

الدبلومة المهنية لأمراض و جراحات جلوکوما العين

Professional diploma in glaucoma

القسم المانح للدرجة : قسم طب و جراحة العيون- كلية الطب- جامعة المنصورة

Ophthalmology department- Faculty of medicine -Mansoura University

نظام الدراسة

ساعات معتمدة		code	course	اسم المقرر	
اجمالي	المقرر				
10	2		<p><u>Basic course</u></p> <ul style="list-style-type: none"> -Anatomy of anterior segment of the eye -Physiology of aqueous -Pathogenesis and classification of glaucoma -Basics in diagnosis of glaucoma -POAG ,PACG -Medical & laser treatment of glaucoma -Trabeculectomy and its complications Augmented glaucoma surgery 	المقرر الأساسي (المقرر الأساسي في أمراض و جراحات جلوکوما العين)	الفصل الدراسي الاول
	8		Clinical , surgical and self-learning	أنشطة إكلينيكية و جراحية و تعلم ذاتي	
10	2		<p><u>Advanced course</u></p> <ul style="list-style-type: none"> -Infantile and juvenile glaucoma -secondary and advanced glaucomas -Malignant glaucoma -Advanced investigations in glaucoma -Hypotony and failing bleb -Non penetrating glaucoma surgeries -Aqueous shunts MIGS surgery 	المقرر المتقدم (المقرر المتقدم في أمراض و جراحات جلوکوما العين)	الفصل الدراسي الثاني
	8		Clinical , surgical and self-learning	أنشطة إكلينيكية و جراحية و تعلم ذاتي	
20				اجمالي الساعات المعتمدة	

نظام المتحان

الامتحان يتم في نهاية كل فصل دراسي على النحو التالي

إجمالي	الدرجة					المقرر
	جراحة	كلينيكال	شفهي	MCQ	تحريري	
150	40	50	20	20	20	الفصل الدراسي الأول (المقرر الأساسي في أمراض و جراحات جلوكوما العين)
150	40	50	20	20	20	الفصل الدراسي الثاني (المقرر المتقدم في أمراض و جراحات جلوكوما العين)

الرسوم المفروضة :

1- المصريون : 30000 (ثلاثون ألف جنيه مصري نظير 20 ساعة معتمدة (1500 جنيه لكل ساعة))

2- الأجانب و الوافدون : 6000 دولار (ستة الاف دولار نظير 20 ساعة معتمدة (300 دولار لكل ساعة معتمدة))

متطلبات الكلية للالتحاق بالدبلومة:

يحق الالتحاق بالدبلومة المهنية لأمراض و جراحات جلوكوما العين كل من حصل على دبلومة أو ماجستير أو دكتوراه أو زمالة مصرية أو عربية أو ما يكافئها في طب و جراحة العيون

الدبلومة المهنية لأمراض و جراحات جلوكوما العين

الهدف:

تهدف الدبلومة المهنية لأمراض و جراحات جلوكوما العين إلى إمداد العاملين بهذا الفرع من أمراض العيون بأعلى درجات المهنية و المهارة في تشخيص و علاج أمراض المياه الزرقاء

متطلبات الكلية للالتحاق بالدبلومة:

يحق الالتحاق بدبلومة أمراض و جراحات جلوكوما العين كل من حصل على دبلومة أو ماجستير أو دكتوراه أو زمالة مصرية أو عربية أو ما يكافئها في طب و جراحة العيون

عدد الساعات المعتمدة : 20 ساعة مقسمة إلى فصلين دراسيين

فصل دراسي أول : 10 ساعات معتمدة

فصل دراسي ثاني 10 ساعات معتمدة

الفصل الدراسي الأول (المقرر الأساسي في أمراض و جراحات جلوكوما العين):

و مدته 6 أشهر و يشمل دراسة التشريح و الفسيولوجى و الباثولوجى و الوراثة الخاصة بأمراض جلوكوما العين كذلك التدريب على أساسيات التشخيص و الفحوصات كما يشمل المياه الزرقاء الأولية و العلاج الدوائي للمياه الزرقاء و أيضا العلاج بالليزر و الجراحة التقليدية للمياه الزرقاء

الفصل الدراسي الثاني (المقرر المتقدم في أمراض و جراحات جلوكوما العين):

و مدته 6 أشهر و يشمل دراسة حالات المياه الزرقاء في الأطفال و حالات المياه الزرقاء الثانوية و المتقدمة و المرتجعة و دراسة جراحات جلوكوما المتقدمة و الحديثة

COURSE SPECIFICATION
Postgraduate Professional Diploma Degree of Glaucoma
Faculty of Medicine- Mansoura University

A-Administrative information

(1) Programme offering the course:	Diploma of Glaucoma
(2) Department offering the programme:	Ophthalmology Department
(3) Course director :	Prof/ Eman El Hefny
(4) Course coordinator :	
(5) Parts of the programme:	2 semesters in 12 months
(6) Date of approval by the Department`s council	
(7) Date of last approval of programme specification by Faculty council	
(8) Course title:	Glaucoma
(9) Course code:	
(10) Total teaching hours:	60 lectures-480 practical
(11) Credit hours	20

Entry requirements

Entry to glaucoma training requires per minimum the following qualifications: Post-graduate master degree in Ophthalmology or an Egyptian Fellowship of Ophthalmology or Arabic Board of Ophthalmology or equivalent degree from a recognized institute.

B-Professional information

Course Aims:

The broad aims of the course are to provide the candidate with:

1. Medical knowledge and skills essential for the medical management of various types of glaucoma efficiently and properly according to the international standards
2. Skills necessary for proper diagnosis and management of patients with glaucoma including diagnostic, problem solving, decision making, treatment plan , surgical intervention and different lines of treatment.
3. Ethical principles related to the practice in this specialty.
4. Maintenance of abilities necessary for continuous medical education.

Intended Learning Outcomes (ILOs):

Intended learning outcomes (ILOs); Are four main categories: knowledge & understanding to be gained, intellectual qualities, professional/practical and transferable skills.

On successful completion of the course, the candidate will be able to:

A- Knowledge and Understanding

A1: Identify anatomical, physiological and pathological changes of the glaucomatous eye

A2: Recognize risk factors and differential diagnosis of optic nerve diseases

A3: Identify and classify different types of glaucoma

A4: Identify local protocols for the detection or management of glaucoma and an understanding of the personal practitioner limitations within this area of practice

A5: Describe treatment options for glaucoma and when they may be appropriate

B- Intellectual skills

B1: Correlate clinical information with perimetry, Tonometry and OCT changes

B2: Design treatment plan for the glaucomatous patient.

B3: Interpret OCT and Perimetry images.

B3: Interpret the optic nerve head and retinal nerve fiber layer examination using slit lamp binocular indirect ophthalmoscopy

C- Professional/practical skills

C1: Treat glaucoma disease according to evidence- based guidelines.

C2: Use laser therapy in certain glaucoma cases.

C3: Perform perfectly glaucoma surgeries.

C4: Deal efficiently with complications of glaucoma surgeries.

D- Communication & Transferable skills:

D1: Demonstrate compassion, integrity, and respect for all human rights and treat all
ents equally regardless to their beliefs, culture and behavior.

D2: Educate patients about the rationale, technique, and complications of procedures used
reatment of medical retinal disorders.

D3: Communicate effectively with patients, families, and the public.

D4: Communicate effectively with physicians, other health professionals, and health-
ted agencies.

D5: Apply safety measures during practice.

D6: Apply infection control measures during practice

D7: Maintain comprehensive, timely and legible medical records.

Academic Reference:

1) NARS 2009

2) ICO 2012

Intended Learning outcome of each semester:

Semester I:

A- Knowledge and Understanding:

- 1- Identify normal anatomy of AC, angle ,ciliary body , retina and optic nerve
- 2- Recognize the important physiological mechanisms regulating aqueous
- 3- Identify different types of glaucoma
- 4- Define the concept of evidence based medicine and apply it to glaucoma
- 5- Understand pathological mechanism of glaucoma
- 6- explain pathology of different types of glaucoma
- 7- Recognize genetics of glaucoma
- 8- Identify risk factors of POAG
- 9- Identify optic nerve changes in glaucomatous patients
- 10- Classify different antiglaucoma medications
- 11- Navigate the net for current best evidence in literature

B- Intellectual Skills:

- 1- Correlate pathophysiology with clinical findings to reach appropriate diagnosis.
- 2- Recognize the necessary investigation in glaucoma
- 3- Interpret the results of perimetry and OCT
- 4- Select the appropriate treatment plan for each patient using evidence-based medicine.
- 5- Plan the individualized investigational plan.
- 6- Construct the best treatment plan for each patient.

C- Professional and practical skills:

- 1- Conduct proper examination for each patient.
- 2- Use tonometers and gonioscopes perfectly
- 3- Examine optic nerve efficiently.
- 4- Perform perimetry and OCT
- 5- Perform trabeculectomy operation
- 6- Perform different techniques for augmented trabeculectomy
- 7- Select and perform efficiently the appropriate laser treatment as YAG and Argon laser peripheral iridotomy and iridoplasty .
- 8- Perform cyclodestructive procedures

D-Communication and transferable skills:

- 1- Demonstrate compassion, integrity, and respect for all human rights and treat all patients equally regardless to their beliefs, culture and behavior.
- 2- Communicate effectively with patients, families, and the public.
- 3- Communicate effectively with physicians, other health professionals, and health related agencies.

4-Maintain comprehensive, timely and legible medical records.

Semester II:

1. Knowledge and Understanding:

- 1- Recognize different types of pediatric glaucoma
- 2- Identify causes of secondary glaucomas.
- 3- Distinguish clinically different types of secondary glaucoma.
- 4- Recognize advanced glaucoma
- 5- explain basics of OCT
- 6- Recognize OCT changes and its diagnostic importance
- 7- Identify uses of UBM in diagnosing of glaucoma.
- 8- Recognize causes and risk factors of hypotony
- 9- Identify malignant glaucoma

2. Intellectual Skills:

- 1- Correlate clinical findings with signs of glaucoma
- 2- Estimate the value of each investigation in management of glaucoma
- 3- Select the needed investigation for each patient
- 4- Select the appropriate treatment for each patient.
- 5- Formulate a differential diagnosis and an appropriate plan of investigation for a patient with glaucoma.
- 6- Interpret of OCT findings.
- 7- Interpret pentacam and UBM findings.

3. Professional and practical skills:

1. Use A and B scans ocular ultrasound, pentacam and UBM in glaucoma patients
2. Examine pediatric glaucoma patients
3. Manage complications of SST as: hypotony, leaking bleb, failed bleb
4. Perform and assist in infantile glaucoma surgery
5. Perform non penetrating glaucoma surgeries
6. Perform aqueous shunt operations
7. Perform combined glaucoma and cataract surgery

D-Communication and transferable skills

- 1- Demonstrate compassion, integrity, and respect for all human rights and treat all patients equally regardless to their beliefs, culture and behavior.
- 2- Communicate effectively with patients, families, and the public.
- 3- Communicate effectively with physicians, other health professionals, and health related agencies.
- 4- Maintain comprehensive, timely and legible medical records.

Course contents:

Subjects	Code	Lectures	Clinical	operative	SDL
[I] Semester I:					
(1) Anatomy of Ac, angle and ciliary body, retina, optic nerve and visual pathway.		1	2	-	2
(2) Physiology of aqueous inflow and		1	2	-	2
(3) Classification and Pathogenesis of different types of glaucoma.		2	4	4	2
(4) Tonometry basics & methods		2	8	8	4
(5) Perimetry: basics, different types and interpretation		2	8	8	4
(6) Gonioscopy basics and performance.		2	8	8	4
(7) Glaucomatous optic neuropathy and optic nerve examination.		2	8	8	2
(8) Epidemiology and genetics of different types of glaucoma		2	4	4	2
(9) POAG risk factors and diagnosis.		2	6	4	2
(10) Subtypes of angle closure glaucoma.		2	4	4	2
(11) Medical management of glaucoma		2	6	4	2
(12) Laser treatment in glaucoma as: YAG and Argon laser Peripheral iridotomy, Iridoplasty and Selective laser trabeculoplasty		2	10	12	4
(13) Principles, indications, techniques of trabeculectomy.		3	10	12	4
(14) Augmented trabeculectomy surgeries		3	10	12	2
(15) Cyclodestructive procedures		2	10	8	2
		30	100	100	40
total		30	240		
Logbook activities including clinical examinations, seminars, conferences, and cases presentations SDL :self directed learning include attendance or performance (40 hours) of : case presentation , seminars , club journal and ground meeting					

[II] Semester II:					
(1) Primary infantile and juvenile glaucomas: diagnosis and management.	2	4	4	2	
(2) Secondary glaucomas: diagnosis and management.	2	4	4	2	
(3) Malignant glaucoma	2	4	4	4	
(4) Quantitative anterior segment imaging: ultrasound biomicroscopy and anterior segment optical coherence tomography (OCT).	2	8	4	4	
(5) Optic nerve and retinal nerve fiber layer analysis : OCT, HRT and how to interpret	2	8	4	4	
(6) Management of more complex & advanced glaucomas	2	8	4	4	
(7) Major clinical trials in glaucoma (eg, GLT, OHTS, CIGTS, FFSS, NTGS, AGIS, EGPS, EMGT).	2	8	2	2	
(8) Management of intraoperative complications of trabeculectomy as : hyphaema , scleral flap or conjunctival hole	2	6	10	2	
(9) Management of early post operative complications of trabeculectomy as: shallow AC, wound leak, hypotony, and choroidal detachment	2	6	10	2	
(10) Management of late postoperative complications of trabeculectomy as: bleb failure	2	6	10	2	
(11) Nonpenetrating glaucoma surgery techniques: principles, techniques, advantages, limitations, and complications	2	4	10	2	
(12) Surgical treatment of infantile and juvenile glaucoma	2	8	10	2	
(13) Aqueous shunts operations	2	8	8	4	
(14) MIGS operations	2	8	8	2	
(15) Combined glaucoma and cataract surgery	2	8	8	2	
		30	100	100	40
total		30	240		
Logbook activities including clinical examinations, seminars, conferences, and cases presentations					
SDI :self directed learning include attendance or performance (40 hours) of : case presentation , seminars , club journal and ground meeting					

Level of Competence / Performance:

The Level of Competence / Performance at which a skill is performed by the student should be recorded in the given column of the logbook

For Patient Management:

Level 1: Observed

Level 2: Assisted

Level 3: Managed under supervision

Level 4: Managed independently

For Procedures:

Level 1: Observer status

Level 2: Assistant status

Level 3: Performed under supervision

Level 4: Performed independently

Number of procedures / Investigations and level competence / performance which must be attained during the Training Program:

SL No	Investigation/Procedures	Level of Competence	Minimum No. required
	Clinical Skills:		
	Visual functions evaluation	1,2,3,4	100
	Slit lamp biomicroscopy: performance and record keeping	1,2,3,4	100
	IOP measurement	1,2,3,4	100
	Gonioscopy	1,2,3,4	100
	Examination of retina and optic nerve	1,2,3,4	100
	Diagnostic Competency (Clinical examination & Investigations)	1,2,3,4	100
	Data Interpretation of Investigation reports	1,2,3,4	100
	Corneal pachymetry	1,2,3,4	50
	perimetry	1,2,3,4	100
	Optic nerve photography & OCT	1,2,3,4	100
	Pentacam	1,2,3,4	50
	A-scan / B-scan	1,2,3,4	50
	UBM	1,2,3,4	50
	Surgical Competency		
	Ocular Anesthesia	1,2,3,4	20
	Filtering procedures, including use of antimetabolites	1,2,3	20
	Laser iridotomy	1,2,3,4	20
	Laser suture lysis	1,2,3,4	10

Needling of failing bleb	1,2,3	10
Repair of leaking bleb	1,2,3,4	10
Management /reformation of AC	1,2,3,4	10
Management of hypotony	1,2,3,4	10
Cyclodestructive procedures	1,2,3,4	10
Aqueous shunts	1,2,3	10
examination under anesthesia for congenital glaucoma	1,2,3	50
Gpniotomy/trabeculotomy for primary congenital glaucoma	1,2,3	10
Combined cataract and glaucoma surgery	1,2,3	10
Others		

Program ILOS Matrix: Program ILOs are enlisted in the first row of the table (by their code number a1, a2, a3,.....) then the program topics are enlisted in the first column. An “x” mark is inserted where the respective topic contributes to the achievement of the program ILOS in Question.

Topic	A	A	A	A	A	B	B	B	B	B	B	B	C	C	C	C	C	D	D	D	D	D	D	D
	1	2	3	4	5	1	2	3	4	5	6	7	1	2	3	4	5	1	2	3	4	5	6	7
Anatomy of Ac, angle and ciliary body, retina, optic nerve and visual pathway.	x							x																
Physiology of aqueous inflow and outflow.	x	x																						
Classification and Pathogenesis of different types of glaucoma.	x	x					x							x										
Tonometry basics & methods	x				x					x								x	x	x				
Perimetry: basics, different types and interpretation	x	x				x		x					x					x	x	x			x	
Gonioscopy basics and performance.				x				x	x				x					x	x	x				

Program Regulation

During the entire training program, the candidate must be dedicated and fully responsible for patient care under supervision of fellowship trainers.

Trainees Duties and obligations

- 1- The trainees should attend and participate. Attendance and participation should not be less than 75% of the total number of activities within any training rotation / period including:
 - 1.1. Glaucoma clinics
 - 1.2.. Clinical round presentation, at least once weekly to cover various topics, problems or research.
 - 1.3. Journal club meeting.
 - 1.4. Interdepartmental meetings.
 - 1.5. Grand staff rounds.
2. Trainees should be actively involved and fully responsible for patient care including sharing in making decisions about diagnosis and management under supervision of the consultants.
3. Trainees should be responsible (under supervision) for outpatient routine work.
4. Trainees must take supervised shifts according to the hospitals requirements and regulations.
5. Trainees should be responsible for supervised admission of the patients from the OPD or the ER.
6. Trainees should share in the completion of the following documents under supervision.
 - 6.1- Complete history and physical examination form.
 - 6.2- Investigation requests, (laboratory, radiology, pathology, etc.).
 - 6.3- Reporting results of the investigations
 - 6.4- The plan of management after consultation and approval from supervisors
 - 6.5- Discussion of the case with the trainer and consultants
 - 6.6. Sick leaves and medical reports

Teaching methods:

1. Lectures.
- 2: Clinical training
- 3: Case discussion.
- 4: Clinical seminar
- 5: E- learning
- 6: Self learning

Assessment methods:

- 1: Written exam for assessment of knowledge, intellectual skills
- 2: Structural Oral exam for assessment of knowledge, intellectual skills
- 3: Clinical exam (OSCE) for assessment of knowledge, intellectual and practical skills.....etc)
- 4: MCQ exam continuous assessment
(The student will be transferred from one semester to the next whatever the score then to the final exam)

Assessment schedule: At end of each semester followed by the final exam
نظام الامتحان وتوزيع الدرجات

إجمالي	الدرجة					المقرر
	جراحة	كلينيكال	شفهي	MCQ	تحريري	
150	40	50	20	20	20	الفصل الدراسي الأول (المقرر الأساسي في أمراض وجراحات جلوكوما العين)
150	40	50	20	20	20	الفصل الدراسي الثاني (المقرر المتقدم في أمراض وجراحات جلوكوما العين)

References of the course:

- 1- Spry P and Harper R (2010). Essential Glaucoma Handbook- A Guide to assessment and management for eye care professionals. Optician Journal, London ISBN
- 2- Kanski: Clinical Ophthalmology A Systematic Approach
- 3- Ophthalmology by Yanoff
- 4- Edgar D and Rudnicka A (Eds.) (2007). Glaucoma identification and co-management Butterworth/Heinemann.
- 5- American Academy of Ophthalmology series
- 6-NICE Clinical guidelines NG81; November 2017; Glaucoma: diagnosis and management <https://www.nice.org.uk/guidance/ng81>
- 7-College of Optometrists - GLAUCOMA MANAGEMENT GUIDELINES

Periodicals:

- Journal of Glaucoma
- Eye
- AJO
- BJO
- Ophthalmology

Facilities and resources mandatory for course completion:

- 1- Lecture Halls.
- 2- Data show.
- 3- Glaucoma clinics.
- 4- Investigative ophthalmology rooms equipped with OCT, VF and Pentacam
- 5- Laser unit
- 6- Operating room
- 7- Library
- 8- Facilities for tutors:
 - * Computers and high-speed internet connection.
 - * International databases.