

## Department of Ophthalmology

### **Certificate Course of Lasers in Ophthalmology**

#### **Preamble**

LASERS are integral part of treatment of eye diseases. LASERS are used in treatment of various eye diseases like diabetic retinopathy, retinopathy of prematurity, retinal vascular diseases, angle closure glaucoma, posterior capsular opacification etc.

During postgraduate training the students will be exposed to observation of LASER procedures and are not given hands on training in these procedures.

We at department of ophthalmology want to propose a certificate course of lasers in ophthalmology for postgraduates of ophthalmology.

**GOAL:** At the end of the course the postgraduate students will be able to diagnose the diseases, detect the patients who require treatment and they will be able to manage these cases.

**Target group:** Postgraduates in ophthalmology

#### **Objective of the Course:**

- To educate postgraduates with basic knowledge of LASER
- Diagnosis of retinal diseases and glaucoma diseases requiring laser therapy.
- To teach them indications of LASER therapies.
- To give them hands on training in Green and YAG LASERS.

#### **Eligibility for Admission/Target group**

III<sup>rd</sup> year post graduate in ophthalmology can enroll themselves for this course/Any practicing Ophthalmologist.

#### **SYLLABUS**

The course consists of theory and practical training on LASER therapy in ophthalmology.

Indirect ophthalmoscopy (2 HRS)

1. Instrumentation technique
2. Fundus drawing
3. Advantages and disadvantages
4. Accessory instrumentation
5. Normal fundus - Fundus periphery

## **Diabetic Retinopathy**

1. Classification, Etiopathogenesis, ETDRS etc. (1 Hr)
2. Fluorescein angiography in Diabetic Retinopathy (1 Hrs)
3. Diabetic screening.
4. Management of Diabetic Retinopathy. (1 Hr)
5. Use of lasers Practical sessions. (1 Hr)
6. Indirect ophthalmoscopy on model eyes. (1 Hr)
7. Practice on out-patients every day
8. Routine examination of patients
9. Training in technique of Slit lamp Biomicroscopy using 90D, 78D and Gonioscopy three mirror.(1 Hr)
10. Training in performing and interpretation of Fundus Fluorescein Angiography (FFA)
11. Ultrasonography (USG) and Optical Coherence Tomography (OCT) (2 Hrs)
12. Hands-on training on photocoagulation PRP (1Hr)

## **Optic nerve head evaluation (2 Hrs)**

1. Clinical evaluation of retinal nerve fibre layer
2. Tonometry
3. Gonioscopy
4. Observation of various laser procedures like YAG Capsulotomy and YAG Peripheral iridectomy.
5. OCT interpretation of Glaucoma cases for GCL and RNFL Analysis.
6. Performing YAG PI and YAG capsulotomy under guidance. (1 Hr)

## **Duration of the Course**

The duration of the course will be for 15 days. Each working day shall consist of one hour of teaching (practical/theory).

## **Teaching –Learning methodology**

The classes will be interactive first they will be given over view about the course using pictures of various clinical diseases and about the instruments to be used.

Next they will be shown about the diseases using real patients and they will be demonstrated about the procedure.

In next phase they will be allowed to perform clinical examination under supervision. They will also be given procedures to perform under supervision.

At the end of the course they will be allowed to examine patients independently also to perform the lasers independently.

**Assessment Methods Planned:**

- a) Medium of Instruction of the Certificate Course will be in English
- b) Evaluation of course will be on the basis of attendance, behavior & discipline, practical knowledge, clinical skills in handling the instruments and coming to a diagnosis will be evaluated.

**Certification Criteria**

Students who complete the course with minimum skill of diagnosing basic diseases and can perform laser for glaucoma and retinal diseases will be given certificate.

There will be no oral or written examination.

**Name of the coordinator/ Name of specific course co ordinator**

Dr. Raghavendra Ijeri

**Tentative week and month when course can be conducted**

October or November month every year

**Proposed number of resource person and any external faculty**

**Three:** Dr. Sunil Biradar

Dr. Raghavendra Ijeri

Dr. Ramya Karjol

**Reference books:**

1. Atlas of Ophthalmic Ultrasound and Ultrasound Biomicroscopy: *Muna Bhinde et al.* 2<sup>nd</sup> edn Jaypee Publications
2. The Sankara Nethralaya Atlas of Fundus Fluorescein Angiography: *Tarun Sharma et al.* 2<sup>nd</sup> Edn Jaypee Publications.
3. Atlas: optical coherence tomography of macular disease and glaucoma. *Vishali Gupta, Amod Gupta and M R Dogra.* 4<sup>th</sup> Edn. Jaypee Publications.
4. The Retinal Atlas: *Bailey Freund et al.* 2<sup>nd</sup> Edn Elsevier.
5. Text Book of Glaucoma: *Shields.* 6<sup>th</sup> Edn. Lippincots. W. W.