

**SPECIALIST ACCREDITATION COMMITTEE**

**MEDICAL**

**TRAINING PROGRAMME**

**OPHTHALMOLOGY**

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DEPARTMENT OF  
OPHTHALMOLOGY  
MATER DEI HOSPITAL  
MALTA

MALTA ASSOCIATION OF  
OPHTHALMOLOGISTS

SPECIALIST ACCREDITATION COMMITTEE

# OPHTHALMOLOGY TRAINING PROGRAM

Ophthalmology training programme Compiled by

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## INTRODUCTION

At present there is no formal training programme in ophthalmology in Malta and all junior **staff acquire experience in an apprenticeship style of training which is not structured in any** way. At present all training is done at the ophthalmology department under the auspices of the department of health. It is our intention to organize a formal postgraduate training programme in ophthalmology in conjunction with the department of ophthalmology at Mater Dei hospital under the auspices of the specialist accreditation committee (SAC).

The programme is to be a 5 year structured full time training programme and all trainees are to sit for the European board of ophthalmology exam at the end of their training programme if they have satisfied the faculty, a further 1 year training would be recommended for those trainees who have not satisfied faculty.

Trainees would be encouraged to spend some time (at least 1 year) at the end of their 5 year programme at an overseas institution to gain a wider experience than is possible locally.

The faculty is to include all consultant and senior registrar staff at St Luke's and Gozo general hospital. All efforts are to be made to have at least 6 high profile international visiting faculty who would come at a specific period every year to give didactic lectures, tutorials and clinical instruction to the trainees.

The local requirements need to be evaluated to decide on the number of training posts however 2 to 3 posts every 2 years is possible.

The postgraduate programme would require some funding to cover the costs of the visiting faculty, secretarial support and other ancillary services such as stationary etc. An estimate of the yearly budget to run this postgraduate training programme is between 12,000 to 14, 000 Malta Liri.( 28,000 to 32,000 Euros) .If funds are available from the EU all efforts will be made to tap into these funds.

The setting up of an ophthalmic postgraduate training programme is the only way forward in ensuring that the future of ophthalmology and quality care to our patients will continue; Without such a programme all trainees will proceed to an overseas institution as soon as possible with no obligation to return back home. Such a structured programme would encourage junior doctors to remain and train locally.

**Requirements to enter the structured training programme include the following:**

1. 12 months housejobs with 6 months in general medicine and 6 months in general surgery.
2. a further 12 months with at least 6 months experience in ophthalmology and / or work experience in neurology ,neurosurgery, endocrinology/diabetes, ENT surgery or rheumatology.

**ADMINISTRATION**

The ultimate responsibility for all activities related to the programme is that of the Departmental Chairman.

A committee to run the training programme is to be set up and this is to include the following:

The training programme director (usually the departmental Chairman)

Visiting Faculty representative

Senior resident to represent all trainees (as an observer)

Programme coordinator to be chosen from full time local faculty.

SAC representative of Malta association of Ophthalmologists

One representative from the Department of health to keep the department updated on the programme particularly regarding financial matters.

The frequency of meetings is to be finalized at a later date

Duties of the Senior Trainee

1. Supervision of all trainee activities, including teaching of all junior trainees and medical students.
2. Scheduling on-call rosters, consultations, grand rounds, presentations, etc.
3. Assuring staff supervision for surgery and clinics.
4. Securing final approval of the daily surgical schedules, being certain that all pre-op regulations, staff approvals and complete current work-ups have been met.

**GOALS AND OBJECTIVES**

**RECOMMENDED READING**

**UNIVERSITY OF MALTA**  
**OPHTHALMOLOGY TRAINING PROGRAMME**

**I. General Objectives**

As in other specialty training, the objectives of the ophthalmology trainee programme are to enable the trainees to acquire general knowledge, values and attitudes that all physicians should have and to develop specific skills to treat eye diseases. This is primarily accomplished through actual patient care experience didactic teaching and tutorial instruction. The trainees undertake gradually increased responsibility for patient care under the supervision of faculty and develop skills and accumulate knowledge to manage eye problems.

The department objectives can be summarized as follows:

1. Supervised direct patient care experience which allows the trainee to:
  - a. Master ophthalmologic examination skills
  - b. Formulate and workup differential diagnoses in eye diseases
  - c. Manage clinical problems of increasing complexity
  - d. Develop and exercise clinical and ethical decision making abilities.
  - e. Develop patient communication techniques.
  - f. Work efficiently as a member of the medical care team.
2. Graduated supervised and procedural and surgical experience including:
  - a. Modern cataract and anterior segment techniques including strabismus and oculoplastics techniques.
  - b. Anterior and posterior segment laser surgery.
  - c. Exposure to all areas of subspecialty surgery.
3. To provide trainees with basic science and clinical knowledge through lecture, reading, and interactive conference, and review sessions.
4. To provide trainees with exposure to research and to motivate trainees to pursue projects.
5. Development of skills for teaching and medical writing.
6. Preparation for the European Board of Ophthalmology certification.

**II. Basic Science Knowledge Related to Ophthalmology**

Ophthalmology education should reflect a balanced mix in both the academic learning of medical sciences and in the clinical orientation of the training programme.

Today's rapid pace in scientific advances mandate the continuing familiarity with basic science information which is most pertinent to the specialty of ophthalmology and visual sciences.

This section provides general outline of those basic science categories which are most useful and applicable in the clinical practice of ophthalmology. Trainees are encouraged to study about these subjects through their training.

1. Genetics
2. Embryology and molecular biology
3. Microbiology and immunology
4. Pharmacology
5. Pathology and neoplasia
6. Optics

### **1. Genetics**

Genetics has become a field of practical relevance during the last decade or two in many specialties, including ophthalmology. An understanding of the underlying mechanisms of inheritance and disease transmission is needed for the practice of clinical ophthalmology. It is necessary to have not only the basic knowledge of the technical aspects of genetic testing, and an understanding of the molecular interactions that are integral to gene function. The ophthalmic practitioners should have basic awareness of the biochemical basis of the genetics, DNA production and replication, cell division, and phenotypic manifestations of genetic expression in ocular disorders. The following areas are of particular significance to clinical practice:

- a. Chromosome identification including gene mapping
- b. Numerical and structural chromosomal abnormalities.
- c. Chromosomal abnormalities as identified by abnormal phenotypic expression.
- d. Hereditary and congenital ophthalmic disorders.
- e. Inheritance patterns for malignancies, particularly retinoblastoma.

The application of basic genetic principles is becoming increasingly important in the understanding of pathophysiology of neoplasia in relation to cancer prevention, diagnosis and treatment. Particularly with the new discoveries related to retinoblastoma diagnosis and treatment, this area is significant in ophthalmology training.

### **2. Embryology and Molecular Biology**

Basic understanding of the development of the eye and the adnexal structures is important for the ophthalmologist, principally because of the many influences that may potentially alter this process.

### **3. Immunology and Microbiology**

Knowledge of basic science concepts regarding specific immunologic and microbiologic associations in ophthalmology, particularly related to uveitis, external eye allergies, infections, and intraocular tumours as well as viral infections of the eye and the adnexa. Immunologic knowledge becomes more and more important to the practicing clinician

because of their frequent dealings with sexually transmissible diseases, surgical infections and uveitis. Immunologic aspects of aging are also of particular importance to the ophthalmologist since the great majority of ocular patients are elderly. Furthermore, the applications of cytotoxic and immunomodulatory drugs are expanding in all sub disciplines of ophthalmology.

#### **4. Pharmacology**

The ophthalmologist as a clinician must have strong basic knowledge of pharmacologic principles. The medical and surgical care of the ophthalmology patient often demands a proper understanding of pharmacology, particularly in infectious diseases, glaucoma, and uveitis practice. Furthermore, the ophthalmology practitioner should be familiar with the ocular toxicity of systemic drugs, as well as potential side effects of the ocular medications. The ophthalmologist as a surgeon should be aware of the effects of preoperative, intraoperative and post operative of the medications including the agents used in local and general anaesthesia. The ophthalmologist should understand chemosurgery techniques such as Botulinum toxin injection for strabismus treatment.

#### **5. Pathology and Neoplasia**

A thorough knowledge of microscopic pathologic anatomy is necessary for the understanding of ocular disorders and comprehensive care of the ophthalmology patient. In ocular disorders, the microscopic anatomy is readily comparable to the clinical findings of the slit lamp and ophthalmoscope. Therefore, histopathology is a very useful educational tool for the training of the ophthalmology specialist.

An understanding of the molecular mechanisms and dysfunctions which are represented by oncogene expression and the ramifications for the development of neoplasia is necessary to appreciate the underlying pathophysiology of ocular and adnexal tumours. The basics of radiation toxicity and chemotoxicity should also be studied and an understanding of radiation physics should be acquired. The radiation toxicity to the globe as well as to the surrounding soft tissues result in a number of serious diseases, including cataract formation, radiation retinopathy, atrophy of growth in the orbital soft tissues, etc. The effects of U-V radiation on the human eye are also very for the ophthalmologist to study.

#### **6. Optics**

The understanding of optical phenomena (physician, geometrical and quantum optics) is absolutely essential to be able to deal with clinical optical problems, refraction, retinoscopy, etc.

### **III. Professional Growth and Development**

#### **1. Communication**

The education of patients and effective communication with fellow health care professionals are integral elements of the ophthalmologist's responsibilities. Therefore, the trainee should develop these skills. Communication with the consultants and other specialists become very important in ophthalmology practice since this specialty is not within the main stream of medicine such as general surgery and paediatrics; the needs of the eye patients should be carefully explained to the colleagues and medical support personnel.

#### **2. Ethics**

Physicians specializing in ophthalmology should be able to balance compassion with pragmatism in interacting with patients, families, other health care personnel, as well as others whose roles affect the patient's well being.

Professional behaviour and medical ethics (applicable to all years of training) development can be summarized as follows:

- Maintain confidentiality, passion and respect towards patients as individuals.
- Respect life and vision.
- Respect patient's privacy and modesty and use discretion in all private and public Conversations related to patients
- Respect patient's social and religious beliefs.
- Maintain honesty in all doctor/patient relations.
- Develop skills in patient and family communications and doctor/patient relationship.
- Accept the responsibility and demonstrate reliability to gain the patient's trust and Dependability.
- Understand the essential nature of collegiality and develop intrapersonal skills with other Health professionals.
- Develop strong work ethics, be responsive to patients and co-workers and work as a member of the team.
- Develop skills to explain medical conditions and treatment means to patient and family members in simplified but honest fashion.
- Become organized and time efficient and develop skills to estimate the time to accomplish a task.

#### **3. Information**

Today ophthalmologists are required to process increasingly greater amounts of information from different sources. They must become skilled in using all of the various computerized means at their disposal to facilitate this task. In light of the ever-expanding body of medical knowledge, trainee must be able to collect and report statistical data and to evaluate medical literature in a critical and efficient manner in order to extract the content relevant to their practice. This includes the ability to use online databases to obtain medical information, analyze and interpret statistical data, systemically review literature by both traditional library methods and the use of computer search systems relative to ophthalmology and related areas. They should demonstrate the ability to use computer based word processing programs.

#### **4. Continuing Medical Education**

CME, as the name implies, is an ongoing process to improve patient management. This continual process of learning should be an intricate part of the ophthalmologists' professional lifetime. An ongoing commitment to CME should enhance the ophthalmologist professional performance and contribute to the effectiveness and the efficiency of his/her health care organization.

Although the responsibility for the ophthalmologist's education is primarily lies with the individual itself, faculty members play a large role during residency to ensure that the trainees acquire proper habits related to this education process which they will be using for the rest of their lives. Since, at the end of the residency, the physician will assume the primary control over identifying his/her own learning needs, proper habits to set goals and objectives, to choose learning approaches, to select methods of evaluation should be given to the trainees during specialty training. With this attitude they can develop a life long pattern of effective, independent self assessment in the cognitive and technical aspects o the practice of ophthalmology.

#### **5. Stress Management**

The practice of ophthalmology is a stressful profession, because of the fact that it deals with blindness. Significant stressful experiences can be encountered by the trainees during training, including concerns about difficult clinical problems which may lead to blindness, financial pressures, concerns about malpractice, etc. Trainees must learn to develop strategies to recognize and manage on unacceptably high stress levels and to seek help when necessary. The potential for substance and alcohol abuse among physicians and other health care professionals should be recognized by the trainees.

### **IV. Objectives by Year**

#### *I. First Year*

During the first 3-6 months of the first year, the trainees gain skills to interview and examine patients and correlate the information to formulate diagnostic hypotheses. Although this process is basically a continuation of their houseman training, their learning skills are geared toward ophthalmic problems, they gain knowledge of the eye disease through the study of the illness as well as the patient. Their sense of responsibility and respect toward ophthalmic pathologies and their commitment to deal with visual problems are moulded during this early period. They learn to orient their practice around visual loss, its possible causes, its manifestations and ultimately the impact of visual impairment on the individual patient and patient's family.

First year trainees learn practical terminology regarding daily conduct of their specialty in the clinic and the operating room. In other words, they learn "the language of the trade" to which they are not exposed to a great degree in their school years or internship. **The eye H&P is quite different from the systemic H&P and more equipment oriented.** The conventional physical examination methods, such as, auscultation, palpation and observation with the naked eye are not very useful in ophthalmology. In the medical school students do not have enough exposure to essential ophthalmic

equipment, such as the biomicroscope, retinoscope, indirect ophthalmoscope, lensometer, etc. These specialized instruments, however, are absolutely necessary for basic eye examination and their applications should be mastered before anyone can effectively diagnose and treat eye patients. The same principle is also applicable to the instruments in the operating room which are quite different from general surgical tools.

The majority of ophthalmic surgery is done under magnification with the utilization of specialized instruments, sutures, lasers, etc.

The first year trainees primary objective is to familiarize himself/herself with the overall organization of ophthalmology practice and equipment in the clinic and OR. They learn the names and proper uses for the instruments and equipment, maintenance of these tools, the types of needles and sutures applied to ophthalmic surgery and the facts related to ophthalmic anaesthesia. Gradually the trainee is asked to assist in surgery by making simple incisions, dissections, and applications of haemostasis, irrigation, etc. Once he/she reaches to satisfactory level with the simple tasks of ophthalmic examination and feel comfortable with the related equipment, they are moved into more complex tasks, such as indirect ophthalmoscopy, retinoscopy, etc. The utilization of these examination techniques and the interpretation of findings take a long time for the beginner to feel comfortable with. That is why the trainees are encouraged not to miss any opportunity to examine the fundus with indirect ophthalmoscopy and retinoscopy and bring their questions to senior staff and consultants, particularly during the first year.

During the 2 year, there is a constant monitoring of the trainees by the senior trainees and faculty. . Furthermore, the trainees are exposed to all specialty consultants in clinics and surgery.

After the second half of the first year, the trainees are introduced to simple, extraocular surgical procedures, including the chalazion curettage, removal of conjunctival and eyelid lesions, enucleation, evisceration, etc. Once the trainee proves to be competent with basic surgical techniques, he/she is allowed to do parts of cataract and glaucoma procedures under direct supervision with a consultant or Senior registrar. This is not routine for all trainees but **for the ones who prove to be surgically competent and not done before the last quarter of the** first year. During the last quarter of the year, the trainees are also allowed to do strabismus cases, particularly the horizontal muscle disorders.

As a summary, by completion of PGY2 the trainees are expected to be knowledgeable and competent in the following areas:

- Learn elementary refraction techniques and optical prescription principles.
- Obtain a detailed ophthalmic history and review previous medical records and reports.
- Perform a systemic H&P and develop complete differential diagnosis
- Record a succinct H&P, including a risk assessment evaluation
- Understand and utilize the notes of other medical personnel, including nurses, dieticians, laboratory technicians, etc.
- Recognize abnormalities in basic radiologic and laboratory tests and learn normal

values and ranges.

- Develop good habits to obtain consultations from related subspecialties, including infectious disease, EENT, etc.

- Order and interpret basic laboratory tests, imaging procedures and evaluate the patient's cardiac, pulmonary and neurologic status.

- Record a succinct ophthalmic H&P, including risk assessment evaluation, differential diagnosis and a treatment plan.

- Dictate admit note, operative note and discharge summary

- Perform a detailed ophthalmic examination, including full, refraction neuro-ophthalmological exam, biomicroscopy and indirect funduscopy.

- Obtain a written informed consent for procedures (when necessary).

- Develop a preoperative assessment of the patient by reviewing the medications the patient is currently taking, order medications as appropriate.

- Learn the ocular implications of systemic medications, as well as the systemic complications of ophthalmic medications. (1st and 2~' years).

- Be able to write pre-anaesthetic and post-anaesthetic orders, and interpret the anaesthesia record.

- Be familiar with intraoperative monitoring and know the dose range and complications of barbiturates, local anaesthetics, and paralyzing agents, and to know when and how to use epinephrine.

- Be familiar with all periorbital and retrobulbar local block techniques (1st and 2~ years).

Be familiar with differential diagnosis of fever and evaluation and management of the febrile patients.

- Know the surgical infection, diagnosis and management of surgical infection.

- Know and apply the principles of incision and drainage.

- Initiate topical, oral, intravenous and intraocular antibiotics and initiate treatment with appropriate choices.

- Know the proper uses of prophylactic antibiotics.

- Be able to monitor the antibiotic response and recognize drug related complications.

- Know and apply the principles of prevention of nosocomial infections, sterile technique and universal precautions.

- Recognize the different types of wound (clean vs contaminated) and be able to apply wound cleaning and debridement.

- Understand the development of bacterial resistance.

- Understand the epidemiology of communicable and sexually transmitted diseases.

- Know the common opportunistic infections related to ophthalmology in AIDS and other immunocompromised patients.

- Develop facility and management of ophthalmic emergencies under supervision of senior trainees and staff.

## **Surgical Skills (PGY2):**

By the end of the first 6 months:

- Know and apply proper operating room conduct and attire (scrub, gown and glove) properly.
- Be familiar with basic ophthalmic equipment in the operating room, including the microscope, cauteries, lasers, drills, etc.
- Be familiar with the common ophthalmic surgical instruments (blades, forceps, scissors, needle holders, etc.) suture materials, needles and their proper uses.
- Perform minor surgical procedures, including the removal of sutures, chalazia, minor excisions of skin and conjunctival lesions.
- Know the acute presentation of intoxication and management of the intoxicated patient.
  
- Know the surgical implications of substance abuse.

By the end of the second 6 months:

- Perform as first assistant and expose the operative field.
- Know how to obtain haemostasis and exposure under the microscope.
- Be competent with management, including differential diagnosis between a wound infection, a haematoma and initiate therapy.
- Perform debridement from conjunctival, corneal and skin wounds.
- Know the different types and specifications of the lasers used in ophthalmology (first and second year).
- Know the principles, medical applications and complications of lasers in ophthalmic procedures (first and second year).

### **Anterior segment and External Disease**

The trainees familiarize themselves with the problems of the anterior segment, external eye and cornea. During this period they are given practical training on optics and hands-on experience on the use of the optic devices including automated refractometer, keratometer, and other related pieces of equipment; they also get practical training in contact lens fitting and low vision. During this rotation trainees scrub jointly with the staff in cataract cases, with intraocular lens (IOL) insertion, cornea and other anterior segment procedures.

### **Glaucoma**

When the trainee rotates with the glaucoma specialist s/he received one-on-one teaching on different techniques related to glaucoma examination, including gonioscopy, examination of the optic nerve head, perimetry (Goldmann as well as automated). Glaucoma is a commonly seen disorder and the trainees in the program get ample opportunity to be exposed to surgical procedures including laser applications, filtering procedures, In all instances the trainee does participate in these surgeries with the faculty and in some instances s/he does parts of the cases under direct supervision.

### **Plastic Surgery/Orbit**

Trainees are instructed on diseases of eyelids and the orbit and they familiarize themselves with the imaging techniques including ultrasonography, CT, MRI, angiography and also with the specific needs of this subspecialty, including the use of exophthalmometer, LDS testing, etc. The trainees are exposed to many trauma cases and instructed in plastics and reconstructive procedures with emphasis on differences of cosmetic versus reconstructive surgery.

### **Ocular Oncology & Pathology**

The trainees are given instruction on ocular and adnexal tumours and they attend to tumour patients in the clinic and surgery. The trainees also receive detailed instructions on external beam radiation therapy and brachytherapy and their applications

in ophthalmic tumours and ocular complications of radiation. They also receive instruction on ocular and orbital ultrasonography. They also review histopathology slides under direct supervision of an ocular pathologist.

### **Neuro-ophthalmology**

All neuro-ophthalmologic techniques, including perimetry, nystagmus examination and the entire spectrum of neurological and neuro-ophthalmological tests are learned during this rotation on a one-on-one basis with the neuro-ophthalmologist and also the consults are seen with the staff. Trainees review the visual field tests with the neuro-ophthalmologist.

## *2. Second Year*

During the second year the trainees are directly assigned to faculty members in different subspecialty areas. Not only do trainees get the opportunity to rotate through all subspecialty areas of ophthalmology available in Malta, but also have the opportunity of being exposed to different faculty members with different backgrounds and opinions. The idea is to establish a mentor relationship between trainees and faculty members and although these rotations are short the training during this period becomes most like a one-on-one tutorial program in which the faculty member carries the full responsibility of the trainees training:

The second year rotations with subspecialty areas are as follows:

- Paediatric ophthalmology and strabismus
- Anterior segment and external disease
- Retina/vitreous

## **Paediatric ophthalmology and strabismus**

During this rotation the trainee is assigned to the paediatric ophthalmologist attending the clinics and rounds to learn eye examination in children and the examination of extraocular muscles. He/she scrubs with the paediatric ophthalmologist for strabismus cases, as well as other paediatric ophthalmology surgical procedures. During this rotation the trainee also gets exposure to orthoptic examination and fundoscopic screening of premature infants for ROP at nursery rounds. The Trainee also spends time in the orthoptic department to familiarize with orthoptic skills

## **Retina/Vitreous**

Trainees master the art of indirect ophthalmoscopy under the one-on-one training with the faculty. They also familiarize themselves with the techniques of ultrasonography and intravenous fluorescein angiography as well as optical coherence tomography. In this rotation the trainees review not only their own angiograms, but all cases as they are assigned by the retina specialists. During the same period the trainee familiarizes himself/herself with the laser equipment and the applications of the laser surgery in the retina/vitreous diseases.

The objectives of the second year trainees can be summarized as follows:

- Increasing clinical decision making in management of general clinic and emergency patients.
- Assisting in supervision and teaching of first year trainees
- Training in and performance of adult and paediatric strabismus surgery and minor plastics procedures.
- Learning techniques of anterior segment, glaucoma and cataract surgery and assisting staff in doing these surgeries themselves under supervision of staff.
- Performance of simple surgical procedures such as pingueculum and pterygium excision, chalazion, tarsorrhaphy, etc.
- Learning techniques of anterior and poster segment laser surgery.
- Development of interpretive skills in assessing diagnostic tests such as fluorescein angiograms, radiologic images, etc.
- Performance of ophthalmic consultations in a general medical hospital and emergency room.

### *3. Third Year*

Third year trainee's work with gradually increasing independency to improve their skills in clinical diagnosis and medical and surgical treatment of ophthalmic disorders. The objectives of the third year trainees can be summarized as follows:

- Training in the indication for, performance of, and complications of anterior segment and cataract surgery including basic techniques and advanced procedures.
- Training in the indications for, performance, and complications of surgery in the subspecialty disciplines of glaucoma, retina, cornea, plastics, orbit and refractive surgery.
- Assisting in the teaching and supervision of first and second year trainees.
- Coverage of the ocular trauma service and learning of the medical and surgical management of ocular trauma.
- Understanding of the indications for and uses of low vision aids.

## V. Detailed Learning Objectives by Subspecialty Cataract

### *First year*

#### A. Cognitive Skills

1. Introductory refraction course covering the following:
  - basic ophthalmic optics
  - types of lenses
  - types of refractive error
  - retinoscopy techniques
  - subjective refraction techniques
  - use of instruments including:
    - lensometer
    - autorefractor
    - phoropter
    - keratometer
    - Geneva lens clock
2. Lectures covering the following topics:
  - physical
  - intraocular lenses
  - anatomy of the globe
  - anatomy, physiology and embryology of the globe
  - introduction to low vision management and low vision aids
3. AAO Basic and Clinical Science Course
  - Section 11 –Lens and Cataract
  - Section 2 –Lens, Anatomy, Biochemistry, Metabolism and Embryology
  - Section 3 –Optics and Refraction

#### B. Acquired Skills

1. Slit lamp, retinoscopic and ophthalmoscopic evaluation and classification of lens opacities.
2. Subjective refraction techniques and retinoscopy
3. Observation of low vision professional

*Second Year*

A. Cognitive Skills

1. Lens induced glaucoma and uveitis as covered in lecture and in AAO  
Basic

and Clinical Science Course

2. Pre-operative evaluation of the cataract patient

Systemic disease

External and corneal disease

Glaucoma and lens

Glare Analysis

A-scan ultrasonography; principles and practice

History and techniques of cataract surgery  
intracapsular

Extracapsular

Phacoemulsification

History and techniques of intraocular lens implantation

3. Acquisition of low vision refraction skills

B. Acquired Skills

1. Preoperative evaluation of the cataract patient

2. Correlation of visual acuity with lens opacities

3. Surgical laboratory course and early graduated surgical experience

Use of the operating microscope

Basic techniques of wound closure with 10-0 nylon suture

Techniques in ophthalmic anaesthesia

4. Principles and techniques of YAG capsulotomy

5. Refraction and prescribing of low vision aids to appropriate patients.

*Third Year*

A. Cognitive skills

1. Government and hospital regulation that apply to cataract surgery

2. Evaluation and management of complications of cataract and IOL  
implant

surgery

3. Instrumentation and technique of phacoemulsification

4. Instrumentation and techniques of foldable IOLs.

5. Evaluation and management of endophthalmitis.

B. Acquired Skills

1. A-scan ultrasonography and calculation of IOL power

2. Phacoemulsification lab, course and OR experience

Anterior capsulotomy/capsulorrhexis

Nuclear expression

Instrumentation and techniques of irrigation and aspiration

Intraocular lens implantation

Phacoemulsification-sculpting, divide & conquer, phaco-chop

3. Postoperative management of the cataract patient
  - Medications
  - Astigmatism and suture removal
  - Refraction
  - Complications (early, late)
4. Management of the non-surgical low vision patient including assessment of patient needs, refraction of complex cases, referral to rehabilitation agencies.

## **Cornea and External Disease**

### *First year*

#### A. Cognitive skills

1. Corneal anatomy and physiology
2. Ocular microbiology and antimicrobials
3. Ocular inflammation and immunology
4. AAO Basic and Clinical Science Course #3, #8

#### B. Acquired Skills

1. Slit lamp biomicroscopy
2. Management of corneal abrasions
3. Placement of pressure patches
4. Use of bandage contact lenses
5. Management of chemical burns
6. Management of infectious keratitis and performance of corneal scrapings for culture and sensitivity.
7. Removal of corneal and conjunctival foreign bodies.
8. Understanding of corneal pachymetry, specular microscopy and endothelial cell counts.
9. Use of keratometer and keratoscope
10. Interpretation of corneal mottling
11. Basic contact lens fitting and care

### *Second Year*

#### A. Cognitive Skills

1. Medical and surgical management of partial and full thickness corneal perforations (cyanoacrylate glue, bandage contact lenses, conjunctival flaps.
2. Advanced contact lens fitting techniques
3. Surgical pterygium excision, use of conjunctival grafts
4. Temporary and permanent tarsorrhaphy
5. Anterior chamber tap

*Third Year:*

A. Cognitive Skills

1. Essentials of corneal transplant surgery
  - Penetrating keratoplasty
  - Lamellar keratoplasty
  - Patient selection
  - Graft rejection and management
  - Complications
2. Basics of refractive surgery (RK, PRK, LASIK)
3. Uses of conjunctival flaps

B. Acquired Skills

1. Techniques in penetrating keratoplasty
2. Repair of corneal lacerations
3. Introductory keratorefractive surgery

**Glaucoma**

*First Year*

A. Cognitive Skills

1. Knowledge of aqueous secretion and dynamics Angle anatomy
  - Physiology of the ciliary body
2. Classification and mechanisms of different types of glaucoma
3. Glaucoma risk factors
4. Anatomy, physiology, and pathology of the optic nerve
5. Glaucoma pharmacology
6. AAO Basic and Clinical Science Course #10
7. Suggested texts: Shields, *Textbook of Glaucoma*  
Becker, Schaffer, *Diagnosis and Therapy of Glaucoma*

B. Acquired Skills

1. Clinical evaluation of the glaucoma patient
2. Tonometry applanation ton open Schiotz
3. Contact lens evaluation of the optic disc
4. Visual fields - automated and manual interpretation of visual fields  
performance of visual fields
5. Development of gonioscopy skills Zeiss indentation  
Goldmann

*Second Year*

A. Cognitive Skills

1. Development of glaucoma management plans
2. Advanced interpretation and statistical analysis of visual fields
3. Differential diagnosis and workup of secondary and unusual glaucomas

4. Management of congenital and paediatric glaucoma
5. Suggested texts: Ritch, Shields, Krupin, *The Glaucomas* Anderson, *Perimetry*

#### B. Acquired Skills

1. Accurate gonioscopy with indentation
2. Anterior segment laser surgery under supervision
  - Argon and YAG iridotomy
  - YAG capsulotomy
  - Laser trabeculoplasty
  - Laser iridoplasty and pupilloplasty
3. Cyclocryotherapy

#### *Third Year*

##### A. Cognitive Skills

1. Management of complex glaucomas
2. Understanding of indications, techniques, and complications of glaucoma surgery

##### B. Acquired Skills

1. Glaucoma filtering surgery
  - trabeculectomy and full thickness filtering surgery
  - use of antimetabolites combined filtering and cataract surgery
  - Seton surgery
  - Surgical management of congenital glaucoma
2. Postoperative management needle revision of filtering blebs
  - management of flat chamber laser suture lysis
  - use of pharmacologic agents autologous blood
  - TPA
  - Viscoelastics

### **Vitreo-Retinal Disease**

#### *First Year*

##### A. Cognitive Skills

1. Retinal anatomy and physiology
2. Basic understanding of fluorescein/ICG angiography and retinal Vascular disease
3. Understanding of mechanisms of retinal detachment
4. Understanding of macular anatomy and function and diagnosis of macular diagnosis
5. Understanding of principles of photocoagulation
6. AAO Basic and Clinical Science Course Section #12

## B. Acquired Skills

1. Knowledge of major studies  
ETDRS  
DRS  
MPS  
GCCT  
Diabetic Vitrectomy Study
2. Understanding of peripheral retinal disease and vitreous pathology
3. Indications and complications of retinal photocoagulation
4. Understanding of principles of retinal detachment repair
  
5. Diagnosis, treatment, complications of retinopathy of prematurity
6. Understanding of retinal vascular disease arterial and venous obstructions diabetic retinopathy hypertensive retinopathy anomalous vascular diseases peripheral vascular occlusive disease
7. Understanding of macular disease  
ARMD and choroidal neovascularization  
Dystrophies  
CME  
Central serous retinopathy
8. Understanding and application of electrophysiology
9. Recommended texts: Ryan, *Retina*  
Gass, *Stereoscopic Atlas of Macular Diseases*  
Berkow, et al, *Fluorescein Angiography*

## B. Acquired Skills

1. Indirect ophthalmoscopy with scleral depression
2. Use of the Mainster and wide angle exam lenses
3. Performance and interpretation of fluorescein and ICG angiography
4. Posterior segment laser surgery (indications, techniques, complications)  
diabetic focal and grid macular laser treatment  
pan retinal and sector photocoagulation treatment of choroidal neovascularization laser retinopexy
5. Electrophysiology-interpretation of ERG, EOG, VER, dark adaptation
6. Use of ocular imaging techniques B-scan ultrasonography  
OCT

## Third Year

### A. Cognitive Skills

1. Knowledge of techniques for retinal detachment repair scleral buckling vitrectomy
2. Knowledge of surgical management of diabetic retinopathy macular hole repair  
epiretinal membrane peeling management of PVR use of heavy liquids

3. Recommended texts

Ryan, *Retina*

Michaels, *Vitreous Surgery*

Hilton, et al, *Retinal Detachment: Principles & Practice*

Yanuzzi, et al, *The Retinal Atlas*

B. Acquired Skills

1. Fundus drawings of the retina with vitreoretinal relationships
2. Cryotherapy of retinal holes and other retinal pathology
3. Scleral buckling-indications, techniques, complications
4. Vitrectomy-indications, techniques, complications use of heavy liquids endophotocoagulation

**Ocular Oncology & Pathology**

Oncology

*First Year*

A. Cognitive Skills

1. Knowledge of categorization of intraocular tumours
2. Knowledge of differential diagnosis of leukocoria
3. Recognition of choroidal melanoma and differentiation from similar lesions
4. AAO Basic and Clinical Science Course Section #4

B. Acquired Skills

1. Slit lamp and ophthalmoscopic exam

*Second Year*

A. Cognitive Skills

1. Knowledge of management of options for different intraocular tumours familiarity with COMS
2. Knowledge of the histopathology of intraocular tumours

B. Acquired Skills

1. Indirect ophthalmoscopic diagnosis and localization of intraocular lesions
2. Examination under anaesthesia for paediatric intraocular tumours
3. Interpretation of fluorescein angiography of intraocular tumours
4. Interpretations of A- and B-scan ultrasonography of intraocular mass lesions
5. Relevant surgical skills  
cyclodestruction of conjunctival, cornea and intraocular tumours  
laser photocoagulation

6. Recognition of histopathologic appearance of intraocular and adnexal tumours
7. Recommended texts: Shields and Shields, *Intraocular Tumours*  
Spencer, *Ophthalmic Pathology*

*Third Year*

A. Cognitive Skills

1. Formulate differential diagnoses for tumours of the iris, ciliary body, choroids and optic disc
2. Understand prognostic significance of different types of ocular tumours and be able to guide workup for systemic involvement
3. Be able to discuss treatment alternative with patient.

B. Acquired Skills

1. Surgical techniques and their complications plaque radiotherapy iridectomy and iridocyclectomy resection of conjunctival tumours enucleation

**Pathology**

*First and Second Year*

A. Cognitive Skills

1. Basic ocular anatomy and histology
2. Understanding of the basic disease processes of the eye and their pathogenesis
3. Recognition of the histology of the major intraocular and adnexal disease processes

B. Acquired Skills

1. Understand handling and processing of specimens in the laboratory
2. Knowledge of how to communicate with the pathologist regarding: special handling of specimens for special stains/EM frozen sections
3. Participation in the cutting and gross examination of whole globes
4. Microscopic examination of active ophthalmology cases and teaching collections in all subdivisions of ophthalmic pathology.

**Neuro-Ophthalmology**

*First Year*

A. Cognitive Skills

1. Further development of knowledge from first and second year

B. Acquired Skills

1. Temporal artery biopsy
2. Optic nerve sheath fenestration: indications, technique, complications

## Paediatric Ophthalmology and Strabismus

### First Year

#### A. Cognitive Skills

1. Extraocular muscle anatomy
2. Physiology of ocular motility ductions  
versions and vergences Hering's and Sherington's laws

Neuroanatomy of eye movement

Vestibulomotor pathways

3. Ocular embryology developmental anomalies
4. AAO Basic and Clinical Course #6

#### B. Acquired Skills

1. Assessment of vision in the neonate, infant and child
2. Basic measurement of strabismus  
-Hirschberg  
-Krim sky  
-cover/uncover and alternate cover testing
3. Examination of the paediatric eye anterior segment  
red reflex and posterior segment exam

### *Second Year*

#### A. Cognitive Skills

1. Binocular vision and amblyopia physiology of binocular vision  
diplopia, confusion and suppression normal and abnormal retinal  
correspondence classification and characteristics of amblyopia
2. Strabismus  
esodeviations  
exodeviations  
vertical deviations nystagmus  
special types of strabismus
3. Paediatric retinal disease inherited retinopathies  
retinopathy of prematurity
4. Paediatric glaucoma
5. Recommended texts: Van Noorden, *Atlas of Sfrabismus* Helveston,  
*Strabismus Surgery*  
Parks, *Ocular Motility and Strabismus*

## **B. Acquired Skills**

1. Advanced ocular motility exam stereoacuity testing cycloplegic refraction retinoscopy  
test of binocularity and retinal correspondence  
special motor rests prism adaption testing
2. Extraocular muscle surgery indications  
techniques  
recession  
resection  
transposition  
Faden operation Adjustable techniques  
Complications
3. Treatment of retinopathy of prematurity indirect laser cryotherapy
4. Evaluation and treatment of paediatric nasolacrimal duct obstruction  
irrigation, probing and intubation of the nasolacrimal duct

### Third Year

#### A. Cognitive Skills

1. Congenital cataracts –workup and management
2. Complex ocular motility disorders
3. The opacified paediatric cornea and paediatric corneal surgery
4. Paediatric eyelid and orbital disease

#### B. Acquired Skills

1. Paediatric cataract and anterior segment surgery indications, techniques and complications patients with uveitis  
special considerations paediatric IOL implantations
2. Paediatric glaucoma surgery goniotomy trabeculotomy filtering surgery
3. Surgical management of congenital eyelid deformities ptosis  
other lid malpositions

## **Ophthalmic Plastic and Orbital Surgery**

### First Year

#### A. Cognitive Skills

1. Anatomy of the eyelids, orbits, and lacrimal system
2. Basic treatment of orbital and adnexal trauma
3. AAO Basic and Clinical Science Course Section #7
4. Recommended texts: Rootman, *The Orbit*  
Dutton, *Anatomy of the Orbit and eyelids*  
Rootman, *Orbital Surgery*

B. Acquired Skills

1. Evaluation of abnormalities of the orbit and eyelids  
Hertel exophthalmometry  
Measurement of ptosis
2. Lacrimal system evaluation and irrigation
3. Minor surgery  
excision of small eyelid lesions incision and curettage of chalazia  
abscess drainage  
electroepilation of eyelashes

*Second Year*

A. Cognitive Skills

1. Differential diagnosis of orbital disease
2. Aetiology, evaluation and treatment of eyelid malpositions
3. Diagnosis and management of eyelid lesions
4. Management of lacrimal system disease

B. Acquired Skills

1. Radiologic evaluation of orbital fractures and lesions
2. Probing and intubation of the nasolacrimal duct
3. Repair of simple eyelid lacerations
4. Temporary tarsorrhaphy
5. Lateral canthotomy

*Third Year*

B. Acquired Skills

1. Excision of eyelid lesions and eyelid reconstruction
2. Enucleation and evisceration
3. Repair of eyelid
4. Cosmetic eyelid surgery
5. Repair of acquired and congenital eyelid malpositions
6. Lacrimal surgery
7. Orbital surgery  
fracture repair  
tumour biopsy/excision decompression
8. Recommended reading:  
AAO Basic and Clinic Science Course, Section #7  
Stewart, *Surgery of the Eyelid, Orbit and Lacrimal System*  
Rootman, *Orbital Surgery*  
AAO Ophthalmology Monographs – Volume 7

*Fourth and Fifth year*

During the fourth and fifth year reinforcement of all goals and objectives with an emphasis on surgical hands on experience and completion of surgical and procedures logbook.

# GOALS AND OBJECTIVES

## GLAUCOMA/ANTERIOR SEGMENT ROTATION

Kan Janula, M.D.

Franco Mercieca M.D. FRCOphth

EUGME cognitive goals: medical knowledge, patient care *and* system based Learning

1. Goal: to develop testable hypotheses concerning the diagnosis by obtaining a relevant history.

Objectives:

—to be familiar with questions that will distinguish many different types of glaucoma and diseases that mimic glaucoma

-to elicit useful descriptions and symptoms of loss of central and peripheral vision.

-to identify patient with symptoms that may be related to issues of secondary glaucoma

-to inquire about specific external forces that could be the cause of the patient's disease process

2. Goal: to learn the basic ocular anatomy and its correlation with clinical *examination* and imaging procedures including nerve fiber layer analysis, stereo disc photographs and visual field analysis.

• clinical evaluation

3. Goal: Clinical Evaluation: to gain proficiency in performance of anterior segment and optic nerve examination

Objectives:

-Slit lamp biomicroscopy of the anterior segment

• Gonioscopy

1. Indirect: be proficient with 4-mirror and 3-mirror evaluation of the anterior chamber angle, including the technique of compression gonioscopy.

2. Direct: be familiar with the Koeppe lens gonioscopy system.

3. Be able to describe normal and pathological angle anatomy,

-Optic Nerve

• Normal anatomy and structure

2. Pathological anatomy, changes

3. Direct ophthalmoscopic exam

4. Indirect ophthalmoscopic *exam*

- Visual field know the mechanisms by which each method measures the visual field and be able to recognize patterns of loss and distinguish them from false results.

1. Goldmann

2. Automated perimetry (Humphrey and Octopus)

-Other tests

1. Nerve fiber layer analysis
2. Ultrasound biomicroscopy
3. Scanning laser ophthalmoscopy
4. Provocative testing: when to use it and interpretation of results
5. Ultrasonography: use B-scan to aid in diagnosis

4. Goal: To know the different **types** of glaucoma and understand the differences between them.

Objectives:

Open Angle Glaucoma

-Primary open angle glaucoma

1. Associations, risks
2. Theories of pathogenesis
3. Diagnosis and treatment

-Low tension glaucoma

-Secondary open angle glaucoma; know causes, diagnosis and Rx

1. Pigmentary glaucoma
2. (Pseudo) Exfoliation glaucoma
3. Uveitic glaucoma
4. Steroid glaucoma
5. Lens induced glaucoma @hacomorphis, -lytic, -anaphylactic)
6. Traumatic (angle recession, hyphema, post-operative)
7. Systemic diseases (sarcoid, etc.)

Angle Closure Glaucoma: know causes, diagnosis and R.x

-Primary angle closure

1. Acute
2. Subacute
3. Chronic
4. Plateau iris

-Secondary angle closure

1. Lens-induced
2. ICE syndrome
3. Neovascular glaucoma
4. Malignant glaucoma
5. Post-operative (epithelial and fibrous downgrowth, RD surgery)
6. Nanophthalmos (Particular risks and Rx)

Pediatric Glaucoma

-Congenital glaucoma

1. Genetics
2. Theories of pathogenesis
3. Diagnosis (signs, symptoms, differential)
4. Treatment

-Systemic diseases associated with pediatric glaucoma

1. Sturge-Weber syndrome
2. Neurofibromatosis
3. Marfan syndrome
4. Homocystinuria
5. Weill-Marchesani
6. Juvenile xanthogranuloma

-Associations, congenital syndromes (Trisomy 21, Lowe, Stickler, etc.)

-Associations, ocular abnormalities (aniridia, Axenfeld-Rieger, etc.)

5. Goal: To understand the medical management of different glaucomas

Objectives:

Pharmacotherapeutics: know the indications, contraindications and side effects of each

- a. Beta-blockers
- b. Adrenergic agonists
- c. Carbonic anhydrase inhibitors
- d. parasympathomimetics
- e. prostaglandins
- f. hyper osmotic agents
- g. new drugs (brimonidine, latanoprost)

6. Goal: to develop a comprehensive understanding of different surgical techniques used in the treatment of glaucoma

Objectives:

Surgical therapy: know the techniques, indications and complications

\* should be able to perform proficiently upon graduation from residency

-laser

1. peripheral iridectomy\*
2. laser trabeculoplasty\*
3. goniotomy/iridoplasty

-filtering procedures

1. trabeculectomy and goniotomy

2. trabeculectomy\*

- a. post operative bleb management
- b. anti-metabolite use
- c. combined procedure \*(with cataract extraction)

3. fill-thickness procedure

4. tube shunt

-ciliary body ablation

1. endocyclophotocoagulation
2. trans-scleral cyclophotocoagulation\*
3. cyclotherapy\*

-Postoperative care of all of the above procedures

**Curriculum:**

**Reading Assignments:**

- 1. Epstein DL, Allingham R, Schuman J, eds.** (Chandler and Grant's Glaucoma 4<sup>th</sup> Ed. Philadelphia: Lea and Febinger, 1997
- 2.** (.Glaucoma, **AAO Basic and Clinical Science Course, Section 10.**
- 3. Hoskins HD Jr., Kass MA, eds.** *Becker-Shaffer's Diagnosis and therapy of the Glaucomas*, **St. Louis: CV Mosby Co; 1996.n**
- 4. Ritch R, Shields MB, Krupin 1, eds.** *The Glaucomas*. **St Louis: CV Mosby Co; 1996.**
- 5. Shields, MB.** Textbook of glaucoma. 4<sup>th</sup> ed. **Baltimore: Williams and Wilkins; 1997.**
- 6. Kanski & McAllister Glaucoma A Colour Manual of diagnosis and treatment.**

## GOALS AND OBJECTIVES FOR NEURO-OPHTHALMOLOGY ROTATION

FUGME cognitive goals: medical knowledge. patient care and system based learning

II. Goal: To develop testable HYPOTHESIS concerning The diagnosis by obtaining a relevant history.

Objectives:

- To be familiar with questions that will distinguish among tension headaches, all types of vascular headaches, and headaches that may be symptoms of serious intracranial disease.
- To be able to characterize diplopia by onset. direction. constancy, *circumstances*, and associated symptoms (or specific lack thereof).
- To elicit useful descriptions and symptoms of loss of central or peripheral vision, and associated symptoms (or specific lack thereof).
- To identify patients whose symptoms may be related to issues of secondary gain.
- To inquire about specific external forces or agents that could be the cause of the patient's symptoms

2, Goal: To thoroughly evaluate one visual sensory system

Objectives:

- To accurately perform visual acuity testing at distance and near.
- To evaluate color vision as a test of visual function.
- To obtain and interpret the pupillary responses to light and to understand the anatomic substrate that allows the swinging flashlight test to be useful.
- To perform *visual* field testing by confrontation and at the tangent screen.
- To operate both the Goldmann and Humphrey perimeters and to know the capabilities and limitations of both instruments.
- To interpret visual fields obtained by all of the above techniques.
- To know various tests that will identify non-organic visual loss.

3. Goal: To thoroughly evaluate the ocular motor system

Objectives:

- To understand the anatomy, function and *clinical* testing of the supranuclear gaze mechanisms and the facial nerve.
- To test the twelve extra-ocular muscles by the alternate cover test, using prisms to measure deviations, and to interpret the *findings*.

—To distinguish among ocular deviations and ptosis/retraction of mechanical, myofascial, neuropathic, and neuromuscular junction causes on clinical examination.

4, Goal To evaluate the orbit

Objective

To accurately palpate the orbit for abnormalities, including retropulsion  
To reliably perform exophthalmometry.

5, Goal: To thoroughly evaluate the optic disc and macula

Objectives:

To confidently perform direct and indirect ophthalmoscopy and fundus biomicroscopy

-To know the proper techniques for identifying optic disc drusen and observing retinal venous pulsations.

To recognize and distinguish among the various types of optic disc swelling.

6. Goal: To use laboratory testing appropriately

Objectives:

To know proper work-up for optic atrophy and anterior ischemic optic neuropathy.

-To recognize when ophthalmic echography, fluorescein retinal angiography, and electroretinography are useful.

-To understand when radiographic imaging is necessary, to order the appropriate studies, to communicate properly with the Department of Radiology and the radiologists.

-To promptly obtain, interpret, and follow-up on laboratory results.

7~ Goal: To learn systemically

Objectives:

-To select any standard, one-volume textbook of neuro-ophthalmology, in addition to the manual published by the American Academy of Ophthalmology, during the first week of the rotation, and set up a schedule to finish reading it during the rotation.

To read the periodical literature on interesting cases seen or other topics.

Arrangements will be made for ophthalmology residents to attend for a limited period of time the neurology department at St Luke's hospital.

Curriculum:

Reading assignment:

AAO Basic and Clinical Science Course, Section 5

Product: Required submission of pre- and post test from the AAO Basic and Clinical Science Course. Section 5

# **ONCOLOGY AND ORBITAL DISEASE**

**Department of Ophthalmology**

**Department of Pathology**

EUGME cognitive goals: medical knowledge, patient care and system based learning

1. Goal: To learn the basic orbital anatomy and its correlation with clinical examination and imaging procedures including CT, MM and ultrasonography.

Objectives:

- . To learn the clinical examination of patients with orbital disease presenting with exophthalmos, enophthalmos, EOM, and neuro-ophthalmological deficits.
- . To learn how to use Hertel exophthalmiometer, Maddox cross, color vision testing and other neuro-ophthalmological examination methods which are applicable to orbital disease.
- . To learn systemic pathologies which affect the orbit such as thyroid disease, sarcoidosis, vascular diseases, etc.
- . To learn the commonly encountered orbital infections including bacterial and fungal cellulites.
- . To learn presentation of orbital emergencies including injury, hemorrhage, cellulitis, etc.
- . To learn diagnosis and management of commonly encountered orbital tumors such as hemangioma, rhabdomyosarcoma, metastatic tumors, lymphoma, etc.

2. Goal: To learn the basic concepts of orbital surgery and be able to assist in some surgical procedures.

Objectives:

- . To learn the pre-operative and post operative examination and management of orbital surgical patients.
- . To review the pre-operative and post operative imaging with the attending.
- . To participate in orbital surgery and will learn basic instrumentation and procedures and should be able to assist during the procedure.

3. Goal: To understand the basic concepts of ocular oncology as well as clinical presentations and management of the tumors of the eyelid and conjunctiva, lacrimal drainage system and orbital tumors as well as intraocular tumors.

## Objectives

- To evaluate intraocular tumor patients clinically with indirect ophthalmoscopy, biomicroscopy, ultrasonography, CT and MRI.
- To evaluate the conjunctiva and cornea for differential diagnosis of external eye tumors such as squamous cell carcinoma, lymphoma, melanoma, cysts, etc.
- To learn the examination and evaluation of lacrimal drainage system and its primary and secondary tumors.
- To assist in tumor surgery including conjunctival and orbital tumor biopsy, cryo and laser treatment of intraocular tumors, brachytherapy with radiation plaque applicators, and the removal of eyelid and conjunctival tumors and cysts. To participate in cases of enucleation and exenteration.
- To learn the basic concepts of dry eye developing secondary to tumor treatment including radiation and chemotherapy and the management of severe dry eye patients.
- To learn the principles of immunosuppression in a cancer patient and consequence of immunosuppression in eye disorders as well as the adverse effects of antimetabolites on the eye.

All residents are to be available *for* the yearly teaching visit by visiting faculty in ocular oncology.

Curriculum:

Reading Assignments: AAO Basic and Clinical Science Course, Section 7

Product: Required submission of pre- and post test from the AAO Basic and Clinical Science Course, Section 7

**GOALS AND OBJECTIVES**  
**OCULAR PATHOLOGY**  
**Department of Ophthalmology**  
**Department of Pathology**

EUMMGME goals: medical knowledge, patient care and system based learning

1. Goal: To understand the clinico-pathological concepts in ocular and adnexal diseases.

Objectives:

- . To learn the basic embryology, anatomy and histology of the eye and extraocular muscles.
- . Resident will study the basic embryology, anatomy and histology of the adnexal structures including eyelids, lacrimal drainage system and the orbit.

2. Goal: To understand the histopathological concepts and practical applications of tissue diagnosis including the processing of a biopsy, histochemical and immunohistochemical stains utilization of cytology.

Objectives:

- . To assist in the cutting of eye specimens including the globes. The resident will participate in the review and reporting of the surgical material and biopsies.
- . To assist with the signout of ocular histopathology specimens.

3. Goal: To understand different types of biopsies including incisional, fine needle aspiration, frozen section, etc., and their application to the management of eye disease.

Objectives:

- . To review the slides with the ocular pathologist.
- . To learn about participate in the frozen section process.

4, Goal and Objectives: To learn basic ocular histopathologic patterns including corneal changes, granulomas, chalazion, diabetic retinopathy, intraocular tumors (choroidal melanoma, retinoblastoma), basal cell carcinoma, squamous cell carcinoma, and other basic commonly seen ocular diseases.

Curriculum:

Reading assignments: AAO Basic and Clinical Science Course Section 4 Shields and Shields, *intraocular Tumors*  
Spencer, *Ophthalmic Pathology*

Product: Required submission of pre- and post test from the AAO Basic and Clinical Science Course, Section 4

# **PEDIATRIC OPHTHALMOLOGY SERVICE**

**Thomas Fenech FRCS FRCOphth.**

**Martin Francalanza, Orthoptis goals: medical knowledge, patient care and system based learning**

1. Goals: to perform a thorough pediatric ophthalmology and strabismus examination consisting of:

Objectives:

- visual acuity testing in all age groups
- eye muscle examination using both corneal light reflex and cover testing techniques
- red reflex assessment
- retinoscopy with loose lenses
- appropriate development of rapport with patients so the maximal clinical information can be derived without causing undue stress and anxiety on the part of the patient and parents.
- if necessary, how to restrain a child and when to restrain a child in order to complete the eye examination.
- understanding the importance of examining siblings and parents when children are suspected of having a genetic familial disorder.

2. Goal: to understand important systemic disease associations with pediatric ophthalmology:

Objective: e.g., anterior uveitis(juvenile rheumatoid arthritis), cataracts (rubella), leucocoria (retinoblastoma, toxocara canis), optic nerve lesions (neurofibromatosis), retinal hemorrhages (shaken baby syndrome and child abuse), neonatal ocular herpes simplex (encephalitis), hormonal deficiencies, nystagmus (intracranial gliomas), retinopathy of prematurity.

3. Goal: the differential diagnosis of poor or absent vision in infants.

Objectives:

- delayed visual development
- albinism
- optic nerve hypoplasia
- retinal disease, e.g. Leber's amaurosis achromatopsia
- cortical visual impairment

4. Goal: Amblyopia. Trainees should understand the importance of considering and treating amblyopia in children and how this disorder distinguishes infants and young children from older children and adults.

Objectives:

They should know how to diagnose and treat amblyopia, which is a common cause for poor vision in children.

5. Goal: Surgical procedures.

Objectives:

-Trainees should be familiar with common extraocular muscle surgery strabismus problems. They will have sufficient experience as first assistant and surgeon with faculty members.

-Retinopathy of prematurity. Trainees will learn the international (ICROP), screening guidelines and treatment indications for ROP, a not uncommon disease causing blindness in premature infants.

-Trainees will have experience with surgery on children for cataracts and other disorders including lacrimal probing, ptosis as well as laser and cryo for retinopathy of prematurity. Non-cognitive goals: interpersonal/communication skills, professionalism, practice based learning

Goal: Expand contacts in the regional professional environment

Objective: have and be able to demonstrate a system (card, computer, etc.) for recording information about professional contacts.

Goal: Develop an understanding of professional practice in a subspecialty clinical setting.

Objective: be able to demonstrate an appropriate approach to the evaluation of a diverse ophthalmic patient population in a subspecialty clinical setting.

Curriculum:

Reading assignments: AAO Basic and Clinical Science Course, Section 6

Von Noorden, *Atlas of Strabismus*

Helveston, *Strabismus Surgery*

Parks, *Ocular Motility and Strabismus*

Products: Required submission of pre- and post test from the AAO Basic and Clinical Science Course, Section 6

# **GOALS AND OBJECTIVE**

## **RETINA ROTATION**

**Thomas Fenech, FRCS FRCOphth.**

**Albert Bezzina, M.D.**

Cognitive goals: medical knowledge, patient care and system based learning

1. Goal: To develop a testable hypothesis concerning the diagnosis by obtaining a relevant history.

Objectives:

- to be familiar with questions that will distinguish among various retinal disorders that can present with sudden visual loss and/or visual field changes.
- to be able to categorize visual loss and changes by onset, duration, consistency, circumstances and associated symptoms.
- to elicit useful descriptions and symptoms of loss of central or peripheral vision and associated symptoms.
- to distinguish these symptoms to distinguish these from neuro-ophthalmological diseases.
- to inquire about specific external forces or agents that could be responsible for the patient's symptoms.

2. Goal: to totally evaluate the retina and the vitreous system.

Objectives:

- should be familiar with anatomy and physiology of the retina, vitreous, retinal pigment epithelium and choroids
- to accurately perform vitreous and retinal examination using biomicroscopic techniques and various lens systems, for example: the 90 diopter lens, 20 diopter lens, 75 diopter lens, white base lens system, etc.

3. Goal: to become familiar with primary retinal clinical trials including questions addressed, outcomes and implications for clinical practice.

Objectives:

-to make trainees familiar with the following clinical trials:

Diabetic Retinopathy Study (DRS)

Diabetic Vitrectomy Study (DVS)

Early Treatment for Diabetic Retinopathy Study (ETDRS)

Early Vitrectomy Study (EVS)

Age Related Eye Disease Study (AREDS)

Cryotherapy for Retinopathy of Prematurity (CROP) and new ROP

Trials

Macular Photocoagulation Study

Central Retinal Vein Occlusion

Branch Retinal Vein Occlusion

DCCT

TAP and VIP

4. Goal: to use laboratory testing appropriately

Objectives:

- to know proper work-up for vitreous and retinal diseases
- to recognize ophthalmology when ophthalmic echography, fluorescein angiography, and electroretinography are useful

5. Goal: to understand the basic sciences of laser and appropriate safety measures

Objective:

- to obtain and evaluate intravenous fluorescein angiography and indocyanine green angiography
- to understand the principles of ultrasonography, specifically to obtain and evaluate ultrasonic appearance of retinal detachment and intraocular tumors.
- to understand the principles of OCT and to specifically learn to evaluate macular edema through OCT

6. Goal: to become familiar with various retinal and vitreous disorders.

Objectives:

- to learn to evaluate the patient for endophthalmitis, bacterial or fungal, and appropriate management both medical and surgical
- to learn the stages and management of age related macular degeneration
- to be able to describe the stages and management of sickle cell retinopathy
- to describe angiographic and clinical findings in selected retinal dystrophies such as, Stargardts, cone-rod dystrophy and pattern dystrophy**
- to be able to describe findings and clinical evaluations of diabetic retinopathy and define management plan
- to be able to describe the classification of uveitis, anterior and posterior, granulomatous and nongranulomatous, and to describe common causes of each type,
- to describe escalating regimen for treating common causes of uveitis
- to describe systemic findings of scleritis

7. Learning Skills

- to understand the principles of vitrectomy surgery.
- to understand the principles of photodynamic therapy for macular degeneration
- to understand the principles of retinal detachment surgery

8. Goal: to obtain clinical skills and responsibilities. The following clinical skills and other rotation responsibilities

Objective:

-Trainee will attend IVFA and present an IVFA every week

-attend retinal surgery especially on-call  
-perform clinical lasers with supervision  
-perform fundusoscopic examination with scleral depression and examine the peripheral retina  
-perform slit lamp biomicroscopy of the macula and vitreous and describe findings

-trainee will learn to identify retinal tears and holes  
-describe treatment options and complications  
-describe mechanisms of injury and complications of posterior segment trauma

Non-cognitive goals: interpersonal/communication skills, professionalism, and practice based learning.

1. Goal: Expand contacts in the regional professional environment.

Objective:

. Have and be able to demonstrate a system (card, computer, etc.) for recording information about professional contacts.

2. Goal: Develop an understanding of professional practice in a subspecialty clinical setting.

Objective:

. Be able to demonstrate an appropriate approach to the evaluation of a diverse ophthalmic patient population in a subspecialty clinical setting.

Curriculum:

Reading Assignments:

Ryan, *Retina*

Michaels, *Vitreous Surgery*

Hilton, et al, *Retinal Detachment: Principles & Practice*

Yanuzzi, et al, *The Retinal Atlas*

AAO Basic and Clinical Science Course, Section 12

Product: Required submission of pre- and post test from the AAO Basic and Clinical Science Course, Section 12

# **Private Practice policy**

## **Private Practice**

Trainees who wish to engage in the practice of medicine outside of the training programme must have the explicit written approval of the Program Director and Chairman following the institutional principles established for duty hours as well as monitoring of the effect on performance in the educational program. All trainees who engage in private practice activities must be fully licensed to practice medicine.

## **Departmental Policy on Moonlighting**

The trainee may use his/her annual leave and time off to perform private medical practice at the discretion of the Chairman.

# Patient Care

## New Patient Examinations

To maintain a high level of patient care, any new patient examination is to include at least the following:

- A complete history of ophthalmic, major medical and surgical problems, medications and allergies
- A Snellen visual acuity for distance and near (with or without glasses, as appropriate). A pinhole acuity with distance correction if indicated.
- An estimate of the visual field. Tangent screen or perimeter as indicated.
- Pupil evaluation
- Evaluation of the extraocular muscle status
- A manifest refraction if needed
- Cycloplegic refraction as indicated
- Slit lamp biomicroscopy examination of the cornea, anterior chamber, iris, lens and anterior vitreous.
- Sereopsis testing if indicated.
- Ophthalmoscopic examinations through dilated pupils with direct and indirect ophthalmoscopes. Scleral depression as indicated.
- Goldmann three-minor lens or Zeiss lens examination of the angle if indicated.
- Applanation tonometry; pre-dilation intraocular pressures are mandatory, post-dilation tonometry measurements if indicated.
- After the complete eye examination has been performed, the clinical impressions and proposed plan of treatment should be legibly noted without abbreviations.

## Return Visits

- The reason for the return visits should be clearly explained in the post-examination note.
- Visual acuity measurements should be documented for each visit.
- All patients who are seen more frequently than annually and patients who can cooperate should have their intraocular pressures measured yearly.
- A more complete examination should be done if indicated. Established patients should have the equivalent of the above at least once every three years.

## Walk-in Patients

- Walk-in patients with urgent problems will be seen as soon as possible by the first available trainee in the general clinic.

- ONLY the immediate problem should be evaluated. The appropriate eye examination will be determined by the patient's problem.
- A complete eye examination should be scheduled at a later date, when the problem has been resolved or is stable.

### Emergency Room Patients

- Accident and emergency patients should be seen as soon as possible.
- After 2.30pm., emergency patients will be the responsibility of the on-call ophthalmologist

### In-patient Care

- A complete medical and surgical history as well as a complete physical examination will be performed on all patients admitted to our service or going to outpatient surgery.
- The ophthalmology examination findings must be on the chart. An appropriate ophthalmic examination should be done by the admitting trainee as indicated by the reason for admission.
- All patients with vision threatening problems, medical/legal problems, nonroutine eye pathology, or any problem that generates questions regarding patient management, must be presented to the consultant or senior registrar of the clinic for that given session.

# SURGICAL PRIVILEGES

## SURGICAL PRIVILEGES

- A. Surgical privileges will be given annually to each trainee in accordance with his/her performance and abilities during the previous year. They are not automatically given.

Major extra-ocular (plastics, orbital) and intraocular surgery is not to be done by a first or second year trainee until he/she has demonstrated to a full-time staff member that he/she, by assisting in major surgery and performing minor surgery, has attained a degree of proficiency qualifying him/her to do this type of surgery.

- B. All surgical cases must be approved in writing in the patients notes by the responsible consultant or his senior registrar.

It is expected that the trainee will be thoroughly familiar with the case history of the patient at the operation, and the operative techniques about to be performed. In the event that the trainee is not sufficiently familiar with the case history, or the indication for surgery, the consultant or senior registrar will become the operating surgeon.

- C. All types of retinal and vitreous surgery are restricted to fourth and fifth year trainees or consultants and senior registrars. Approval for this type of surgery is not automatic but will be granted upon demonstration of applicable clinical skills and appropriate academic preparation.

- D. Consultant Cases:

The following types of clinical problems are usually considered to be the cases to be operated on only by the consultants and senior registrars:

1. One-eyed patients, or patients whose visual function is expected to be less than 20/200 in their better eye;
2. All procedures of an advanced nature in which the trainee has insufficient experience and the procedure is considered to be technically beyond the trainee's competence. This judgment is to be a staff decision. Such cases would include:

- a. advanced plastic repair (e.g. ptosis, flaps, grafts, etc., and orbitotomies)
  - b. complicated retinal detachments, all re-operations for retinal detachment
  - c. all keratoplasties
  - d. vitrectomies (except anterior vitrectomy associated with anterior segment surgery)
  - e. vertical eye muscles, pediatric cataracts and pediatric glaucomas
  - f. all intraocular tumor cases
- E. Phacoemulsification is an advanced procedure and is only permitted following approval of the staff.

## **SURGERY CERTIFICATION**

In order to facilitate the certification of surgery performed during residency for the European Board of Ophthalmology, it will be the responsibility of each resident to maintain an accurate file of his/her surgical procedures. Failure to supply the Department with accurate surgical reports will cause unnecessary delay or preclude certification from the department. A surgery log should be kept of all cases the resident is involved with as a primary or assistant surgeon.

This should contain the patient's name, date of procedure, diagnosis, name of procedure, and the patient's hospital number.

**It is expected that at the end of the 5 year training programme the residents would have at least performed the following number of procedures under supervision.**

Cataract extraction with or without JOL (total 125 cases)

Phaco 100

ECCE 20

Others 5

Anterior segment ( total 70 cases)

Anterior segment laser 40

Pterygium, conjunctival grafts or flaps etc 30

Glaucoma (total 50 cases)

Surgery 20

Laser 30

Paediatric surgery (total 15 cases)

Strabismus 10

Others 5

Retina and vitreous (total 60 cases)

Surgery 10

Laser 40

Others eg intravitreal injections 10

Trauma 40

Open globe 10

Lids lacerations 30

Oculoplasties and lacrimal system 40

Lacrimal probing and lacrimal sac washouts 20

Lids (ptosis, ectropion, entropion etc.) 20

# Medical Records

## Intelligibility

The medical record is read by many individuals. For this reason it is imperative the clinical impressions and plans are written in plain English WITHOUT ABBREVIATIONS. This applies to charting activities. The signature must be legible.

## Dictation

All surgical reports, including examinations under anesthesia and laser photocoagulations, should be dictated immediately after the procedure. Discharge

The patient discharge summary and **all** other paper work connected with the discharge are to be completed at the time of the discharge, prior to the patient leaving the in-patient unit. THERE WILL BE NO EXCEPTIONS TO THIS RULE.

## Motivation

All charts must be completed to receive the training programme certificate.

# ACADEMIC REQUIREMENTS

## ACADEMIC REQUIREMENTS

### A. Oral Examinations

We will conduct a yearly oral exam in the six core subspecialties in ophthalmology. At the end of this, individual trainees will be counseled based on their performance. Trainees found lacking in certain areas will be advised appropriately.

### B. Examinations

The Trainees will need to sit for the part 1 and part 2 membership (Royal College of Ophthalmologists) exam in the first 2 years of the programme and the part 3 in the third year of the programme. After completion of the 5 year training programme trainees are to sit for the European Board of ophthalmology exam.

### C. Reading time

It is expected that trainees will spend a minimum of 5 hours every week reading ophthalmic textbooks and journals and are expected to keep updated with all the recent literature.

### D. Research Projects and Guidelines

Every trainee is expected to carry out research, this could take the form of an audit, basic research project or clinical research project. At least 1 research project during the training programme should be submitted for publication.

Trainees will be expected to make regular presentations at Malta Association of Ophthalmology CME meetings and will receive credits for such presentations. Each presentation should be prepared jointly with a faculty member.

### E. Educational resources

1. Library Books - All current journals, CD's, Videos etc. are to stay in the Departmental Library (location to be chosen) since many volumes are limited. Additional ophthalmic literature is located in the medical school library.

2. Computer Work Station - A computer work station is to be established in the departmental library. Trainees are encouraged to use the station for their medical studies, presentations, etc., but not for personal uses.

# Lecture Series

## Resident Lecture Series Cornea and External Disease

1. Anatomy and physiology of the cornea
2. Corneal infections: bacterial, viral, fungal
3. Corneal dystrophies
4. Corneal degenerations and miscellaneous disorders leading to transplant
5. Penetrating Keratoplasty: indications and techniques
6. Miscellaneous corneal surgery including: lamellar keratoplasty, partial graft
7. Conjunctival and corneal neoplasia: pterygium, dermoid, squamous cell carcinoma, malignant melanoma
8. Conjunctival infection
9. Signs and symptoms of systemic disease
10. Ocular allergies, diagnosis and treatment

## **Resident Lectures Series**

### Glaucoma

1. Introduction to Glaucoma
2. Pathophysiology of Glaucoma
3. Gonioscopy
4. Visual Fields
5. Open Angle Glaucoma
6. Angle Closure Glaucoma
7. Acute Glaucomas
8. Secondary Glaucomas
9. Medical Management of Glaucoma
10. Lasers in Glaucoma
11. Trabeculectomy
12. Trabeculectomy
13. Glaucoma Drainage Devices
14. Non-Penetrating Glaucoma Procedures
15. Cyclodestructive Procedures
16. Controversies in Glaucoma: Done in a journal club format, the topics are chosen from the current and past literature by the Glaucoma faculty and discussed with the residents, fellows, and the medical students

**Resident Lecture Series**  
Neuro-ophthalmology

1. The Neuro-ophthalmologic history and exam; includes pupils, parasympathetic and sympathetic
2. Neuro-ophthalmologic emergencies .giant cell arteritis, optic neuritis and optic nerve trauma
3. Neuropathology of the visual system
4. Neuropathology of trauma to the visual pathway
5. Supranuclear mechanisms, Parts I, II and III
6. Visual fields
7. Nystagmus
8. Diplopia. including ophthalmoplegias and III, IV, and VI
9. Myasthenia gravis .given by guest neurologist

**Resident Lecture Series**  
Pediatric Ophthalmology

1. Introduction to Pediatric Ophthalmology-Examination Techniques
2. Retinopathy of Prematurity (ROP)
3. Strabismus Anatomy-Anatomy and Physiology
4. Esotropia I
5. Esotropia II
6. Exotropia
7. Vertical Strabismus I
8. Vertical Strabismus II
9. Retinoblastoma
10. Orbital tumors in children
11. The eye and systemic disease in children

## Resident Lecture Series

### Refractive Surgery

1. Introduction includes:
  - Optics as applied to refractive surgery
  - Terminology
2. Evolution of modern refractive surgery
3. Incisional Refractive Surgery:
  - Principles
  - Optics
  - Instrumentation
  - Surgical techniques
  - Complications
4. Barraquer techniques
5. Introduction to laser
6. Laser refractive surgery
7. Wave front technology
- 8. Presbyopia**
9. Phakic IOLs
10. Accommodating and Multifocal IOLs

## **Resident Lecture Series**

### Vitreo-Retina Disease

1. Basic Anatomy and Physiology of the Retina
2. Inflammatory & Infectious Diseases
3. Diagnostic Approach to Retina Disease
4. Retinal Physiology/ERG
5. Retinal Detachment
6. MacWar Disease
7. Hypertensive/Diabetic Retinopathy
8. Sickle cell/ROP/Vascular occlusions
9. Vasculitis/CME/Phaeomatosis
10. Choroidal disease/Cone disease
11. Hereditary Dystrophies
12. Retinal degeneration with systemic disease
13. Disease of the vitreous
14. Posterior segment trauma
15. Board review
16. Board review

# EVALUATION PROCESS

## DEPARTMENT OF OPHTHALMOLOGY

### Trainee Final Evaluation

Trainee name: \_\_\_\_\_

Completion Date: \_\_\_\_\_

Trainee: From \_\_\_\_\_ to \_\_\_\_\_

Medical Knowledge

Surgical Skills

Professionalism

Interpersonal/Communication Skills

Ethics and Moral Standard

Remarks:

\_\_\_\_\_  
Program Director

\_\_\_\_\_  
Chairman

**DEPARTMENT OF OPHTHALMOLOGY**  
**Mater Dei Hospital**

Evaluation of trainee: \_\_\_\_\_ Date: \_\_\_\_\_

Please complete this questionnaire regarding your interaction with the above named trainee.

**Interpersonal and Communication Skills**

The trainee was available to nursing staff within a reasonable time when assistance was needed.

Unsatisfactor    Below Average                  Average                  Above Average                  Excellent

The trainee communicated effectively and respectfully with patients and their family members.

Unsatisfactory    Below Average                  Average                  Above Average                  Excellent

The trainee communicated effectively and respectfully with nursing staff and nursing leadership.

Unsatisfactory    Below Average                  Average                  Above Average                  Excellent

**Professionalism**

The trainee demonstrated respect and compassion for patients and their family members.

Unsatisfactory    Below Average                  Average                  Above Average                  Excellent

The trainee demonstrated respect for the roles and opinions of all members.

Unsatisfactory    Below Average                  Average                  Above Average                  Excellent

**System-Based Practices**

The trainee participated effectively as a member of the multi-disciplinary team.

Unsatisfactory Below Average Average Above Average Excellent

The trainee works effectively with nursing staff and ancillary health care personnel.

Unsatisfactory Below Average Average Above Average Excellent

Trainer's Name: \_\_\_\_\_

*Thank You !*

## Department of Ophthalmology

### CORE COMPETENCIES

Trainee \_\_\_\_\_  
Year :      Year 1      Year 2      Year 3      Year 4      Year 5

Date of completion    /    /

#### **Patient care** (*compassionate, appropriate, effective*)

*Evaluated through: direct observation, clinical outcomes, patient presentations, bedside rounds, Morning Report presentations.*

Satisfactory \_\_\_\_\_

Unsatisfactory \_\_\_\_\_

Areas requiring improvement \_\_\_\_\_

#### **Medical knowledge** (*biomedical, clinical, cognate sciences, and their application*)

*Evaluated through: annual examination scores, direct observation, direct questioning during clinical care and teaching experiences, journal club and conference discussions, scores on Home Study Course self tests.*

Satisfactory \_\_\_\_\_

Unsatisfactory \_\_\_\_\_

Areas requiring improvement \_\_\_\_\_

#### **Practice-based learning and improvement** (*investigation and evaluation, appraisal and assimilation of evidence*)

*Evaluated through: progressive, graded improvement in clinical care and surgical technique, the use of evidence-based medicine and the evaluation of the best-available evidence at Grand Rounds and in routine clinical care.*

Satisfactory \_\_\_\_\_

Unsatisfactory \_\_\_\_\_

Areas requiring improvement

**Interpersonal and communication skills** (*effective information exchange, teaming with patients and families*)

*Evaluated through: direct observation of communications with other residents, Ophthalmology attending physicians, physicians from other services, non-physician clinical staff non-physician non-clinical staff and patients and their families, as well as reviews of pertinent sections of regular quarterly evaluations.*

Satisfactory \_\_\_\_\_

Unsatisfactory \_\_\_\_\_

Areas requiring improvement

\_\_\_\_\_

**Professionalism** (*carrying out professional responsibilities, ethics, sensitivity*) *Evaluated through: responsibility in carrying out their professional duties (continuity, responsiveness, availability, and self sacrifice), following ethical principles, and sensitivity to diverse patient populations.*

Satisfactory

Unsatisfactory

Areas requiring improvement \_\_\_\_\_

**Systems-based practice** (*awareness and responsiveness to larger context and system of health care, use of system resources*)

*Evaluated through: use of the entire health care system in patient care, and teamwork; direct observation in patient care, conferences, Journal Clubs, and Grand Rounds presentations.*

Satisfactory

Unsatisfactory \_\_

Areas requiring improvement \_\_\_\_\_

\_\_\_\_\_  
Program Director

\_\_\_\_\_  
Chairman

## **Grand Rounds**

Grand Rounds will be held \_\_\_\_\_ from \_\_\_\_\_ unless notified differently

### **PROTOCOL FOR GRAND ROUNDS**

1. The training coordinator will preside over Grand Rounds and guide the trainees in making their selection of cases.
  - A. A complete understanding of the differential diagnosis, etiology, pathology, usual presenting symptoms and signs, and available modes of therapy should be exhibited by the presenting trainee. Familiarity with recent information in the literature is encouraged.
  - C. The presenting trainee should give the patient information to the senior trainee after completion of rounds. The senior trainee will then be able to consult the responsible trainee in subsequent rounds to aid in follow-up information.
  - D. Each trainee presenting Grand Round cases should give a copy of the presentation to the senior trainee in order to create a library of interesting cases.
2. Any trainee attending the Grand Rounds may be called upon from time to time to discuss any of the physical findings, differential diagnosis, management, etc. related to case presentations.
3. Interesting cases with IVFA, CT/MR, and visual fields are also presented in Grand Rounds by consultants and senior registrars.
4. During Grand Rounds attention to technique in all clinical methods will be emphasised to prepare trainees for the OSCE (Objectively structured clinical examination) of the part II Royal College of Ophthalmology exam. Emphasis will also be placed on interpretation of findings, formulation of differential diagnosis and formulation of a management plan as well as a good understanding of all clinical investigations in preparation for the part III exam.

# **Guidelines for Journal Club**

## **Department of Ophthalmology**

Journal Club will be held on a Friday once a month from 7.30 am onwards at the Radiology Dept. Lecture Theatre according to a schedule.

A member presents 1 —3 articles/cases of their choosing. Provide copies to the other members at least 1 week prior to the presentation. (You may want to do this before you scribble notes all over the article!) Make sure that copies

are legible and include the references. All members should have read the article and should be prepared for discussion. An additional handout at the time of presentation is not necessary.

### **Article selection:**

Article must describe a study that includes sections that describe the authors' methods and results in detail with an adequate numbers of subjects for the given study design and hypothesis. Article must be from a peer-reviewed medical journal, such as Eye, British Journal of Ophthalmology.

Article should have been published in the past 3 years.

Evidence —based articles that address a specific hypothesis are the best however meta analyses (articles that summarize several research studies); case series, case studies and descriptive studies will be allowed from to time.

### **Format of presentation:**

Presentation should be 15-20 minutes long, with an additional 10 minutes for questions

Summarize the article/s

Introduction

Title, authors, authors' affiliation, journal, date

Introduction to subject being researched and why this is of interest to us

Review the article

Methods, including such things as study design (e.g. randomisation, blinding); inclusion/exclusion criteria; study regimen; outcomes measured;

and statistics

Results

Authors' discussion

Authors' conclusion

Present your conclusions

Critique of the paper: critique each section of the article, advantages/disadvantages of the study design, accuracy of authors' conclusions

- Your conclusions regarding the impact of this study on clinical practice

You may elicit audience reaction on any of the above points, especially the conclusions. You must however, have your own opinion and be prepared to share it. You must be able to explain any unfamiliar terms or statistical tests during your presentation. You may consult with faculty for assistance before your presentation date.

Goals of the Journal Club

To critically appraise an article.

To present the article in a professional manner in front of one's peers and seniors and have this presentation evaluated.

To apply EBM skills as part of lifelong learning in order to improve the care of patients on the wards and clinics. Highlight one aspect of study design or statistics during the journal club, making it relevant and useful to those in attendance.

Chance to explore a topic of interest with other professionals while at the same time earning CME points.

KM, MV, JGH

## **Meetings**

Trainees may attend meetings as part of their vacation period, but no meetings may be attended during the period when visiting faculty are present.

### Reward for Excellence

In addition to vacation time, trainees may be allowed an extra week for meetings during their training at the discretion of the Program Director as a reward for excellence. Presentations

Time off for original presentations at significant meetings will be allowed and encouraged and will not count against vacation time.

### Local Meetings

Occasional time off not charged to vacation time, may be given by the Chairman for local medical meetings. Attendance at all meetings organized by the Malta association of Ophthalmologists is mandatory for all trainees.

Time off for meetings must be requested at least two months in advance. European Society of Ophthalmology.

To offer each trainee the opportunity to attend the European Society biannual meeting all trainees will attend at least one meeting during their training programme. The department will attempt to cover some of the financial costs and expenses to a maximum amount to be determined by the chairman

**END**