

**CERTIFICATE OF HIGHER SPECIALIZATION IN
MEDICINE (CHSM) IN Ophthalmology**

Plan No. ش/92/09/4

First : General Regulations:

- a) This plan conforms to the valid regulation of program of graduate studies.
- b) The Bachelor degree in Medicine & general surgery is the prerequisite for this program

Second: Special Regulations:

- a) Visual acuity (Best Corrected >6/9)
- b) Normal Color Vision
- c) Stereopsis of 200 sec of arc or better

Third: The syllabus consists of:

- a) Four obligatory programmed years of the following sequence :

| <u>Year</u> | <u>Subject</u> |
|--------------------|------------------------|
| First | Basic Science |
| Second | Clinical Ophthalmology |
| Third | Clinical Ophthalmology |
| Fourth | Clinical Ophthalmology |

- b) Full comprehensive examination at the end of the fourth year.
- c) The enclosed training details & duration in each department for each training year are a fully integrated program.

Fourth : The Program:

| <u>Year</u> | <u>Studying</u> | <u>Training</u> |
|--------------------|--|--|
| <u>First Year</u> | 1-Basic Ophthalmic Science: (Anatomy, Embryology, Genetics, Physiology, General pathology) 1- Optics and refraction 2- Common ocular trauma and emergencies 3- Eyelids and conjunctiva 4- Lacrimal apparatus | <u><i>Ophthalmic medicine & surgery</i></u> <u><i>(Basic)</i></u> 1- Emergency care/ under supervision of 2 nd year resident 2- In-Patients care/ under supervision of 2 nd year resident 3- Closing round/ under supervision of most senior resident 4- Case sheet & clinical examination 5- Seminars on basic principles in ophthalmic surgery / wound closure & suture removal// under supervision of most senior resident 6- Seminar on management of emergency cases 7- Seminar on basic ophthalmology as per teaching program 8- Seminar on general ophthalmology as per teaching program |
| <u>Year</u> | <u>Studying</u> | <u>Training</u> |
| <u>Second Year</u> | 1- Ocular pathology 2- Ocular pharmacology 3- Orbit 4- Cornea 5- Glaucoma | <u><i>Ophthalmic Medicine & Surgery</i></u> 1- Emergency care/ under supervision of most senior resident 2- In-Patients care/ under supervision of most senior resident 3- Out-patients care 4- Case sheet & clinical examination 5- Techniques of refraction and prescribing glasses 6- Techniques of visual field testing 9- Principles of applied ophthalmic surgery: cataract & squint surgery /under supervision of most senior resident 7- Seminars on ophthalmic topics as per teaching program |
| <u>Third</u> | 1- Lens affections and | <u><i>Ophthalmic Medicine & Surgery</i></u> |

| | | |
|---------------------|--|---|
| <u>Year:</u> | <p>modern cataract and anterior segment surgery</p> <p>2- Pediatric ophthalmology and strabismus</p> <p>3- Ocular trauma</p> <p>4- Uveal diseases and tumors</p> | <p>1- Primary & Secondary care for ophthalmic emergency</p> <p>2- In – patient care</p> <p>3- Out- patient care</p> <p>4- Technique of U.S. examination</p> <p>5- Technique of LASER treatment under supervision</p> <p>6- Surgical skills in ophthalmic surgery / Cataract & squint surgery – under supervision of most senior resident or consultant</p> <p>7- Participation in research studies</p> <p>8- Seminars on ophthalmic topic as per teaching program</p> |
| <u>Fourth Year:</u> | <p>1- Retina and vitreous</p> <p>2- Neuro-ophthalmology</p> | <p><u><i>Ophthalmic Medicine & Surgery</i></u></p> <p>1-Primary, Secondary & tertiary care for ophthalmic emergencies</p> <p>2- In-patient care</p> <p>3- Out-patient care</p> <p>4- Technique in LASER treatment</p> <p>5-Surgical skills in ophthalmic surgery / corneal grafting –under supervision of consultant.</p> <p>6- Participation in research studies</p> <p>7-Participation in teaching 5th year medical students, as per teaching program</p> <p>9- Supervise junior residents</p> |

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*** FIRST YEAR RESIDENCY :**

The first year resident is expected to study the following subjects :

1- Basic Sciences:

a) Anatomy:

- Head and Neck
- Skull
- Neuroanatomy including cranial nerves
- Detailed anatomy of the eye and its adnexae

b) Ocular embryology

c) Principles of medical genetics

d) Physiology

General :

To be familiar with cell biology, cardiovascular system, renal and respiratory, endocrine regulation , prostaglandin and cellular messengers.

Eye physiology:

- Eye lids
- The lacrimal apparatus
- The cornea
- The extraocular muscles
- Ocular circulation
- Somatic sensations from the eye
- Aqueous humor production and intraocular pressure dynamics
- The crystalline lens
- The pupil.

e) General pathology:

- Inflammation and chemical mediators
- Healing and repair
- Chronic inflammation
- Amyloidosis, calcifications, stains etc.
- Thromboembolism
- Vascular disorders : Atherosclerosis, etc..
- Basic and general immunity

f) Optics and refraction

2- Clinical sciences :

a) common ocular truma and emergencies

b) Eyelids and conjunctiva

c) Lacrimal apparatus

Second year residency :

Second year residents are encouraged to study more in-depth both normal and abnormal structure and function of the eye and its connections with the higher visual pathways.

1) Basic Sciences :

a) Eye physiology :

- Radiometry and photometry
- Entoptic imagery
- Visual adaptation
- Visual acuity
- The temporal responsiveness of vision
- The retina
- The Biochemistry of the retina
- Optic nerve physiology
- Color vision and its anomalies
- The central visual pathways
- Binocular vision
- Electric phenomena in the retina

b) Ocular pathology:

- Trauma and ocular wound healing
- Congenital defects
- Ocular adnexae: eyelids, lacrimal apparatus, cornea and conjunctiva
- Intraocular tumors
- Orbit
- Retina and optic nerve
- Gloucoma
- Ocular immunity
- Immunity of transplantation and graft rejection
- Infectious diseases of the eye

c) Ophthalmic pharmacology:

- Ocular pharmacokinetics and pharmacodynamics of agents acting on the eye
- Autonomic nervous system drugs
- Antiglaucoma agents
- Viscoelastic agents
- Antiinflammatory agents including steroids
- Antibiotic and antifungal agents
- Antiviral chemotherapy
- Antihistamines, antiallergic and wetting agents
- Topical and local anaesthetic drugs

3- Clinical Sciences:

a) Orbit

b) Cornea

c) Glaucoma

*** Third year residency:**

The third year resident is expected to study more clinical subjects and to cover in depth ocular trauma and emergency.

Clinical staff should encourage the resident to present cases and research to local ophthalmic meetings and conferences:

- a) **Lens affections and modern cataract and anterior segment surgery**
- b) **Paediatric ophthalmology and strabismus**
- c) **Ocular trauma**
- d) **Uveal disease and tumors**

*** Fourth year residency:**

By the fourth year, each resident is given more clinical and teaching responsibilities. He is expected to work independently in most of the clinical , and to participate in ongoing clinical research . The following subjects should be covered during this year:

- a) **Retina and vitreous**
- b) **Neuro-ophthalmology**