

(c) Specialty Clinics

The residents are provided with an opportunity to work in specialty clinics of the section he is working in at the time of his posting. The Centre runs thirteen speciality clinics. The resident is provided with an opportunity to learn by actuality doing all investigative procedures, methods of diagnosis and principles of management of cases in the clinics. These clinics also provide him with an opportunity of learning and sifting proper referrals, follow up cases over a long period and evaluate results.

(d) Operations

The resident is provided with an opportunity to perform operations both extra-ocular & Intra-ocular with the assistance of the Senior Residents and/or under the direct supervision of a faculty member. He is provided with an opportunity to learn special and complicated operations by assisting the Senior Resident or the Senior Surgeon in operations of cases of the speciality and be responsible for the post-operative care of these cases besides their earlier work up & pre-operative preparations.

A phased programme is gone through. In the first phase the resident is given training in regional anaesthetic block preparations of cases for operation and premeditation. In the next phase, the resident assists the operating surgeon operate independently assisted by senior resident faculty member. He is required to be proficient in some operation and show familiarity with others.

Some of the operative procedures are learnt by the residents by practicing the same on eye balls of the goats.

Residents are taken to eye camps for providing them with an opportunity to operate specially so in the last semesters.

(e) Case Discussions

Detailed ward rounds are conducted by each section where the work of the residents is scrutinized and cases are discussed. Case discussions are also held in the O.P.D. and the speciality clinics.

Beside the above a special case conference is held once a week. One case from each section is selected for discussion which is worked up discussed in the group and then presented at the case conference where the faculty of the Centre, resident, discuss the problem of diagnosis and management.

PRACTICALS IN OCULAR HISTOPATHOLOGY

a) General Pathology

The training is given initially in general pathology to give the residents a revision on the basis general pathology and lesions in various other organs. A set of 60 such slides is studied by each resident in the light of the descriptions provided during the first semester.

b) Ocular Pathology

A set of ophthalmic slides fully documented is provided to each resident for study. The residents see the slides, write their descriptions and compare the same with one given in the documentation. This gives them a basic knowledge of known pathological lesions, during the second semester.

The residents are provided with fully stained slides of the tissues received in ocular pathology section from the clinical material. The residents are provided with relevant clinical material. The residents write out a detailed report on the pathological findings of each part of the eye ball and discuss the diagnosis and differential diagnosis on the basis of the information provided and

collected by examining the slides.

CAMPS

Eye camps are conducted where residents are posted for imparting training to the clinical residents according to a set methodology. The community and school surveys are conducted by residents.

RESEARCH

The methodology of research is given in details elsewhere.

TEACHING

The residents are imparted training in teaching in several ways.

a) Group Discussions

The residents are divided in six groups. Each group is composed of a resident from each semester. In the group the following exercises are discussed. The senior group leadership and gain experience in teaching. The IV semester act as a deputy leaders.

b) Symposia

The residents present the Symposium to the group where it is fully discussed. The first semester residents are required to show that they have read the topic from the literature besides the cyclostyled copy supplied to them on which they are questioned by the group leader. The leader or deputy group leaders help the other resident by offering clarifications, criticism and pointing out the deficiencies in written up material. A free and fair discussion is encouraged. These discussions enable the residents to prepare for a general discussion in the class.

c) Journal Clubs

The resident to whom the journal is allotted present the journal summaries (as cyclostyled and distributed) to the group where each article is fully discussed. They are expected to show their understanding of the aspect covered in the article and on which the other residents are questioned by the group leader and the deputy group leader clarify any of the points raised in the article, offer criticisms and evaluate the article in the light of known literature. These discussion enable the residents to prepare for a general discussion in the class.

d) Case discussion conference

The residents present the case allotted to the group and discussion the case in the group and in the class. A free & unfettered discussion is encouraged.

EVALUATION (CLINICAL)

The evaluation of the candidates at the end of the course may be under the following headings:

1. The resident shall be required to demonstrate a comprehension of basis knowledge Of the subject by being able to answer essay type or multiple choice type question in four papers of 3 hours each to the satisfaction of the board of examiners.
2. That the resident shall be evaluated in all fields of the instruction areas of work and demonstrate skills to elicit history, examine, diagnose and treat (medically or surgically or both) cases in out-patient department and admitted cases including the relevance of investigative procedures in the case under discussion. The residents will be required to see and interpret X-ray charts and laboratory reports of special investigations pertaining to these case.

3. The resident may be required to demonstrate the use of appliances and specialized Diagnostic techniques including their utility and limitations.
4. The resident will be required to report on specimens and slides of Pathology and give a pathological diagnosis from the clinicians understanding given relevant clinical data and history.
5. The resident will be required to answer oral questions on any aspect of the Specialty.
6. The evaluation shall be done by a board or examiners for adequate time. The number of days on which examinations to be conducted is 3 days.
7. The external examiners may be invited to deliver extension lectures and participate In discussion on t hose delivered by other during their stay as examiners so that the faculty and students of this Centre can derive the advantage of their scientific knowledge and expertise.

DESIGNATION

That the postgraduate have been designated as Junior Residents which is at per with these who held such appointments in other medical colleges while simultaneously pursuing the postgraduate courses.

CERTIFICATE

After successful termination of the course, the candidates be issued a certificate by the Dean stating:

- (a) That the candidate has completed the course prescribed and has been declared successful at M.D./M.S. examination of _____ of this Institute.
- (b) That he has been a clinical resident at the Eye Centre from _____ to _____.

INSTRUCTIONAL OBJECTIVES

Teaching and Training Programme

Both basic and paraclinical course have been combined with the clinical course.

New Teaching Scheme w.e.f. July, 1995

1st and 2nd Semester

Lecture Demonstration-30 in each semester. The topics covered are lab. Techniques in Pathology, Microbiology, Radiology, Biochemistry, Pharmacology and Eye Bank services investigative modalities and Community Ophthalmology.

3rd & 4th Semester

Presentation of cases and symposia.

5th Semester

Thesis presentation.

6th Semester

Journal reviews and discussion of case after presentation by 3rd and 4th Semester Resident.

**TEACHING PROGRAMME FOR IST AND IIND SEMESTER
JUNIOR RESIDENT
JANUARY-JUNE**

<i>S.NO.</i>	<i>SUBJECT</i>
1.	Verification of lens/Contact Lenses.
2.	Calculation of IOL power.
3.	Contact lenses in ophthalmology –types and indications.
4.	Lab. Diagnosis of bacterial infection.
5.	Lab. Diagnosis of fungal & visual infections.
6.	Eye medication including making of eye drops.
7.	Preservative media.
8.	Histopathology of ocular & orbital tissue with special reference to collection of material.
9.	Lab. Techniques in Pathology.
10.	Collection of blood samples in various tests.
11.	Orbital & para-orbital radiology.
12.	Radiology in reference to Neuro Ophthalmology.
13.	Local anaesthetics & their toxicity & management.
14.	C.P.R.
15.	Immune response in eye.
16.	Ophthalmic microscopes & techniques in micro surgery.
17.	Microsurgical instruments (corneal transplant, R.K., IOL etc.
18.	Vitreectomy, cryosurgical & diathermy instruments.
19.	Argon laser & its application in anterior segment.
20.	Yag Laser & its application in anterior & posterior.
21.	Minor O.T. procedure- F.R. removal, suture removal and management of ocular trauma.
22.	How to tackle ocular emergencies.
23.	Medico legal aspects in Eye Casualty.
24.	O. T. Care, sterilization, no touch technique.
25.	Eye Bank, set up, equipment, work methodology.
26.	Enucleation procedure, grading eyes, preservation.
27.	Photography in Ophthalmology.
28.	Procedures in Experimental operation theatre.
29.	National plan for control of blindness.
30.	Fluorescent Angiography.
31.	U. S. G.
32.	Electrophysiology ERG, VER, EOG.
33.	Community Services – Eye Camps, needs scope & minimum standards.

**LECTURE DEMONSTRATIONS FOR 1ST AND 2ND SEMESTER JR. RESIDENTS,
JULY – DECEMBER**

<i>S.NO.</i>	<i>SUBJECT</i>
1.	Retinoscopy and Cycloplegics, PMT including selection of spectacles.
2.	Direct & Indirect ophthalmoscopy & Goldmann 3 mirror examination of fundus & vitreous.
3.	Slit lamp biomicroscopy-Anterior Segment.
4.	Tonometry.
5.	Gonioscopy.
6.	Field Charting.
7.	Evaluation of lacrimal pathways & tear film evaluation.
8.	Corneal topography, pachymetry, specular microscopy.
9.	Cover test, PBCT, Ocular movements Maddox Red/Wing, Stereopsis.
10.	Synoptophore examination, diplopia chart, Less Screen, binocular Uniocular, field of fixation.
11.	Pleoptics.
12.	Macular function tests.
13.	Visual assessment in children & infants.
14.	Radiology of orbit & skull Part-I.
15.	Radiology of orbit & skull Part-II.
16.	A holistic concepts of eye disease.
17.	Epidemiological concepts and techniques, investigation of an epidemic.
18.	Epidemiological indicators and methodology for investigation of an epidemic.
19.	Non Communicable ocular diseases and Nutritional disorders.
20.	Industrial Ophthalmology.
21.	Communicable ocular condition.
22.	Survey Designs, Health Information system and role of computer.
23.	Graphical representation of data and its interpretation.
24.	Principles and practice of eye health education.
25.	Existing eye health infrastructure and the national programme for control of blindness.
26.	Eye Camp approach for management of ocular morbidity.
27.	Role of other national programmes for decreasing ocular morbidity and programmes for visual rehabilitation.
28.	Eye Health Planning and Management.
29.	Financial and human resource development for ocular health care.
30.	Formulation, implementation and evaluation of community directed programme.

LIST OF THE SYMPOSIA

Section-I

1. Basics of Vitreo Retina
 - a) Anatomy and Physiology of Retina.
 - b) Anatomy and Physiology of Vitreous.
 - c) Vitreo Retina Precursrs of Retinal detachment.
2. Retinal detachment surgery
 - a) Evaluation of R. D. Surgery.
 - b) Conventional R. D. Surgery.
 - c) Complications of R. D. Surgery.
3. Exudative retinal detachment
 - (a) Aetiology and immunological concepts.
 - (b) Clinical picture and investigations.
 - (c) Management.
4. Advances in Proliferative vitreo-retinopathy
 - (a) Classification and investigations
 - (b) Surgical techniques in PVR
 - (c) Medical Management.
5. Endophthalmitis
 - (a) Classification and clinical picture
 - (b) Advances with special reference to smear culture and media.
 - (c) Intra-vitreous antibiotic & vitrectomy.
6. Vitreous Substitues
 - (a) Air and gases.
 - (b) Silicone oil and fluoro silicone oil.
 - (c) Perfluorocarbene liquide & recent advances.
7. Lasers & posterior segment diseases
 - (a) Pre-laser work up
 - (b) Different type of lasers and delivery systems
 - (c) Indications, complications and follow up.

MEDICAL OPHTHALMOLOGY

1. Fluorescein Angiography.
 - (a) Principles, Equipment & indications
 - (b) Preparation of patient, dyes used and procedure side effect of FA : F-Scopy.
 - (c) Specialized FA procedures including Oral FA, Low dose FA and anterior segment angiography.

2. Hypertensive Retinography
 - (a) Aetiopathogenesis & classification
 - (b) Clinical picture, investigations and complications
 - (c) Management.
3. Dysthyroid Ophthalmology
 - (a) Clinical picture & classifications
 - (b) Aetiopathogenesis with special reference to immunological concepts.
 - (c) Investigations & Management.
4. Parasitic Infestations of the eye & Annexa
 - (a) Ocular Cysti-cercosis : Epidemiology, Life Cycle and presentations.
 - (b) Diagnosis & Management of Ocular cysticercosis
 - (c) Hydatid cyst. Ocular Myiasis and other ocular parasitic infestations.
5. Diabetic Retinopathy
 - (a) Classification with clinical picture
 - (b) Medical Management including laser.
 - (c) Hydatid cyst. Ocular Myiasis and other ocular parasitic infestations.
6. Retinal Degeneration
 - (a) Heredomacular degeneration.
 - (b) Retinitis pigmentosa and its variants.
 - (c) Flacked Retine syndrome.
7. Nacular lesions
 - (a) CSR.
 - (b) ARMD.
 - (c) Marula hole.

UVEA

1. Anterior Uveitis
 - (a) Aetiology and classification
 - (b) Clinical work up
 - (c) Treatment
2. Posterior Uveitis
 - (a) Clinical picture
 - (b) Treatment & role of Immunosuppesors.
 - (c) New enteties.
3. Basic Principles of Relevance
 - (a) Anatomy of the uveal tract
 - (b) Element of the immune system

- (c) Concepts of disease pathogenesis.
- 4. Endophthalmitis : A Practical approach
 - (a) Clinical features
 - (b) Differential diagnosis & investigations
 - (c) Principles of Management.
- 5. Specific infective Uveitic entities.
 - (a) Fungal diseases.
 - (b) Viral infections including AID
 - (c) Parasitic infections.
- 6. Specific uveitis entities.
 - (a) Tuberculosis.
 - (b) Leprosy.
 - (c) Syphilis.
- 7. Principles of Management of Uveitis and its complications
 - (a) Investigations.
 - (b) Medical Therapy
 - (c) Surgical Therapy

SECTION-II

- 1. Advances in Vitreous Surgery
 - (a) Instrumentation
 - (b) Indications
 - (c) Techniques
- 2. Basic of Vitreous Surgery
 - (a) Instrumentation.
 - (b) Techniques
 - (c) Complications
- 3. Cystoid macula oedema.
 - (a) Aetiology.
 - (b) Management
 - (c) Role of Vitreous Surgery.
- 4. Vit. Haemorrhage
 - (a) Causes
 - (b) Indications of Vitrectomy
 - (c) Techniques, results & complications.
- 5. Vitreous Surgery in ROP
 - (a) Aetiology, classification and clinical picture.

- (b) Indications for medical/surgical intervention
- (c) Management and complications.
- 6. Vitreo-retinal Surgery in RD
 - (a) Indications
 - (b) Techniques
 - (c) Advances in management
- 7. Vitreous surgery in Posterior Segment Ocular Trauma
 - (a) Indications .
 - (b) Techniques.
 - (c) Management of posterior segment IOFB
- 8. Anterior Segment Trauma
 - (a) Cornea.
 - (b) Iris trauma, hyphaema & glaucoma.
 - (c) Lens injuries.
- 9. Chemical injuries
 - (a) Aetiology & Pathology of acid & alkali burns
 - (b) Clinical features of Acid & Alkali Burns.
 - (c) Management of Acid of Alkali Burns.
- 10. Posterior Segment Trauma
 - (a) Pathophysiology.
 - (b) Traumatic retinal Tears & detachment.
 - (c) Traumatic maculopathies.
- 11. Intra ocular foreign bodies.
 - (a) Diagnosis and localization
 - (b) Siderosis and chalocosis.
 - (c) Management.
- 12. Orbital Fractures
 - (a) Classification
 - (b) Examination & evaluation
 - (c) Management.
- 13. Traumatic Endophthalmitis
 - (a) Aetiology and clinical picture.
 - (b) Diagnosis
 - (c) Management
- 14. Important consideration in Trauma
 - (a) Epidemiology.
 - (b) Prevention
 - (c) Medico legal consideration.

SECTION-III

1. Donor Corneal Tissue
 - (a) Legal Aspects Collection and Processing of Donor Tissue.
 - (b) Evaluation of Donor Corneal Tissue.
 - (c) Preservation Techniques.
2. Penetrating Keratoplasty-Surgical Techniques
 - (a) Cutting of Host Cornea.
 - (b) Cutting of Donor Cornea.
 - (c) Suturing Techniques.
3. Corneal Graft Rejection
 - (a) Human Immune System and Immunopathology of Graft Rejection.
 - (b) Risk Factors and Clinical Picture of Graft Rejection.
 - (c) Management of Graft Rejection.
4. Conjunctivitis
 - (a) Bacterial Conjunctivitis and Ophthalmia Neonatorum
 - (b) Viral Conjunctivitis
 - (c) Allergic Conjunctivitis
5. Tear Film-Abnormalities and Management
 - (a) Physiology of Tear Film and Tear Pump
 - (b) Abnormalities in Tear Film and their Diagnosis
 - (c) Management of Tear Film Abnormalities.
6. Dry Eye & Keratomalacia
 - (a) Aetiopathogenesis of xerosis, Keratomalacia and its management.
 - (b) Dry eye syndrome and its medical management
 - (c) Surgical management of Dry eye.
7. Cataract
 - (a) Anatomy & Embryology
 - (b) Physio Pathology.
 - (c) Pathogenesis of age related cataract.
8. Congenital Cataract
 - (a) Aetiology.
 - (b) Types
 - (c) Management.
9. Acquired Cataract
 - (a) Complicated cataract.
 - (b) Traumatic Cataract
 - (c) Other Types.

10. IOLS
 - (a) History, Physical and Chemical Properties & Types
 - (b) Techniques of IOL Implantation.
 - (c) Complications related to IOL
11. Trachoma
 - (a) Immunology, Structure & Pathology & Classification
 - (b) Clinical picture, sequelae and complications.
 - (c) Control & Treatment.
12. Bacterial Keratitis
 - (a) Aetiopathology Lab. Diagnosis.
 - (b) Clinical Picture.
 - (c) Medical and Surgical management.
13. Viral Keratitis
 - (a) Aetiopathology & Lab. Diagnosis.
 - (b) Clinical Picture.
 - (c) Medical & Surgical management.
14. Fungal Keratitis
 - (a) Pathogenesis
 - (b) Clinical Picture
 - (c) Management.
15. Nonieffective corneal ulcers/corneal Degeneration
 - (a) Morren's Unler.
 - (b) Terrain's And Pellucid Degeneration.
 - (c) Other Causes of non-ineffective corneal ulcers.
16. Corneal Dystrophies
 - (a) Epithelial
 - (b) Stromal
 - (c) Endothelial
17. Ectatic Corneal Dystrophies
 - (a) Keratoconus
 - (b) Keratoglobus
 - (c) Management
18. Phacomulsification Surgery
 - (a) Equipment and Instruments and their Principles.
 - (b) Wound Construction and Closure.
 - (c) Nucleus Management and Cortical Clea UP.

19. Secondary IOL Implantation
 - (a) Indications
 - (b) Choice of IOL and Techniques
 - (c) Complications and Problems
20. The Capsule in Cataract Surgery
 - (a) Clinical picture of after cataracts
 - (b) Management of Secondary Pupillary membrane in Aphakia
 - (c) Posterior capsular Dialysis in Cataract Surger.
21. Subluxation/Dislocation of Lens
 - (a) Aetiopathogenesis
 - (b) Clinical Picture
 - (c) Management

SECTION-IV

1. Contact Lens and LOW VISION AIDS
 - (a) Physiology
 - (b) Indications/constraindicatins
 - (c) Fitting philosophies (Hard lens)
2. Contact Lens
 - (a) Material and care system
 - (b) C.L. related ocular complications
 - (c) Corneal complications including infective Keratitis
3. Soft contact lenses
 - (a) Characteristics, advantages and disadvantages.
 - (b) Verification of lenses and fitting methods.
 - (c) Care system and complication.
4. RGP lenses
 - (a) Materials and characteristics
 - (b) Fitting problems and their solution.
 - (c) Complications
5. Special fitting situation in
 - (a) Keratoconus and post R.K.
 - (b) Astigmatism, presbyopia
 - (c) Disposable contact lens
6. Contact lens
 - (a) Extended wear contact lens
 - (b) Therapeutic contact lens
 - (c) Disposable contact lens

7. Low Vision Aids (LVA)
 - (a) Definition of low vision and initial examination.
 - (b) Optics of LVA and classification
 - (c) Prescription of PVA & rehabilitation.
Symposium - Refractive Keratoplasty.
8. Surgery for myopia (R. K.)
 - (a) History of R.K.
 - (b) Medicolegal aspect
 - (c) Preoperative evaluation.
9. Radial Keratotomy
 - (a) Predictability in RK and factors
 - (b) Operative technique and instrumentations.
 - (c) Complications and results.
10. Myopia Surgery
 - (a) Scleroplasty and others
 - (b) Epikeratophakia/keratomelisis/intracornea lenses.
 - (c) Clear lens extraction and phakic AC IOLs.
11. Lasers for Myopia Surgery.
 - (a) Laser in corneal surgery and characteristics
 - (b) Wound healing after laser keratotomy.
 - (c) P.R.K.
12. Surgical Management of Astigmatism
 - (a) Terminology & definition, optical & surgical principles
 - (b) Detection and measurement of astigmatism
 - (c) Surgical nomograms
13. Surgeries of Astigmatism.
 - (a) Weakening procedures
 - (b) Strengthening procedures
 - (c) P.R.K.
14. Surgical management of
 - (a) Post R.K. Astigmatism
 - (b) Pathology and management of post R.k.astigmatism
 - (c) Surgical management of post cataract astigmatism.

GLAUCOMA

15. Diagnosis of glaucoma I
 - (a) Tonometry types, standardization, use
 - (b) Gonioscopes
 - (c) Surgical nerve head and nerve fibre layer evaluation.

16. Diagnosis of glaucoma II
 - (a) Basics of Perimetry
 - (b) Comparison of Goldmann's automated
 - (c) Newer Tests for glaucoma
17. Primary Angle closure glaucoma
 - (a) Epidemiology
 - (b) Diagnostic features.
 - (c) Management.
18. Primary open angle glaucoma.
 - (a) Ocular hypertension
 - (b) Low tension glaucoma
 - (c) Management.
19. Congenital glaucoma
 - (a) Types and associations
 - (b) Clinical features
 - (c) Management.
20. Lasers in glaucoma
 - (a) Iridotomy
 - (b) Argon laser trabeculoplasty
 - (c) Other procedures.
21. Medical management of glaucoma
 - (a) Pilocarpine
 - (b) Beta blockers
 - (c) Hyperosmotic agents.

SECTION- V

Pediatric Ophthalmology

1. Basic concepts of genetics, heredity & congenital malformations.
 - (a) Anatomical & Physiological consideration of inheritance
 - (b) Laws of inheritance
 - (c) Natural basis of congenital malformation
2. Eye in infancy
 - (a) Anatomical & physiological considerations
 - (b) Development of vision and its assessment
 - (c) Ophthalmic evaluation of children.
3. Genetically determined metabolic disorders in children.
 - (a) Protein

- (b) Fat
- (c) Carbohydrate & others
- 4. Leucocoria
 - (a) Aetiology & classification
 - (b) Diagnosis and investigations
 - (c) Management
- 5. Management of epiphora
 - (a) Causes
 - (b) Medical management
 - (c) Surgical management
- 6. Management of congenital cataract
 - (a) Aetiology
 - (b) Investigations
 - (c) Plan of management
- 7. Eye in neurological disorders in children
 - (a) Congenital including cranial facial malformations
 - (c) Inflammation
 - (c) Orbits

OPHTHALMOPLASTY

- 8. Congenital ptosis
 - (a) Anatomy of LPS & principles of ptosis surgery.
 - (b) Surgical procedures
 - (c) Complications of ptosis surgery
- 9. Lid reconstruction
 - (a) Anatomy & basic requirements
 - (b) Small and large defects
 - (c) Defects on medical side
- 10. Contracted socket
 - (a) Etiopathogenesis & principles of management
 - (b) Closed methods of repair conjunctival & skin grafting
 - (c) Dermis fat graft.
- 11. Lacrimal System
 - (a) Anatomy of drainage system & investigative procedures
 - (b) Per 7 days
 - (c) CDCR & other intubation techniques
- 12. Retinoblastoma
 - (a) Clinical examination and diagnosis

- (b) Surgical treatment
- (c) Radiotherapy
- 13. Orbital diseases
 - (a) Proptosis- clinical exam. & common causes
 - (b) Orbital cellulitis
 - (c) Orbit in leukaemia
- 14. Orbital Surgery
 - (a) Anatomy of orbit & S.O.F.
 - (b) Anesthesia & instrumentation with anterior orbitotomy
 - (c) Lateral Orbitotomy.

SECTION – VI

Neuro Ophthalmology

1. Papilledema
 - (a) Etiopathogenesis
 - (b) Clinical picture
 - (c) Differential diagnosis
2. Optic neuritis
 - (a) Clinical picture
 - (b) Visual prognosis
 - (c) Treatment
3. Space occupying lesions of sellar region
 - (a) Intrasellar tumors
 - (b) Supra sellar tumors
 - (c) Parasellar tumors
4. Myopathics & disorders of neuromuscular transmission
 - (a) Ocular myopathies
 - (b) Myogthenia-clinical picture & diagnosis
 - (c) Myogthenio- management
5. Defects of ocular motility
 - (a) Neural control of ocular movements
 - (b) Examination of ocular motility-Principles & Techniques
 - (c) Topical diagnosis of supra nucleus disorders.
6. Nystagmus
 - (a) Definition & classification
 - (b) Physiological & Induced nystagmus

- (c) Pathological nystagmus & topical diagnosis
- 7. Intracranial aneurysms
 - (a) Clinical picture
 - (b) Diagnosis
 - (c) Management

Strabismus

- 8. Binocular vision
 - (a) Fusion, correspondence, diploma
 - (b) Stereopsis & monocular clue
 - (c) Theories of Binocular Vision
- 9. Amblyopia
 - (a) Classification, pathogenesis
 - (b) Clinical features
 - (c) Management
- 10. Paralytic squint
 - (a) Clinical features
 - (b) Investigations
 - (c) Management
- 11. Esodeviation
 - (a) Aetiology & classification
 - (b) Accommodative esotropia
 - (c) Congenital esotropia, microtropia
- 12. Exodeviations
 - (a) Classification, clinical feature
 - (b) Convergence insufficiency & intermittent divergent squint
 - (c) Secondary deviations.
- 13. A-V Patterns
 - (a) Etiology, classification
 - (b) Clinical features, investigations
 - (c) Management
- 14. Special forms of strabismus
 - (a) Duane's retraction syndrome
 - (b) Other restrictive squint
 - (c) Myasthenia and Myopathies.

RESEARCH

Guidelines for the Methodology and Times Schedules for writing thesis at Dr. Rajendra Prasad Centre for Ophthalmic Sciences. All India Institute of Medical Sciences, New Delhi-29.

Time schedule from _____

The start of the Course

STAGES

Stage –I

Allotment of the Subject & Collection of References

The candidate is allotted Thesis Topic within one month of joining as Junior Resident. He should collect reference relevant to the their topic Cross reference from articles should give the candidate enough opportunity to collect these. This can be done from the material available in the library of the Centre, the Institute library, the National Medical Library of the DGHS and any other sources. The candidate shall write each reference as under:

<p>Reference Card</p> <p>TEWARI H.K. AND ZAD R.V. (1981)</p> <p>IND. J.OPHTHAL. 27 :III 24</p> <p>TITLE OF ARTICLE – “Fluorescein Angiography in Central Serous Retinopathy”</p> <p>SUMMARY:</p> <p>READ ARTICLE IN FULL/ABSTRACT ONLY ARTICLE IS IN FOREIGN LANGUAGE/NOT AVAILABLE</p>
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All cards will be arranged in alphabetical order as the words are arranged in a dictionary. Also copy the same reference in the index register. A consolidated typed list in triple spacing shall be given to the guide/guides for scrutiny and for any addition and deletions.

Stage II

4-12 Weeks : Summaries of the Article and Preparation of the Proforma

Summaries of important articles shall be written on the reference card indicated above. Where ever the candidate has not read the article but read only an abstract; indicate it giving reasons i.e. the article is not available or it is in foreign language submit them in batches to guides for correction every week. This process should be completed by 8 weeks.

Writing of Proforma

In consultation with your guides draw out a proforma giving a short review of the subject aims & objects, lacunae in the knowledge and how the work is likely to fill or narrow the gap and contribute towards fresh thoughts and knowledge. The exact to be applied should be spelt out. It may clearly be understood that new parameters have to be included and simple repetitive work shall not be approved.

Stage III

12-14 Weeks

The completed proforma shall be presented to the O.R.A. according to the schedule announced by the

Secretary. The approved proforma has to be transmitted to the Dean of the Institute by the end of 4th Month.

The candidates and the guides should make sure that all facilities for the work to start are available and that the proposed project will be completed in the scheduled item.

Stage IV

4 to 6 months : Review of Relevant Literature Pilot Experiments & Standardization of Techniques

These experiments should be started immediately after the submission of the proforma and techniques standardized. A full write up of the methodology to be employed be now prepared and got approved by the guides before the candidate passes on to the next stage. At this time the candidate should also prepare a proforma for recording observations and get it approved by his guides. Changes if any required in the mandate given by the O.R.A. should also be presented to the O.R.A. for approval giving reasons as to why the original mandate cannot be carried out.

Stage V

6 to 12 months : Actual Experimental Work on the Project

The work should be started immediately and completed in 10 months. Observations should be regularly made and recorded. Each group/subgroup experiments and observations should be got scrutinized and certified by the guides.

Stage VI

12 to 18 months

Follow up observation, data processing etc. should be carried out during the period.

Stage VII

14 to 24 months : Presentation, Writing and Submission of Thesis and Paper for Publication

In the beginning of the 24th month the candidate shall present his observations to O.R.A. and shall critically discuss the conclusion drawn by him. He shall incorporate the suggestions from the house and shall then proceed with the final write of the thesis under the following headings.

1. Introduction
2. Relevant Review of literature
3. Methodology and Material
4. Observations
5. Discussions
6. Summary and conclusions in this a clear out indication should be given as/in what way this work has advanced the knowledge, by the addition of what original thoughts and parameters.
7. References

A certificate in the prescribed form shall be issued by all guides and then the thesis shall be submitted to Chief Organiser for onward transmission.

The candidate in consultation with the Chief guide shall submit the manuscript of the papers that are to be extracted from the thesis. He shall also prepare slides for projection and photographs for the papers for publication.

At the completion of this stage, all microscopic slides, negatives of microphotographs, other

photographs, specimens, tracing, recordings, election microscopic photographs should be submitted to the Chief Organizer for proper filling cum/or/exhibition at the Centre.

FINAL EVALUATIN (CLINICAL)

LIST OF PAPERS

- Paper I Basic Sciences as applied to Ophthalmology including optics.
Paper II Ophthalmology and Ophthalmic Pathology.
Paper III Ophthalmology and Ophthalmic Surgery.
Paper IV Other clinical sciences as applied to Ophthalmology.

Speciality Clinics

Section-I

- i) Retina - Vitreous
- ii) Medical Ophthalmology
- iii) Uvea

Section-II

- i) Vitreo Retina
- ii) Trauma

Section-III

- i) Lens
- ii) Cornea and Eye Bank Services

Section-IV

- i) Contact Lense
- ii) Cornea & Ocular surface disorder
- iii) Refractive Surgery.

Section-V

- i) Pediatric Ophthalmology
- ii) Ophthalmoplasty

Section-VI

- i) Ocular Motility and Amblyopia
- ii) Neuro – Ophthalmology
- iii) Glaucoma

Mobile Comprehensive Rural Eye Care Unit
Dr. Rajendra Prasad Centre for Ophthalmic Sciences
New Delhi-110029

Dr. Rajendra Prasad Centre for Ophthalmic Sciences periodically sets up camp through Mobile Comprehensive Eye Care Units in remote rural area in Delhi and neighboring States. These are multipurpose camps unlike the mobile eye camp run for relief work by various private charitable hospitals and Institutions.

Aims & Objectives

1. General survey for the prevalence of various eye disease.
2. To educate people in the methods of prevention of eye diseases, proper care of the eyes to ensure better and lasting eye sight.
3. To provide medical and surgical treatment in the control and care of eye disease.
4. To detect early visual defects and to provide suitable glasses and low visual aids at subsidized rates.
5. To help rehabilitation of the incurable blind in their own surroundings by training them in the art of daily living mobility and vocational training.

Set up of the Mobile Comprehensive Rural Eye Care Unit

Mobile Comprehensive Rural Eye Care Unit is supervised by faculty of Dr. Rajendra Prasad Centre for Ophthalmic Sciences and comprises of the following. The team is constituted for each camp depending upon the work load and availability of facilities at each camp.

1. Senior Surgeon (Faculty)	One
2. Community Ophthalmology Faculty	One
3. Senior Resident	One
4. Clinical Residents	Two-Three
5. Health Educator	One
6. Health Assistant/Field Supervisor	One
7. Theatre Sister	One
8. O.T. Assistant	One
9. Technician	One
10. Optometrist	One
11. Cook	One
12. Rehabilitation Assistant	One
13. Driver	Two

The camp of Mobile Comprehensive Rural Eye Care Unit is organised several times in a year. Each camp lasts for about 10 days depending upon the need and resources of the place.

EYE CAMPS FOR IMPARTING

Training to Clinical Residents

For the training of the postgraduate in community ophthalmology the Centre organizes minimum of 18 (three by each unit) comprehensive eye care camps every year. Senior postgraduate students and House surgeons are stationed at the camp site and study the organizational aspects for conducting a camp in scientific lines. They study the village organization meet the local authorities and leaders to learn regarding the health problems of that community with particular reference to ocular diseases.

The first 6-7 days of the camp are devoted to publicity for prevention of blindness, registration, examination and operations. During the next 3-4 days they conduct school clinics & general survey for eye diseases of small group of population and visits to small village industry is conducted. During this period, they assess the local problem and offer advice to the people. Patients who are incurably blind and those partially blind are advised for rehabilitation in their own surroundings.

OPERATIONS FOR POSTGRADUATES

Should be able to do

Familiar with (Assisting in)

Lids

- Entropion different methods
- Ectropion (uncomplicated)
- Electrolysis
- Tarsorrhaphy
- Chalazion

- Ptosis
- Lid repair

Sac

- Dacryocystectomy
- Dacryocystorhinostomy

- Fistula repair
- Complicated sac Surgery

Muscle

- a) Horizontal Muscle Surgery
 - i) Recession
 - ii) Resection
 - iii) Other Shortening & Lengthening process

- Vertical Recti and oblique muscle surgery
- Faden
- Adjustable
- Transplantation of muscles

Cornea and Conjunctive

- Cyst removal
- Carbolisation
- Tattooing
- Conjunctival flap
- Pterygium
- Paracentesis

- Keratoplasty
 - a) Lamellar
 - b) Penetrating
 - c) Therapeutic
 - d) Cystoid Maculopathy
 - e) Radial Keratotomy
 - f) LASIK

Lens

- Cataract surgery by various methods
- Intracapsular extraction
- Extracapsular extraction
- Phaco (small incision Cataract surgery)
- Combined operation for Glaucoma & Cataract
- Surgery on subluxated lens
- I.O.L.

Iris and ciliary body & glaucoma

- Yag laser Iridotomies
- Trabeculectomy
- Cyclodestructive procedures
- Optical iridectomy
- Microsurgery for glaucoma like goniotomy
- Laser trabeculotomy ect.
- Glaucoma Seton Operation

Retina & Vitreous

- Peuitomy
- Vitreous biopsy
- Intravitreal Injection
- Detachment
- Photocoagulation/Laser
- Removal of retinal cyst
- Vitreous surgery
- Vitreoretinal surgery

Orbit and globe

- Enucleation with and without implants
- Evisceration
- Orbitotomies
- Exenteration

Injuries

- Repair of wounds
- Removal of extra ocular Ocular foreign bodies
- Handling of operating
- Removal of Intra ocular foreign bodies.
- Microscopy