it is expected that the diagnosis will be correct, the differential will be exhaustive, and that the appropriate medical and/or surgical treatment will be initiated. By the end of the second year, the resident is expected to be technically competent in the operating room and show evidence of good surgical judgement in the areas where training has occurred.

Third Year

The third year resident should continue to develop the clinical and surgical skills appropriate to the rotations encountered. By the end of the third year, the resident should have learned enough to be a confident and caring physician and surgeon who can offer excellent care to his patients under all circumstances. The resident should understand thoroughly the conventional approach to clinical problems and also be familiar with recent innovations and the research which has led to their development. He/She should be familiar with the ophthalmic literature. The third year resident should have the ability to teach and supervise the junior residents along with the attendings.

E. Board Certification

Each resident is responsible for arranging timely application to take the American Board of Ophthalmology qualifying examination. Part I, the written qualifying examination is, usually held in April of the year following completion of residency training. Therefore, the graduating resident is responsible for submitting the necessary application in August, immediately following completion of residency training, whether or not fellowship training is sought. Please note that the recommendation of the department chairman is required. Applications forms are available from the American Board of Ophthalmology, 111 Presidential Blvd., Suite 241, Bala Cynwyd, PA 19004.

**III. PROFESSIONAL CONDUCT**

Values and standards are difficult to evaluate, but common sense dictates certain behavioral expectations for any serious student and physician. Residents are required to be on time and appropriately prepared for all scheduled educational sessions, and complete assigned tasks in all areas of training in an appropriate and timely manner. Residents must always behave courteously, tactfully and empathetically towards patients and their families. Similarly, they should be cooperative and supportive to staff, fellow residents, paramedical staff, patients and others. Proper dress, grooming and deportment are expected when in patient care areas. Residents are expected to provide appropriate medical and surgical care, according to the level of skills, and to communicate with the staff about patient care so that appropriate and necessary supervision and guidance may be provided. Continuity of care must be ensured with both staff and fellow residents for any patient for which the resident is responsible. Accurate written patient records must be maintained. Each encounter with a patient must be documented in the patient record. Residents are expected to adhere to the published rules and regulations of the Academy of Ophthalmology and familiarize themselves with the AAO Code of Ethics (copy provided in manual). Finally, residents are expected to communicate in an honest and candid manner with the staff. This is fundamental to the kind of relationship which is necessary to both education and patient care in our Department.

Should a resident not perform satisfactorily in the opinion of the Residency Committee and the Program Director, that resident will be placed on probation and a remedial course will be instituted to help him upgrade his performance. If his performance should continue to be unsatisfactory, the resident will either be offered the opportunity to resign from the program or be discharged from it. If the resident's behavior is grossly inappropriate, that resident may be discharged without any probationary period. If a resident believes that sanctions are being unfairly applied, appropriate mechanisms for resolving these concerns and assuring due process are available through the Office of the Program Director. A SUNY approved grievance procedure is available through the University if issues are not resolved on a departmental level.

Although it seems unlikely that any confusion should occur on these issues, it is important that any questions which arise be brought to the Program Director directly and promptly.

#### **IV RESIDENT RESOURCES**

##### **A. Department Library**

In addition to the University at Buffalo Health Sciences library, the residents have access to numerous widely circulated journals at the Erie County Medical Center library and the VA Medical Library. The department maintains an extensive collection of texts, both of current and historical interest, in the resident library at the ECMC Eye Clinic, POD 152. All books, slides, diagrams, etc, are to remain on the premises. Under no circumstances are any materials to be removed from the premises. Lost or stolen volumes will go unreplaced for the fiscal year and many of them are irreplaceable, so strict adherence to this rule is mandatory. In addition to traditional printed material, the University provides access to Med-Line (see section on literature searches and computer services).

##### **B. Microsurgical Laboratory**

The surgical laboratory is located at ECMC within the pathology department on the ground floor. All residents will be given a key to the lab. The lab contains one floor mounted Topcon microscope with an assistant head, and two wall mounted Zeiss microscopes with observer heads. All residents will be given a set of surgical instrument for use in the laboratory only. They will have the same set of instruments for all three years of residency training. They are responsible for routine cleaning and maintenance. The instruments are to be turned into Dr. Reidy's office prior to completing the residency program.

Two updated Alcon Legacy phacoemulsification machines are present in the lab for resident use. Pig eyes will be ordered for formal instructional

labs and artificial eyes with simulated cataracts will be made available for practice. A refrigerator/freezer unit, as well as assorted disposable equipment are present in the lab. There is well over \$100,000 of equipment within this lab and therefore access is limited to residents and staff.

#### Surgical Laboratory Sessions

Monthly surgical labs will be held on Saturday mornings beginning at 9 am and will end promptly at noon. Attendance is mandatory. Early emphasis will be placed on surgical instrumentation, the surgical microscope, suture material, and proprioceptive skills under the microscope. Later sessions will address basic microsurgical techniques: incisions, suturing, capsulotomy, and basic plastic surgical techniques. Advanced sessions will address phacoemulsification, IOL implantation, and management of surgical complications. Each session will be directed by either a full-time staff member or by invited guest faculty. Each session will consist of a one-hour lecture, a physical or video demonstration by the instructor, and a live lab session using the provided microsurgical equipment. Residents must be certified in each specified area by an instructor prior to advancing to surgical patient care. The annual laboratory schedule will be provided.

#### C. Computer Access

As a resident at the University at Buffalo, you are entitled to a University computer account. This account will allow you to access the University computer from home with a personal computer and modem. You will have access to e-mail, the internet and Medline. You can obtain an account name and password by calling Computing and Information Technology at 645-3540.

#### D. Literature Searches

Literature searches can be performed at any of the consortium hospitals. Searches can also be performed from home with a personal computer. Access to Medline is available to any resident with a University computer account.

Medline may be accessed via the internet at: <http://hubnet2.buffalo.edu>

Search results may be printed, saved or e-mailed to your own account.

### V. RESIDENT EDUCATION

#### A. Educational Reading

The faculty have provided a reading list that is critical to the development of your fund of knowledge. It is expected that this list will be completed at the appropriate time in your training. Although extensive, it is not complete. This should be considered the MINIMUM reading required. Residents are expected to take the opportunity to learn whenever and wherever possible. In addition to this required reading, residents are expected to pursue an aggressive independent course of reading texts and journals. Residents should regularly read the major journals and demonstrate a progressive ability to critically evaluate the general directions of ophthalmic enquiry and the specific attributes of individual presentations

#### B Conferences/Meetings

Residents are required to attend conferences given by full-time and volunteer staff; any clinical obligations are excused since teaching conferences supercede clinical responsibilities for the residents.

You may not be given an option to miss a conference or meeting. You will be held responsible for missing these obligations should this occur. Explain this rule for any faculty who offers you the opportunity to miss a lecture. Conferences include visual field conferences, fluorescein angiography conferences, and monthly Journal Club.

Please be on time for all meetings. Many of the faculty spend a great deal of time preparing their lectures. Arriving late is rude and inexcusable.

#### C. Grand Rounds

Grand Rounds are held on Thursday mornings and run from 7:00 am to 8:30 am. All residents are expected to be present and arrive on time. Residents are not to be involved in other activities at this time.

The purpose of Grand Rounds is many-fold, not the least of which includes the opportunity to discuss unusual ophthalmic cases, to present case histories and physical findings concisely along with a critical review of the literature pertinent to the patient=s diagnosis, and to become comfortable with public speaking.

The chief resident is in charge of assigned dates for which each resident is responsible for presenting a case. Two cases will be presented at each grand rounds. Each case should be professionally prepared in detail, thoughtfully presented, and thoroughly discussed. Reiterating textbook material is to be avoided as it is unnecessary and boring. Grand round presentations are not for the purpose of giving a lecture.

Cases which make for good discussion not only include rare or unknown problems, but common disorders which may provoke discussions involving management issues.

Residents should present cases which they themselves have seen and participated in if possible. Each resident should try to keep a file of interesting cases that they have seen, so that they may have cases they can draw upon to present. If residents cannot find cases to present for their assigned Grand Rounds session, they should contact full-time staff members for suggestions and use of interesting cases from their files.

D. Journal Club

Approximately every two months a Journal Club will be hosted by a staff physician or a Clinical Professor of Ophthalmology. The format is variable but usually involves critical review of assigned articles from major ophthalmology journals.

## **VI RESIDENT EVALUATIONS**

Residents will be evaluated during each of their rotations by the attending faculty with whom they are in contact and objectively through written and oral exams.

A. Rotation Evaluations

Residents will be evaluated by the faculty following the completion of each rotation. Residents will have access to each of these evaluations.

B. Oral Examinations

An oral examination is held in the Spring of each year. The format is designed to represent the oral examinations for board certification. Besides evaluating a resident's progress, the examination helps to prepare the residents for their formal oral exams.

C. Written Examination

A written examination is held in the Fall of each year. The format is designed to represent the written examinations for board certification. Besides evaluating a resident's progress, the examination helps to prepare the residents for their formal written exam.

D. OKAP Examination

The Ophthalmology Knowledge Assessment Program (OKAP) test is given annually, usually on a Saturday in April. It is required of all residents as an aid in assessing progress. It is also an excellent tool for

practice in taking the Boards as it will reflect in great part Part I of the aforementioned exam. The exam is multiple choice with 200 questions, and covers basic science and clinical material with clinical emphasis. Satisfactory performance on this exam is an indication of overall ophthalmic competence and is a factor in the evaluation of the resident's continuation in the program. The American Academy of Ophthalmology Basic & Clinical Science Course, provided by the Department of Ophthalmology at the University at Buffalo, is an excellent guide for studying the required materials for satisfactory completion of the OKAP examination.

D. Evaluation Sessions with the Program Director and Department Chair

Each resident will meet with the department chair and program director biannually each academic year. The resident's progress will be discussed. Any areas of concern will be addressed if needed.

## **VII RESIDENT EVALUATION OF FACULTY**

Residents will be asked to evaluate the faculty. Evaluations will include, but will not be limited to:

1. Lecture evaluation
2. Evaluations of specific rotations

These evaluations will be looked at closely. Areas of concern will be addressed. Residents should be aware that all evaluations will be kept in the strictest of confidence.

### Faculty Meetings

Each month the faculty meet to discuss resident issues. Residents having difficulties in the program are also discussed. Methods to correct any difficulties are discussed and implemented at these meetings.

## **VIII RESIDENT RESPONSIBILITIES**

A Chief Resident

Each year the faculty appoint one senior resident to serve as the chief resident. The chief resident serves as a vital link between the faculty and the residents. He/She is responsible for schedule maintenance, junior resident supervision, and is always available for problems that may arise. Difficulties with clinic coverage, schedules, etc. should be addressed by the chief resident. In the event that problems arise that cannot be addressed by him/her, the program director should be contacted

## B Surgical Logs

All residents are required to log their surgical experience electronically through the ACGME Resident Data Collection System. This is the responsibility of each resident. Surgical procedures to be logged include all inpatient and all outpatient surgical cases that the resident observes, assists, or performs including laser procedures, minor procedures in the eye clinics, and major operating room cases. The resident must include the patient's name, age, date, medical record number, attending involved, diagnosis, procedure, and extent of involvement in the case. All entries must be signed by the supervising attending. These records are absolutely essential to the accreditation process by the ACGME for the University at Buffalo's Ophthalmology Residency Training Program and serve as the method with which you will be credentialed for surgical procedures when you apply for hospital privileges upon the completion of your training. Absent or poorly kept records may make it impossible to certify you for certain procedures.

Surgical logs are to be turned into the program director at the beginning of each month. Failure to return completed logs will result in a suspension of surgical privileges.

## C. Resident Research

The purpose of research during residency training is to provide a background for the work and development needed to produce a quality publishable product. This will hopefully allow the resident to develop greater analytical tools when reading reports published in peer-reviewed journals. With this in mind, a requirement of the residency program is that each resident is expected to produce a paper of publishable quality, submit it to a journal and present the project for the annual department meeting in the spring of his/her senior year. Residents should seek out the advice and supervision of the ophthalmology staff and present them with a topic or ask for a topic to investigate. Basic scientific research, clinical study, chart review or extensive literature review in the format of a review article are all acceptable formats for the required independent research projects. A time table for research is presented below.

### 1. First Year

**S** consider and develop an idea for a research project

### 2. Second Year

- S development of a research protocol and study design, with appropriate statistical analysis if needed
- S written presentation of the project by January 1 of the second year
- S begin collecting data

### 3. Third Year

- S finish collecting data
- S analyze data as needed
- S submit manuscript for publication
- S presentation of formal abstract by May 1
- S prepare and complete project by June 1

## D. Call Schedule and Responsibilities

### 1. Call Schedule

The call schedule will be prepared by the chief resident. Problems with the call schedule should be directed to him/her. The schedule will be made at the beginning of the year. Any changes in the call schedule must be approved by the chief resident.

The resident requesting a change in the call schedule will be responsible for notifying Elaine Taylor, the hospital emergency rooms and operators which are involved in the change.

### 2. Call Responsibilities

During normal eye clinic hours of 8:00 am until 5:00 pm, emergencies will be handled by the normal contingent of physicians staffing the clinic. Residents will be assigned individual pagers to ensure reachability.

Residents will be responsible for seeing and evaluating all emergency room eye patients at ECMC, CHOB, VA, emergency consults, outside referrals, and patient phone inquiries. In addition, residents will also provide first-line on call duties for the full-time staff private services, namely Drs. Everett, Khani, Reidy, and Reynolds. Coverage will provide the residents with invaluable experience in Aphone triage@ and patient exposure which is necessary for any physician to practice. The full-time staff physicians will be able to be reached on their own pagers and expect to be notified of ANY private service patient/resident conversations or encounters. Unless specifically directed otherwise, faculty should be consulted about any call from a private patient. This is especially true for any patient

who has recently undergone surgery. Discuss the problem with the patient and tell them you will contact their doctor. Call the attending and discuss your thoughts, impressions, and plan of action.

When seeing an emergency patient on call, make every attempt to have the patient seen in the eye clinic rather than at the bedside. Keys will be provided. Hospital security can also open the eye clinic at the VA. If this is not possible (eg. ICU consults, etc.), an **AON CALL BAG@** is available along with a portable slit-lamp and indirect ophthalmoscope. The bag is full of necessary items for patient examinations and should be fully stocked with drops, penlight, near vision card, +3.00 spectacles, and the Tonopen. Residents must be cognizant of the fact that these pieces of equipment are costly (Tonopen is \$2700!) and will not be replaced without long delays if they are misplaced: treat them as if you own them yourself!

The senior resident on call should be contacted with any questions regarding a patient that is being seen. If questions remain, the senior resident should see the patient themselves. A junior resident should never hesitate to call the senior resident for advice or request their presence when seeing a patient. If any difficulties arise or a senior resident hesitates to see a patient, the program director should be called immediately. If questions remain, or upon completion of the consultation, the attending physician on call should be contacted. The resident on call should never be intimidated nor reluctant to call the attending, regardless of the hour.

On call responsibility from home is a privilege! A prompt response to ER requests is mandatory, saves time, saves sight, and maintains a standard of excellence that can only be nurtured through hard work and a generous dose of compulsive behavior. Do not jeopardize this privilege.

There is NEVER a time that it is appropriate to hesitate or refuse to see a patient when requested to do so by another physician regardless of how trivial the consult may seem. Failure to provide efficient, professional and pleasant consults, at any time of day or night, will be dealt with in the strictest manner possible. Furthermore, it is never appropriate to call a senior resident or attending to see if it is **Anecessary@** to see a patient when asked to do so by another service**C**the answer is always **AYes@**.

If a difficulty arises regarding a consult, the patient should be seen and treated appropriately and the chief of service contacted afterwards. Under no circumstances should the resident attempt to rectify the problem themselves.

### On-call Surgery

- i All surgery performed in the operating room must be done under the supervision of an attending.
- ii Minor surgery done in the ER or clinic may be done under the supervision of a senior resident IF approval is obtained from the attending on call.
- iii All surgery is to be performed by the senior resident. This allows the senior resident to perform the surgery to the greatest extent of his/her ability and not dilute the surgical trauma experience in the senior year.
- iv The junior resident should observe all emergency surgery when possible to prepare themselves for the senior year responsibilities.
- v A senior resident must be present when minor procedures are performed by a junior resident.
- vi The operating senior resident is responsible for postoperative care regardless of the subsequent call schedule

### Scheduling Emergency Surgery at ECMC

The surgery control desk in the OR must be called as soon as it appears that surgery will be required. The extension is 3553. Before calling, have the patient's name, medical record number, birth date, diagnosis, planned procedure, type of anesthesia and attending's name ready for the control desk nurse/clerk. It is crucial that no time be lost in getting the OR set up for surgery because as a LEVEL 1 trauma center, eye cases can be **Abumped@** for more emergent cases involving risk of loss of life or limb, forcing unnecessary delays in repairing a ruptured globe for example. As always, contact the attending on call as soon as possible to give adequate time for him or her to arrive. It is the resident's responsibility to have the consult sheet, the history and physical (along with complete eye exam),

preoperative testing, patient=s face sheet, admission orders, and consent ready.

#### Scheduling Emergency Surgery at VA

The attending on call will direct you in Scheduling emergency surgery. The operator will put You in contact with the Head Nurse in the OR who will Schedule OR staff on call.

#### E. Hospital Consults and Inpatient Follow-up

All inpatients on the ophthalmology service are to be seen by the resident on call over the weekends. During the week, patients may be brought down to the eye clinic during 8-5 hours or may be seen at the bedside by the on call resident BEFORE 8:00 am clinic start-up time.

Residents will be responsible for reviewing all emergency consults with full time staff on a daily basis, and will keep a log of ALL PATIENT ENCOUNTERS after normal business hours. The log book can be found in the eye clinic and is to be filled in completely including patient=s age, medical record number, diagnosis, date and time, attending on call and name of resident. The examination notes (if the patient was seen after one-on-one arrangements with the resident) or the consult sheets (all other patient encounters) will be left in the wire basket on the eye clinic desk, next to the log book.

#### F. Resident Surgery

Performing surgery is a privilege. Residents should be fully versed on the procedure(s) they will be observing, assisting, or performing, including the indications, anatomy, and potential complications and management of those complications. Senior residents who are not prepared will forfeit their OR privileges. You are expected to provide surgical care in the same manner they would expect to be given themselves. Dictations must be done immediately following the case.

#### G. Days Off

##### 1. Sick Days

Sick days are designed for people who are too sick to work. You should treat a day that you must cancel on short notice as if it were your private practice. These days are a major inconvenience to patients, fellow residents, and staff. The use of a sick day requires a signed note by an attending physician.

## 2. Interview Days

Days used for fellowship or job interviews will be considered a vacation day.

## 3. Vacation Days

Vacations will be scheduled at the beginning of each academic year and turned into the Chairman's office by August 1st. Selection of days will be done by a process based upon seniority. Any changes require prior approval from the chief resident and attending physician involved. Changes for the months of December through June can be made until October 1<sup>st</sup>. Any changes to the vacation schedule after that date will not be allowed.

Guidelines for vacations are:

- i A full week must be used.
- ii One week of vacation at a time.
- iii One week of vacation per rotation.
- iv One resident on vacation at a time.

Excess vacation days will be managed at the end of the senior year.

If a resident's clinic responsibilities are cancelled by the attending for that day, the resident must seek one of the other rotation sites to participate.

## H. Moonlighting

Because the faculty of the Department of Ophthalmology at the University at Buffalo believe that graduate medical education is a full-time activity, each resident is expected to be able to fulfill his or her clinical and educational responsibilities whenever scheduled or required. Each resident is charged with the responsibility of pursuing his own education and providing adequate time for outside reading and study in the evenings and weekends. No resident should expect to be able to adequately complete his training without utilizing this time for study. Residents who wish to engage in employment outside their training program must obtain the advance written approval of the Program Director, and will be subject to all applicable limitations on work hours, including those prescribed by Hospital policy, the New York State Health Department, and the Accreditation Council for Graduate Medical Education (refer to the Consortium Resident Workhours & Supervision Policy). This written

approval must be made part of the resident file, forwarded to the Office of Graduate Medical Education, and the employing Consortium hospital (if applicable). Residents must not be required to engage in moonlighting. All residents engaged in moonlighting must be licensed for unsupervised medical practice in the state where the moonlighting occurs. Moonlighting duties are not covered under the professional liability insurance arrangements presently in place and, accordingly, each resident is personally responsible for obtaining and maintaining professional liability insurance coverage while engaging in any Moonlighting activities. Failure to adhere to any of these policies may result in the immediate dismissal of the resident from the program. Residents on J-1 or H-1 visas may not moonlight.

## **VIII. RESIDENT PROBATION, DISMISSAL AND PROMOTION**

### Probation

A resident having difficulty in the program, as discovered through the evaluation process or brought directly to the attention of the program director, is first counseled by the program director directly. These areas of difficulty may include educational difficulties or personality problems. The resident is first given an opportunity to show improvement prior to being placed on probation. At this time they would typically be given one-on-one instruction with several faculty members in areas in which they are felt to be weak. An extensive reading list is given to them at this time. If the resident does not show improvement in a short period of time, they are then placed on probation. When possible, specific details with regard to the reason for probation are always given to the resident. Mechanisms to improve their status in the program are spelled out directly. A timetable for removal of the probationary status is made as well as possible consequences if they are unable to remove themselves from probation. Both the chairman and program director strongly believe that probation is a mechanism of improving the resident and is not a punitive measure. However, certain violations can lead to immediate probation.

### Dismissal

A resident who has been placed on probation and is unable or unwilling to meet the requirements to be removed from probation may be dismissed from the program. If the resident feels that their dismissal has been without prior cause, they may engage the appeals process provided by the University at Buffalo.

### Promotion

Residents who perform at an acceptable level are promoted to the subsequent training year. It is expected that all residents will be capable of promotion and eventual graduation. Those residents who are not ready for promotion may be placed on probation as described above.

## Graduation

Following 36 months of training and satisfactory performance, a resident will be graduated from the training program. Each resident will receive a graduation certificate. It should be emphasized that although a certificate may be presented prior to the end of the thirty-sixth months of training (i.e. at the annual resident meeting), attendance for the full 36 months is mandatory to complete the training program and be eligible to sit for the board examination.

## **IX HOSPITAL ROTATIONS**

### **A. Erie County Medical Center (ECMC)**

#### **ECMC Eye Clinic**

The eye clinic at ECMC serves a wide range of socioeconomic groups of patients, from hospital administrators and politicians to prisoners and everyone in between. This holds true for general as well as specialty clinics. Residents are expected to treat every patient with due respect. Residents are also expected to work up patients, whether new or established. The ophthalmic assistants are there to help, not to work for the residents. Their assistance is invaluable; therefore, courteous treatment is expected. If any problems arise, either personal or procedural, bring it to the attention of the Clinical Director, Dr. Reidy, immediately. Clinic hours begin promptly at 8:30 am to 11:30am and resume at 12:30 pm until 4:00 pm. This is in regards to scheduled outpatients and consults only. All post-operative patients are to be seen in the eye clinic at 7:30 am or earlier so as not to disrupt the entire days schedule. Residents may take lunch breaks from the time the morning clinic is over until 12:30. If the morning clinic is running late, then the residents may make arrangements amongst themselves for a lunch break in shifts. Under no circumstances will patients be left waiting while the doctors are taking care of themselves first: the patients are first! From time to time the photography service will be in need of an MD to assist in administering intravenous fluorescein injections.

Consults may be seen during the day as called in or at the end of the day as time allows, but they must be seen **WITHIN 24 HOURS!** As previously mentioned, all consults must be seen with

or at least the findings reviewed by an attending. Emergency patients must be seen as soon as possible when requested by the ER physician, and if possible, be brought to the clinic. When possible, schedule visual fields for patients during the same visit, but keep in mind that the whole process takes about 35 minutes. Patients who are waiting while dilating should be seated in the inner hallway or the drop room to facilitate flow and ease of patient volume and prevent backup.

### Photography

The ophthalmic photography service of the Department of Ophthalmology at the University at Buffalo offers a complete spectrum of photographic services including: slit-lamp and fundus photography, stereo imaging of optic nerve heads and fundus, gonioscopic photography, red-free nerve fiber layer photography, Heidelberg Retinal Tomography, Ocular Coherence Tomography of the retina & optic nerves, Computerized corneal topography, and Digital intravenous fluorescein angiography. Support services also include videotaping of surgical procedures in the major OR with complete editing of videotapes or DVD's, still photography of surgical procedures, production of computer generated 35mm slides for presentations and photography of printed materials. Ample time and attending approval must be allotted for utilization of photographic services, as they are time consuming and expensive. When requesting photographs, it is imperative that the physician communicate with the photographer exactly what it is that is to be imaged.

### Intravenous Fluorescein

In performing a fluorescein angiography, it is essential to understand some of the inherent limitations of this study. Fluorescein is a tissue irritant and therefore, a large vein should be selected for the injection. When introducing the recommended 20 gauge needle into the vein, the arm should be immobilized to help the injector as well as the photographer who is at the same time focusing on the patient's retina. Blood should be withdrawn to be certain that there is no doubt that the needle has been properly placed. The tourniquet is then released, a small amount of blood is again withdrawn as a double check, and the injector states to the photographer ready. After the photographer acknowledges that all is ready, use a calm steady voice to announce that the injection has begun and inject as quickly as possible. Announce when finished by saying complete. It is important to inject the fluorescein as fast as possible with one smooth push, to ensure that there will be a reasonably good amount of fluorescein entering the eye at one time. A good bolus helps to show fine detail in the early phases of

the angiogram. We attempt to determine the retinal circulation time for many studies, and if the fluorescein is not injected rapidly, low concentration of dye arriving slowly may affect the results of the study. A most critical period of the study, the acute phase, occurs just about the time when the injection has been completed, and the injector is ready to remove the needle from the arm. No sudden movements or distracting comments should be made at this time, since the patient is concentrating on fixation. We ask that the needle be left in the arm in most cases, at least until the photographer has completed shooting the primary eye, so as not to cause the patient to move away. The injector should remain in the room until the second eye is photographed, just in case any problems should arise. Although fluorescein angiography is a relatively safe diagnostic tool, side effects from fluorescein occur. Our findings show that nausea, occasionally progressing to vomiting, is the most common side effect. Nervousness, not eating beforehand, and breath holding are the main causes. Extravasation at the injection site results in intense pain. The greater the amount extravasated, the more severe is the pain, but even a drop of fluorescein on the tip of the needle at the time of injection is painful. The patient will usually react immediately upon extravasation, at which time the injection should be stopped and the photographer notified that there is a problem. If you feel that the needle position is not correct, stop and check it before proceeding. The exact amount of fluorescein injected is recorded in the patient's record and is noted by the physician when the angiogram is read. Therefore, please do not dispose of fluorescein that may be left in the syringe. A study of more serious reactions to fluorescein, by Stein and Parker, reported a mean incidence of six reactions per 1000 injections, the majority of which were considered to be allergic in nature, manifested primarily by urticaria, with angioneurotic edema broncho spasm. Cardiac arrest, shock, syncope, myocardial infarction, respiratory arrest or distress may also occur. Sloughing of skin following extravasation has also been reported. An emergency tray is available in the photo rooms containing ammonia capsules, diphenhydramine, epinephrine, atropine, syringes, ambu-bag, esophageal obturator airway and oxygen. A rubber glove filled with ice is helpful to hold over the area of extravasation if pain is present.

### Discharge Procedures

Residents will be responsible for all discharge summaries, discharge orders and appropriate follow-up arrangements for all patients. A personal dictation number should be requested from Medical Records at ECMC during the first month of residency. Medical Records will provide the residents with written instructions on how to use the hospital dictation system.

Electronic chart signature will be available in the near future through the hospital information system. Residents must apply for access to ECMC's hospital information system during the first month of residency training. Be sure to note that appropriate parties receive copies of operative notes. All patients admitted for ambulatory surgery will be discharged with the following wording: Discharge to home, follow-up in ECMC Eye Clinic at 7:30 am. The nursing staff cannot honor an order stating "discharge when stable" or DC IV when stable, etc.

### Operative Reports

All procedures are to be dictated on the hospital dictation system. This includes not only major OR cases, but minor procedures as well. Each report should include the same information as found in the individual residents surgical log and should be dictated according to the voice-prompted instructions of the specific dictation system of each hospital. Remember to specify that the attending is the surgeon and the resident is the assistant. Also, make sure that copies of the reports are to be sent to both the attending and the resident.

### A Note on IPRO Regulations

IPRO (Island Peer Review Organization) is Medicare/Medicoids watchdog. The attending, not the resident, suffers the consequences of IPRO citations, therefore the following guidelines must be adhered to:

All cataract patients must have a pre-operative note that includes a Chief complaint (i.e. difficulty reading, driving glare problems ect.), and a complete eye exam. The resident should document in the chart that he or she has ***"informed the patient of their diagnosis, proposed treatment, feasible alternatives, probability of success, risks of the procedure, and prognosis if no treatment is undertaken. The patient understands that his/her treatment may not accomplish the desired objectives."***

All laser patients must have the same as above, with the additional mention of mental status (alert & oriented x 3), pre-laser vitals and post-laser vitals including both pre & post-op IOP.

All abnormal pre-operative laboratory, X-ray, or EKG results must have said results addressed in the chart and appropriate treatment or follow-up initiated.

All surgical patients require a full medical history and

physical examination in addition to the complete eye exam.

B. Veteran=s Administration Medical Center (VAMC)

Veteran=s Administration Medical Center (VAMC)

The VA Medical Center cares for all eligible veterans from a large geographic area. There are four satellite sites at the Batavia VA, the Bath VA, and the outlying clinics in Olean and Jamestown, but these sites do not have surgical facilities and all their surgical patients are sent to Buffalo. The Eye Clinic at the VA Medical Center is staffed by two residents and several attending physicians, both comprehensive ophthalmologists and subspecialists. Every clinic is covered by an attending, as is every surgical procedure. The breakdown of the clinic schedule is as follows:

	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>
AM	Retina Laser	Postop, Cornea Optometrist	General	Post Op Minor Surg	Consults, Diabetic screening
PM	General Laser	Glaucoma	General Laser	General.	Consults, diabetic screening

Consults are seen as needed for emergencies, or scheduled into the regular clinics.

Surgical block time is Tuesday 7:30 am-finish, Wednesday 7:30 am - 11 am, and Friday 10am – 1pm. The Ophthalmology Suite is equipped with state of the art surgical equipment and instruments, for both anterior and posterior surgery.

All surgery is done on an outpatient basis. Those patients who come from a long distance (greater than 75 miles), can stay overnight in the hospitality unit at no cost. Surgical dictations are to be done immediately after the case. In the event a patient has to be admitted, a short form admission note should be filled out if the patient will be discharged within 24 hours, and sent to the observation unit. All longer admissions need to have a discharge summary dictated.

The VA has a computerized system for entering order, notes, and consults. At the beginning of the rotation, computer password codes and instructions will be given. All lab results and radiology reports can be pulled up on the computer which is located in each exam room. Other staff in the eye clinic include a registered nurse-ophthalmic technician, a certified angiographer-photographer, an ophthalmic technologist, a secretary, an optician-ophthalmic assistant, and optometrist. As can be seen, the staff are well trained in the ophthalmic

field and have multiple certifications. Please treat them with the respect they deserve.

Equipment consists of four fully equipped exam rooms, a Goldmann and Humphrey Perimeter, OCT, Pachymeter, A and B scan, YAG, and Argon lasers, slit-lamp digital camera, and retinal digital camera. We have a surgical microscope for the clinic to be used for non-OR surgical procedures. Laser procedures must also be entered into the laser record book after being done.

All clinic patients should be seen or discussed with the attending in clinic. All patients being considered for surgery should have the chart signed by the attending and a card made up detailing the patient's procedure, medical problems, anesthesia needed, telephone number, visual acuity, and other pertinent information, so when the technologist does the scheduling, she has an idea of what is needed pre-op. Surgical patients come in the week before for lab testing and H&P. The H&P is usually done by the resident who is doing the surgery. Junior residents should only do the H&P if the senior is not available.

All surgical procedures will be done by the residents at the discretion of the attending. This may mean that the attending does the case if it is felt that adequate experience is lacking. Junior residents will be given the opportunity to do some procedures, depending on skill and experience.

Clinic starts at 8:30 am and runs until all the patients are seen. If there is any free time at the end of the day, it is expected that it will be spent reading or preparing presentations. If it is necessary to leave the clinic, please give beeper numbers to the secretary, nurse, and technologist. The medical library is on the eighth floor. There are a number of books and slides available in the attending's office. Ask permission to borrow these materials first.

C. Women & Children's Hospital of Buffalo

**Clinical Responsibilities.** Dr. Reynolds examines patients at the Children's Hospital all day on Wednesday and on Friday mornings. The first patient is typically scheduled for 9:30 on Wednesdays and 8:30 on Fridays, but residents should report to the clinic at least 15 minutes beforehand. The Wednesday clinics run until approximately 4:30, and the Friday clinics until about noon. Please be on time.

On Mondays, Dr. Reynolds sees patients at the Children's Hospital Health Center, 3580 Sheridan Drive at Millersport, Suite 115. Patients are scheduled from 8:30 am until 3:00 pm. The orthoptist, Kyle Arnoldi, also works with Dr. Reynolds on these days.

Residents should try to examine the patients before the attending sees them, if possible. To make the most of your experience, it helps to be aggressive about picking up a chart and seeing a patient. It is your responsibility to take the initiative. Do not wait to be handed a chart, or to be asked to examine a patient. When a patient has been registered and is ready to be examined, the chart will be placed on the counter in the Staff Room near the schedule of the provider, in the order in which the patient arrived and was checked in. The chart on top is the next one that should be taken.

Begin by introducing yourself to the parents and the patient, and explain that you work with Dr. Reynolds. Try to do as much of the evaluation as possible. If you are having difficulty with a patient, Kyle is usually available to assist. Do not dilate any patient before he/she has been presented to and examined by Dr. Reynolds, unless specifically told to do so.<sup>1</sup> It is not possible to accurately evaluate strabismus, binocular vision, or acuity in pre-verbal patients when the patient has already been dilated. Before presenting the patient, have your findings ready. Formulate a preliminary diagnosis and management plan, even if you are uncertain. In most cases, the resident should accompany Dr. Reynolds and observe his examination of the patient.

Residents are sometimes asked to return patient phone calls. Charts with phone messages for the residents will be found in the top bin of the stacked organizer just inside the door to the front desk. Be sure to document the phone call in the patient's chart.

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<sup>1</sup> The one exception to this rule is the premature baby being examined to rule out retinopathy of prematurity. See ROP Exams below for clarification.

**ROP Exams.** Premature babies being screened for retinopathy of prematurity are escorted by the front desk personnel directly back to the exam area. These babies do not need to be examined prior to dilation. As soon as they are seated, the resident should begin the dilation process. Instill three sets of one drop of Cyclomydril into each eye, spaced approximately 5 minutes apart. Mark the time each set of drops was instilled at the top left corner of the exam sheet.

**Exam Lanes.** When starting a patient for Dr. Reynolds, the resident typically uses lanes 3 and 4. Lane 2 is the orthoptic lane, and Kyle will use that room when she is in the clinic. Dilated patients who are ready to be re-examined by Dr. Reynolds may be seated in Lanes 1, 3, or 4.

The door to the exam room is usually open during the examination. However, you may close the door in order to keep the child's attention focused on the exam, provide the family with some privacy, and prevent those waiting to be examined from becoming frightened if the patient begins to cry.

**Pupil Dilation.** Generally, all new pediatric patients, and those who have not had a dilated exam in over a year undergo a dilated exam. There are exceptions, however, and no patient should be dilated unless directed by Dr. Reynolds. Adult strabismus patients are usually not dilated.

To dilate pupils, instill one drop of 1% cyclogyl in each eye. Some patients with very dark irises may require the use of 2% cyclogyl. Mark the time that the patient received the drops on the top left hand side of the exam sheet. Drops are usually instilled while patient is in the exam chair. Young children can be cradled in the parent's arms, with the arm closest the parent wrapped around the parent's waist, and the parent holding the child's other hand. For larger children who are fighting you, the child can be placed on the carpeted floor and held down with the help of the parent and another examiner. If you are having difficulties instilling the drops, do not hesitate to ask for help. It is better to get the drops in the first time, even if it takes force, than to have to instill the drops a second time after the family has waited for 30 minutes.

When administering drops in a young child, never try to catch the child off guard. Tell the child what to expect, in a quick, matter-of-fact fashion; but never use the words "hurt", "sting", or "pain", or any other kind of threatening language. Tell him the drops will "tickle" or feel "funny" or "cold". Or tell the child to "count to 20 out loud, and the funny feeling will be gone". The drops can also be compared to bath or swimming pool water that gets in the eyes. Though it is best to tell the older child what

you are about to do, you should proceed quickly. Don't give the child too much time to think about it or negotiate. Try to avoid undue restraint when instilling drops, unless absolutely necessary. One bad experience at the eye doctor, and the child may be difficult to examine on all future visits.

Don't forget to explain to the parents that the dilating drops take 30 to 40 minutes to work. Explain to the parents and the older child that he/she will have blurry vision for up to 8 hours because of the drops, but that the vision will eventually clear. In some children, the effect may last up to 24 hours, or rarely, longer than a day. Parents and child may wait in the waiting room, or take a walk during the time that the eyes are dilating.

The charts of those patients who are dilating should be placed in the staff room, in order according to the time that they will be ready for re-examination. Do not leave charts in the rooms. Patients get overlooked when charts get misplaced!

**Rapport with Children & Parents.** Examining children can be an enjoyable experience for patient and examiner if approached with a relaxed, friendly, and confident attitude. There is no need to be apprehensive, even if you are unsure about your skills. Small children can often sense an examiner's (or a parent's) apprehension and become frightened. Keeping the atmosphere informal works best with most children. Spend a few moments "making small talk" with the child, as well as the parent. This puts everyone at ease, and offers an opportunity for careful, but discreet, observation of the patient's visual behavior.

Approach the tests you must perform as games. Be honest, but gentle with the patient that is old enough to understand. Never try to trick or deceive the child. If you lose his trust, it will be next to impossible to get a good exam that day, or thereafter. When you must do something he won't enjoy, tell him what you must do, and do it quickly and confidently, without debate or delay.

**Academic Responsibilities.** Review the reading schedule provided below. This list will give you a solid fund of knowledge in the area of pediatric ophthalmology and strabismus. It is expected that most of this reading will be completed **during** your rotation. You should be reading **each night**. Remember, this list is a minimum, and knowing the minimum needed to get through a schedule of patients is not enough. Once the basic concepts are understood, important articles from the literature should be read as well. This will help you understand why we do the things the way that we do. There is a small library of books located in the Staff Room in the clinic. Additional books and articles are available from Kyle. The Duane's Series can be found at the ECMC library. The remainder of the reading is found in the BCSC, Section 6, Pediatric Ophthalmology and Strabismus. Other helpful resources include *Pediatric Ophthalmology and*

*Strabismus* (K.W. Wright, M.D., ed.), and *Harley's Pediatric Ophthalmology* (L.B. Nelson, ed.).

All residents are required to attend the lectures on pediatric ophthalmology and strabismus given by Dr. Reynolds or Kyle Arnoldi throughout the year, regardless of whether or not they are currently on the pediatric service.

**Surgery.** Surgery days are Tuesdays at Children's (7:45 am) and Thursdays at Children's (8:45 am) or ASCAT (7:15 am). Arrive in the OR **before** the first case is to start. Review the surgery list and read about any surgery with which you are not familiar, along with its indications. You should have a thorough understanding of all surgical cases being performed, simply assisting is not enough. Surgical loupes are mandatory for all resident cases. You will not be able to perform surgery unless you have loupes.

**Consults.** Inpatient consults are called in to the front desk and recorded in a spiral-bound notebook, which is generally kept in the top bin of the organizer just inside the door to the front office. The date and time the call was taken, patient's name, birth date, diagnosis, physician, and location are recorded. Also noted is whether the patient is transportable to the eye clinic. In most cases, consults are seen in the office. During clinic hours, however, check with Dr. Reynolds before having the patient transported down to the office. Though the front desk will usually alert you to a new consult, it is the resident's responsibility to keep track of the notebook and see to it that the inpatients are examined in a timely fashion. It is never appropriate not to see a patient if asked to do so by another physician. When the exam is complete, the front desk will call for transportation back to the inpatient room.

**Call.** Review the attending on-call schedule. Respond promptly to all calls. If you are called to see a patient, see them no matter how trivial the problem may seem. If called by a private patient, take the information and decide what you would like to do. Tell the patient you will contact his/her doctor and someone will get back to him/her. Call the attending, do not handle the call alone. When called to see a patient who needs to go to the OR, find out when they last ate and call about OR availability before calling the attending.

### **Reading List.**

To be read **before** the start of the rotation

Amblyopia\*

Strabismus disorders\*

Refraction in Infants and children\*

### Week 1

Eye movements and positions  
Innervation of the extraocular muscles  
Alignment

### Week 2

Binocular vision  
Vergences  
Binocular Vision adaptations in strabismus  
Sensory Tests and treatment of binocular vision adaptations

### Week 3

Concomitant exodeviations  
Concomitant esodeviations  
Lacrimal Disorders\*

### Week 4

Monofixation syndrome  
A and V patterns  
Disorders of the lids

### Week 5

Oblique muscle dysfunctions  
Dissociated vertical deviations  
Uveitis in childhood\*

### Week 6

Cranial nerve palsies  
Cataract and lens anomalies in children\*

### Week 7

Ophthalmoplegic syndromes and trauma  
Glaucoma in infants and children  
Reading Disorders in Children\*

### Week 8

Retinopathy of prematurity\*

### Week 9

All chapters are in Duane's textbook except for those indicated with an asterisk.

**X. SPECIALTY ROTATIONS**

**A. Contact Lens**

**Education objective:** The contact lens clinic purpose is to instruct developing clinicians who want to know how to fit contact lenses and deal with their problems. Theoretic and scientific background of the cornea, contact lens physiology and biochemistry will be covered during the rotation. The resident will find the direct approach with hands on experience to provide a step-by-step concise clinical mechanism to learn contact lens fitting both in the rigid gas permeable lenses as well as soft contact lenses. Modalities of gas permeable lenses, extended wear lenses, disposable lenses, bifocal lenses, special fitting techniques for irregular corneas, as found in keratoconus and injury, as well as monocular aphakia will be discussed. Controversial methods, such as orthokeratology will be reviewed.

During the rotation the resident will learn the optics of contact lenses and how to make adjustments for both steep and flat fitting technique as well as adjustments for vertex distance in utilizing thin lens optics in the higher power series. Supportive lectures in the proper assessment of contact lens fit and performance as well as problem solving approach will be presented on a one-to-one basis. Great care will be given to the practical aspect of both rigid and soft contact lens fitting, design choice, and evaluation. Photographs, drawings, and video topography will supplement the course.

At the end of the course the student should be able to fit standard rigid and soft contact lenses as well as accurately evaluate them at the slit-lamp and radius scope. The student should have a comfortable feeling about a variety of polymers with variant degrees of water contents, tints, front and back Torics variable central thickness, hyper thin lenses, the safety of contact lenses, and a sense of comfort, convenience, and the use of lenses in difficult to manage patients. Exceptional residents will be given an opportunity to work with corneal topography, refractive surgery evaluation assessment, design of operative plan as well as follow-up of corneal aspect of contact lenses in conjunction with the corneal clinic.

The list of readings for the contact lens clinic in Duane's Ophthalmology shall be:

Chapter 54	Hard Contact Lenses
Chapter 55	Hard Lenses and Soft Lenses
Chapter 58	Lensometers

Chapter 60	Keratometer
Chapter 33	The Human Eye as an Optical System
Chapter 37	Retinoscopy

The preferred practice pattern book on refractive errors of The American Academy of Ophthalmology, PO Box 7424, San Francisco, CA 94120-7424

## B. Low Vision

**Education objectives:** low vision encompasses many fields and the study of it will necessitate understanding all subjects relating to it. The objectives will be realized through didactic lectures, clinic rotations and reading assignments.

**DIDACTIC.** The didactic element is divided into 10 to 12 hours of lectures each year, which cover all areas relating to low vision and optics. These lectures cover material such as:

- Retinoscopy
- Refraction
- Clinical and Physical optics
- Ophthalmic Prisms and decentration
- Accommodation
- Magnification
- Mirrors and Reflection
- Schematic Eye and Lasers
- Ophthalmic Instruments
- Visual Rehabilitation and Low Vision

The broad field of the optics will be geared toward understanding the mathematical relationship between an object and its image created by various lens systems and combinations of lens systems, and being able to comprehend the effects of magnification and minification which are necessary to treating low vision patients.

The intent is not to make the resident an accomplished optical engineer. It is intended, however, to give the resident a working knowledge of the rudimentary concepts so that they can be used with ease whenever necessary in the clinic. In addition, the optics portion will also satisfy the basic knowledge required for the ophthalmology boards.

**CLINIC.** The clinic rotation in low vision will involve complex refraction situations, the proper way to understand patient needs and goals, and the satisfaction of these goals. The resident, with direct supervision, will be required to elicit a proper case history, complete a manifest refraction, and discuss and investigate the proper way to help the patient.

There will be frequent discussions of the decisions made based upon the concepts that had been learned and covered previously.

C. Retina

**Welcome to Retina.** I expect that this rotation will provide you with valuable experience in your overall ophthalmic training. Because of the nature of this subspecialty, you will have many of your best learning experiences in the unscheduled slots in your curriculum. For this reason, no more than one week of vacation while you are on the retina service is allowed except under unusual circumstances.

**Objectives:**

- To gain experience in diagnosis and medical management of vitreoretinal diseases.
- To gain experience with retinal laser photocoagulation.
- To learn thorough fundus examination techniques including scleral indentation.
- To pass a written examination on medical retina questions (passing the exam required you to go through the second volume of Ryan=s retina. In addition, the retina section in Duane=s **ABiomedical Foundations of Ophthalmology@** would also be a helpful resource).
- To observe and participate in vitreoretinal surgical cases (requires you to go through the sections of vitrectomy/scleral buckling in Duane=s **ABiomedical Foundations of Ophthalmology@**. Another good source is **ARetinal Detachment@** by Michaels, Wilkinson and Rice.

**How to reach me:** the most appropriate way to get in touch with me or leave a message for me is to call my secretary, Sue, at 898-5216. On Thursdays and Fridays, because of my laboratory obligations, I may not readily be available to answer questions on non-emergent issues or cases. On those days, you can leave a message with my secretary and I will get back to you as soon as I can. If you have a questions about a retina patient with a non-emergent problem, please schedule the patient to be seen at a mutually convenient time. **If the patient has an emergent problem** that needs to be addressed immediately, please contact my secretary during the daytime (8:30 am - 4:30 pm) or my answering service after hours or on weekends so they can contact me.

**Resident responsibilities:**

- Clinic and surgeries.
- Availability to work-up a new or an established retina patient throughout the week while on rotation.

- Bimonthly fluorescein angiography conferences (generally held the last Friday of every month).
- Retina grand rounds.
- Availability to help perform office (e.g. laser) and emergency OR procedures.

**Surgery block time:** 1<sup>st</sup> and 3<sup>rd</sup> Tuesday of each month at Millard Fillmore Gates Hospital with additional cases on urgent/emergent basis either at MFG or ECMC. Because of the nature of this subspecialty, you can expect to be present at emergency add-on surgery cases as well.

**Weekly schedules:** The schedule tends to vary week to week. Monday are intermittently in the clinic. You will receive a weekly schedule each Friday from my secretary for the following week, so you will know where to report and when for both Dr. Crofts and myself. In general, the schedule is as follows:

**Clinic Mondays:**

The resident will be responsible for seeing new patients first and completing a history, examination, assessment, and plan in less than or equal to 45 minutes. The resident will also be expected to help out with established patients if the clinic is busy or no new patients are scheduled. It is extremely important to be cordial to the patients during your encounters with them. Another role is to make sure that any surgery cases scheduled for the next day have been scheduled properly and are ready to go including sign consent, history and physical, pre-op dilating orders, pre-op clearance and tests, NPO orders, etc. Dilating orders pre-operatively consist of:

Cyclogyl 1% I gtt \_\_\_\_\_ q 5 min x3  
 Mydriacyl 1% I gtt \_\_\_\_\_ q 5 min x3  
 Mydfrin 2.5% I gtt \_\_\_\_\_ q 5 min x3

**Odd Tuesdays:**

The resident will help in the MFG (or in case of an emergency, ECMC) operating room. The resident will arrive fifteen minutes earlier than the scheduled surgery and check to make sure that the operative eye is dilated widely, the consent has been signed, etc. In the operating room, the resident will participate in various aspects of the surgery. Please be careful of your language in the operating room as many of the patients are awake. Please use the utmost care in asking questions if you have to. It is better to be quiet and ask the questions at the end of the case in the event that they do not have to be answered right away. The resident will be responsible for writing the post-op orders, checking the eye pressure

postoperatively via Tonopen and also for managing the intraocular pressure. With intraocular gas in the vitreous cavity, it is imperative that the intraocular pressure be checked between 3 to 6 hours after insufflation of the eye. Generally, an IOP of 20-25 needs no treatment. An IOP between 25-30 can be managed with drops only. An IOP between 30-40 is managed with a combination of drops and oral/IV medications unless there are contraindications. (*Be careful about contraindications!*) Always be as gentle as possible as postoperatively the eyes are tender.

### **All Wednesdays:**

The resident will help with postop visits from the previous day. The patients from the previous day's surgery are seen early in the morning. Unless otherwise asked, the resident should have seen and written a note on the postop patient by 7:30 am, at which time, I will see the patient. The resident will be responsible for discharge orders and hospital dictation. The resident will then go to ECMC by 8:00 am to start seeing the retina patients in the Eye Clinic (Retina clinic is every Wednesday at ECMC). Ideally, all retina patients at ECMC should be seen by the retina resident and shown to me after you have made a decision regarding their management. Wednesday afternoons, the resident should read fluorescein angiograms and select interesting cases for the next Fluorescein Angiography Conference. We'll also have presentations by the retina resident or others on various retina related topics on Wednesday afternoons if clinic work is completed in a timely manner.

### **All Thursdays and Fridays:**

The resident will be responsible for putting together Retina Grand Rounds while on rotation. On Thursdays and Fridays, I will be fulfilling my laboratory obligations and will only be available for absolute emergencies in retina (please check with my secretary). Please check and make sure that everything is ready to go for any Monday surgery cases at ECMC. If Dr. John Crofts has patients scheduled for his clinics at MFG and/or ECMC, you should be available for his clinics. You should also be available for any retina emergencies that arise all week long during normal working day hours.

I hope you have an enjoyable time during your retina rotation and that it proves to be a valuable learning experience for you.

### RETINA READING LIST

#### **MANDATORY**

By October of First Year, residents must have completed reading:

Basic Clinical Science Course Series (AAO) Sections on:

- Retina and Vitreous
- Intraocular Inflammation
- Intraocular Tumors
- Uveitis

**A**Retina@ Text – Ryan’s Volume I, Section on Retinal Angiography

**A**Retina@ Text – Ryan’s Volume I, Section on Ultrasonography

The papers in Retina Resident Packet concerned with Diabetic Retinopathy

By the end of Retina Rotation in their Second Year residents are required to have completed reading:

**A**Retina@ Text by Ryan=s Volume II

Hilton et al., **A**Retinal Detachment; Principles and Practice@

Ophthalmology Monograph (AAO) 2<sup>nd</sup> ed.

Stenson & Friedberg, **A**AIDS and the Eye@

Retina Resident Packet with emphasis on the following topics:

Diabetic Retinopathy

Age-related Macular Degeneration

Vascular Occlusions

HIV retinopathies and associated retinitis

Retinal Detachment

Cystoid Macular Edema

Intraocular Tumors

Endophthalmitis

Uveitis

Recommended Additional Reading:

Michels et al. **A**Retinal Detachment@

Ryan **A**Retina@ Volumes I and III

Duane Text, Retina Section

Gass, **A**Stereoscopic Atlas of Macular Diseases@

AAO Monograph 5 - Fluorescein & Indocyanine Green Angiography

AAO Monograph 11 - Laser & Photocoagulation of the Retina & Choroid

#### D. Cornea

This subspecialty rotation will occur during the PGY-3 year and consist of a three month long period. In addition to the subspecialty rotation each resident will gain additional clinical and surgical experience during rotations at both the Erie County Medical Center and the Buffalo VA Medical Center where weekly cornea clinics are held at each location.

**Objectives:** To become proficient in examination of the cornea and ocular adnexa using the slit-lamp biomicroscope. Instruction in special techniques including: specular microscopy, corneal pachymetry, and corneal topography will be emphasized. The resident should be able to identify all major infectious, inflammatory, degenerative, hereditary, and congenital corneal disorders. Diagnosis and management of traumatic corneal disorders will also be emphasized.

Various surgical techniques in cornea & external disease will be taught during the rotation, as well as basic techniques in refractive surgery.

Resident schedule:

**Monday:** ECMC clinic with Dr. Reidy all day beginning at 8:30 am immediately following grand rounds. Resident will examine and treat cornea and general ophthalmology patients. You will participate in the performance of minor surgical procedures such as cornea relaxing incisions and superficial keratectomies.

**Tuesday:** Dr. Everett's clinic at ECMC. Combination of Cornea and general patients beginning at 8 am.

**Wednesday:** Millard Fillmore Ambulatory Surgery Center with Dr. Reidy all day beginning at 7:30 am. Refractive Surgery with Dr. Berardi one to two Thursdays per month in the afternoons. Alternating weeks with Dr. Schaeffer in OR at either Sisters Hospital or St. Joseph's hospital. It is the residents responsibility to enquire regarding Dr. Schaeffer's surgical schedule.

**Thursday:** Dr. Reidy's Sheridan Drive office. Corneal consultations all day beginning at 7:45 am.

**Friday:** Dr. Reidy's Sheridan Drive office. Corneal consultations all day beginning at 7:45 AM.

Mandatory Cornea Reading List:

1. Cornea: Fundamentals, Diagnosis, and Management  
Krachmer, Mannis, and Holland  
Vol I  
Chapters: 1-9, 12, 15-18, 22-26, 45-61, 81-88, 91-94, 100-104, 108, 109  
Vol II  
Chapters: 117-131, 137-141, 143-146, 151,154-163, 168
2. Surgical Intervention in Corneal & External Disease  
Richard L. Abbott  
Chapters 3, 5, 10, 14

3. Diseases of the External Eye & Adnexa  
Bruce Ostler  
Chapter 3, page 67 - 71, 94 - 103, 107 - 111  
Chapter 4 page 137, 205, 219
  
4. Ocular Surface Disease: Medical & Surgical Management.  
Holland EJ, and Mannis MJ  
Chapters 1, 2, 11, 13, 15-18, 20, 22

E. Glaucoma

COGNITIVE:

- The resident should be familiar with the evaluation of a glaucoma patient in terms of screening for risk factors, initial and long-term work-up, and available therapeutic interventions—both medical and surgical.
- The resident should be familiar with the various sub-types of glaucoma and glaucoma suspects including ocular hypertension, normal tension glaucoma, primary open-angle glaucoma and chronic and acute angle closure, and the secondary glaucomas (ex. pigmentary, pseudoexfoliation, traumatic, steroid induced).
- The concept of acute angle closure as an ocular emergency, as well as appropriate work-up and management should be familiar.
- The resident should be well-versed in current glaucoma literature and research.

ASSESSMENT—The attending physician will periodically quiz the resident during clinical rounds to determine the knowledge base and will intervene as needed. Resident performance on OKAP testing and mock orals will also be monitored.

TECHNICAL SKILLS:

- The resident should be familiar with and able to perform and interpret the various clinical skills necessary for the work-up of glaucoma patients. These include: tonometry, gonioscopy, slit-lamp evaluation, direct and indirect ophthalmoscopy, pachymetry, visual field testing and optic nerve imaging.

ASSESSMENT—The resident will perform and interpret the above skills on clinical patients under the direct supervision of the attending physician during clinical rounds. The interpretation and clinical relevance will be discussed.

SURGICAL SKILLS:

- The resident will perform surgical procedure at a level compatible with the individual resident's abilities and level of training, under the direct supervision of the attending physician.
- The resident should be familiar with both laser and surgical interventions including: ALT, YAG PI, laser suture lysis, paracentesis, anterior chamber wash-out, trabeculectomy with anti-metabolite, combined trabeculectomy with cataract extraction and the implantation of drainage devices.
- In addition to mastering the above skills, the resident should be familiar with the indications for each procedure and should be able to discuss these with both peers and patients.

ASSESSMENT—The resident will perform all surgical techniques under the direct supervision of the attending physician and will be given immediate feedback regarding performance.

## F. Oculoplastics

### **First Year Residents**

#### COGNITIVE:

- The resident should be familiar with the various modes of examination of orbital processes and acquire working differential diagnoses for orbital inflammations, tumors, and vascular problems.

ASSESSMENT—The resident will be quizzed during each clinic session to insure that his fund of knowledge is appropriate and will be observed examining orbital patients.

- The resident should be familiar with the interpretation of orbital imaging studies, especially CT scans and magnetic resonance images.

ASSESSMENT—The attending physician will periodically questions the resident regarding pertinent CT and MRI findings in patients with orbital disease.

- The resident should be familiar with the etiology and management of eyelid malpositions, including ectropion, entropion, ptosis, and lid retraction.

ASSESSMENT—Patients with eyelid malpositions will be presented to the first year resident and the diagnosis, etiology and treatment plan discussed to insure the resident is mastering these concepts.

#### PROCEDURAL

- The resident will learn the basics of eyelid lesion removal and chalazion excision

ASSESSMENT—The resident will perform all minor lid lesion and chalazion excisions in the oculoplastics clinic under the supervision of an attending and immediate feedback given regarding performance.

## Second Year Residents

### COGNITIVE:

- The resident, in addition to the above, should be able to understand the work-up and management of epiphora, including nasolacrimal duct obstruction, functional obstruction, canalicular and punctal stenosis, and epiphora due to pump failure.

ASSESSMENT—The resident will be quizzed regarding lacrimal disorders during the oculoplastics clinic when patient are seen manifesting these disorders.

- The resident should be familiar with the management of periocular trauma, including lid lacerations, canalicular lacerations, facial lacerations and orbital blowout fractures.

ASSESSMENT—During the course of the resident's rotation, at least three patients with trauma will be selected, the various anatomic defects discussed and the management reviewed.

- The resident should become familiar with the various manifestations of Graves' orbitopathy both in the eyelids and in the orbit, and understand the various medical and surgical treatments and their indications

ASSESSMENT—The resident will be required to list the various manifestations of Graves' disease and the indications for various treatment options on two patients with Graves' disease.

- The resident should be able to clinically recognize various tumors of the ocular adnexa, specifically basal cell carcinoma, squamous cell carcinoma, sebaceous cell carcinoma, melanoma, and other skin tumors. The resident should understand the natural history of these tumors and the various options of treatment, including the role of Mohs-microsurgery, and frozen border analysis excision.

ASSESSMENT—When evaluating patients with skin lesions, the resident will be quizzed on various clinical and pathological characteristics of different cutaneous tumors, their prognosis, and the management for each.

- The resident should be familiar with the indications for evisceration, enucleation, and exenteration. The resident should understand the various modes of socket reconstruction as well as their indications, including mucous membrane grafting.

ASSESSMENT—The resident will be monitored on the evaluation of patients with post-traumatic or phthisical eyes and the management of anophthalmic patients will be reviewed with the resident in clinic.

- The resident should be familiar with the common types of orbital tumors and the differential diagnoses of presentations of orbital tumors in various age populations. The resident should also understand the various surgical approaches to the orbit and recognize their indications.

ASSESSMENT—Second year residents will be quizzed periodically in the clinic on the management of patients with orbital tumors.

PROCEDURAL:

- The second year resident will become familiar with basic assisting techniques in oculoplastics and learn surgical approaches to more complicated in-office procedures (ptosis repair, ectropion repair, etc.)

ASSESSMENT—The second year resident will assist the attending in the minor procedure room in the after-clinic cases, and his/her performance reviewed and his/her abilities monitored.

### **Third Year Residents**

COGNITIVE:

- The third-year resident, in addition to the above, should understand the surgical management of all oculoplastic and orbital processes, as well as understand the inpatient management of oculoplastic and orbital disease.

ASSESSMENT—The resident will discuss the management of all surgical cases with the attending preoperatively and will also demonstrate that knowledge intraoperatively.

PROCEDURAL:

- The resident will become proficient in the basic oculoplastic procedures required of a comprehensive ophthalmologist: simple ptosis repair, enucleation, ectropion and entropion repair, eyelid wedge resection; lateral canthoplasty; lid and canalicular laceration repair.

ASSESSMENT—The resident will demonstrate proficiency by performing at least two of each of these procedures as primary surgeon during the

oculoplastic rotation and during other surgical time with the attending.

- The resident should become familiar with the various methods and indications of both upper and lower eyelid reconstruction techniques, including the use of grafts, flaps, and lid sharing techniques. The resident will also become familiar with basic plastic surgery techniques, such as Z-plasties, and suturing techniques such as horizontal and vertical mattress sutures and their indications.

**ASSESSMENT**—The resident will perform a variety of reconstructive procedures during the rotation, and will be the first surgeon on a minimum of two of these. The attending will monitor the resident's skill level and insure that the knowledge of surgical concepts and the level of surgical skill are satisfactory.

## G. Ocular Pathology

Overview: Training in ophthalmic pathology is aimed at providing an in depth understanding of the pathological basis of ophthalmic disease. Our goals are three fold: 1) Correlate histology and pathophysiology to clinical presentation and treatment; 2) Understand practical and technical issues regarding the handling and processing of surgical pathology specimens; 2) Recognize the histopathological features of lesions and tumors encountered in clinical practice. These goals are achieved by a combination of didactic lectures, real-time involvement in ongoing cases, conference presentations, and research.

### **Resident conferences in ophthalmic pathology**

The resident core pathology conferences are held in the Pathology Service conference room at the Veterans Affairs Medical Center. The multiheaded microscope and the attached video monitor allows the histological microscopic slides to be viewed by all the participants simultaneously. Computer power-point presentations viewed in the same room supplement the direct viewing of the histological slides with teaching material.

The conferences consist of working meetings (“pathology signout”), and core lecture presentations. These two types of conferences are sometimes done back to back. During working conferences, the histological slides of recent surgical pathology cases are viewed under the multiheaded microscope. This provides an opportunity for residents to view the pathological slides on patients that they have seen clinically. The histological findings are reviewed in detail together with discussion of special stains, immunohistological studies, and the clinical findings. The second type of conference is a series of thematic presentations. These presentations follow the resident text Ophthalmic Pathology and Intraocular Tumors (American Academy of Ophthalmology, Basic and Clinical Science

Course, section 4). The material from this text is supplemented by viewing during the conference illustrative cases from our teaching microscopic slide collection, and thematic power-point presentations given by Dr. Gonzalez-Fernandez.

### **Resident responsibilities.**

Residents are required to prepare the corresponding chapter in the AAO text prior to the ophthalmic pathology teaching conference. The entire text is covered over 1.5 years. In this way, we can go through the material twice during the residency. It is important to read and study the topics consistently through regular times of personal study. Residents demonstrate their dedication to this reading and study by active participation during conference discussions, and insight into the clinicopathological correlations. Residents are required to contact Dr. Gonzalez-Fernandez directly regarding planned submission of surgical specimens on their own cases. In this way specifics of the case can be discussed including selection appropriate fixatives, appropriate specimen orientation, and arrangements for viewing the histopathological slides with Dr. Gonzalez-Fernandez. Resident responsibilities related to Pathology Grand Rounds Presentations are discussed below.

**Grand Rounds Presentations** provide an opportunity for more in depth study of specific topics in ophthalmic pathology than what can be addressed in the teaching conference series. Grand Rounds Presentations may provide springboards for case-report publications and research project ideas.

**Pathology Grand Rounds.** Residents meet with Dr. Gonzalez-Fernandez to identify case and theme for the presentation at least three weeks before the Grand Rounds date. During this initial meeting, the topic and theme of the rounds is decided upon. The resident is responsible for obtaining the clinical data, presenting the pathology material, and providing the correlation between clinical and pathological data.

**Other Grand Rounds presentations.** Residents with incorporate into all grand rounds presentations discussion of the relevant pathological material including demonstration and explanation of appropriate histopathological material. Dr. Gonzalez-Fernandez will help the resident to photograph representative histological images for presentation with any case.

### H. Neuro-Ophthalmology

The purpose of the neuro-ophthalmology is to instruct residents in the basic skills of neuro-ophthalmology.

During the rotation the resident will learn the differential diagnosis and treatments of the different forms of optic neuropathy and ophthalmoplegia seen in neuro-ophthalmology patients. The resident, with direct supervision, will work-up and discuss the differential diagnosis and treatment plan of all the patients they examine. They will learn how to interpret visual fields (Goldmann and

Humphrey) and use the maddox rod. They will be expected to know how to analyze the optic nerve head and nerve fiber layer by using the Volk 90/78 diopter lenses and direct ophthalmoscope.

The resident will be expected to attend all scheduled neuro-ophthalmology lectures, grand rounds, and OKAP reviews. There will be frequent discussions based on concepts that had been learned and covered previously.