

## VITREO RETINA

RETINA DEPARTMENT is a state-of-the-art, super-specialty OPHTHALMOLOGY DEPARTMENT focused mainly on providing dedicated services of Vitreo-RetinalSPECIALIST in the intensely demanding fields of Surgical Retina & Medical Retina, with the primary aim to provide quality and affordable care to patients suffering from Retinal diseases. The Constellation Vision System (from Alcon, USA) has been installed & dedicated to our patients in 2015.

### Diagnostic tools & technology :

Optical Coherence Tomography (OCT)

The state-of-art machine in high-resolution imaging technology with the latest softwares for rapidly analyzing pathology in the macular area , the optic nerve and the nerve fibre layer of the retina.

Fundus Fluorescein Angiography (FFA)

This imaging technology captures & documents elegantly the minute circulatory physiology and vascular pathology in the retina, in pictures and live-video form through a high-resolution fundus camera with advanced software after injecting a dye in a vein of the patient's hand. Somewhat comparable to a coronary angiography but a much simpler (though more refined) procedure and provides insight to numerous diseases in the eye.

Ultrasonography (B-Scan & A-Scan)

The ultrasound machine detects abnormalities like detachments of the retina or choroid, hemorrhage or infection in the vitreous cavity, foreign bodies lodged in the eye, changes in the space behind the eye(orbit) in a quick & simple way, particularly when the pathology cannot be directly

UltraBioMicroscopy (UBM)

Basic Ophthalmic Diagnostic infrastructure

Autorefractometer, motorized ophthalmic Chair-units, Slit-lamp biomicroscopes, Applanation tonometer, a wide-range of diagnostic lenses, Indirect ophthalmoscopes and multiple custom-designed patient examination chambers make up the routine out-patient infrastructure

### Medical Retina Services;

Clinical Examination of the Eye

Fluorescein angiography(FFA),

Optical Coherence Tomography(OCT)

Ultrasonography (USG)

Laser Retinal Photocoagulation

### Surgical Equipment & Technology

Green Laser for Retinal Photocoagulation

This double-frequency Nd-YAG laser (532nm) is a gold-standard for treatment of many retinal pathologies by Photocoagulation. All three modes of green laser delivery – through a

Slit-lamp, through the Laser Indirect Ophthalmoscope (LIO) for the peripheral retinal pathologies as well as through the Endoprobe are available .

### **Who requires laser treatment?**

Lasers are commonly used to treat the following eye conditions:

#### **Diabetic Retinopathy**

Laser treatment can seal the leaks, thereby preventing further vision loss.. Laser treatment can often prevent severe vision loss by making these new vessels regress.

#### **Retinal Vein Occlusion**

Laser treatment can help reduce this swelling or cause the new blood vessels to disappear.

#### **Retinal Breaks and Retinal Detachment**

Often laser surgery around retinal tears before the fluid accumulates enables surgeons to weld the retina to the underlying eye wall. This can prevent or limit retinal detachment.

#### **Central Serous Chorioretinopathy (CSCR)**

laser photocoagulation is sometimes necessary for persistent lesions and in those patients who require early visual rehabilitation.

#### **Surgical Operating Microscope with X-Y, Zoom and Camera**

This operating microscope provides the surgeon with the optimum control and finesse required during the demanding vitreo-retinal surgeries. The camera is attached to the operating microscope.

#### **Wide-angle Surgical Viewing system**

The Binocular Indirect Ophthalmic Microscope (BIOM) system attached to the operating microscope with a Stereoscopic Diagonal Inverter (SDI)

#### **High speed Vitrectomy System**

This Vitrectomy machine has a capacity for 5000 cuts/minute, a strong phacofragmatome as well as an injector for silicone oil in addition to standard functions .

#### **Primary Ophthalmic Surgical infrastructure**

SEH LCH RETINA DEPARTMENT is equipped with EXCLUSIVE RETINA Operating Room with motorized operating table, full anaesthetic setup for all type of complicated Retinal surgery .

Common Medical Retina conditions

Diabetic retinopathy,  
Retinal arterial and venous occlusions,  
Peripheral retinal degenerative lesions,  
Cystoid macular edema,  
Central serous choroidoretinopathy,  
Chorioretinitis, Parsplanitis,  
Retinal tears and holes,  
Retinal vasculitis,

Heredomacular Dystrophies etc.

## Surgical Retina Services

How is it Surgical Retina different?

Retina-related Surgery is an extremely specialized . This field requires advanced infrastructure and equipment and demands dedication of the specialist doctor in terms of time, effort and expertise.

Common Surgical Retina conditions

The most common Vitreo-retinal diseases requiring advanced surgery are Rhegmatogenous Retinal detachment, Vitreous hemorrhage, Tractional retinal detachment, Intraocular Foreign bodies, Trauma to the posterior segment of the eye, Infection inside the eye (Endophthalmitis), Complications during/after other eye surgeries like dislocated nucleus, displaced Intraocular Lens, Suprachoroidalhemorrhage, etc.

Some conditions require the relatively minor surgery but specialized procedure of injection of drugs into the eye Intravitreal injections and implants.

The commonly used intravitreal drugs are then Anti-VEGF agents –Ranibizumab (Lucentis), Bevacizumab (Avastin) and other drugs like Triamcinolone and Antibiotics – antibacterials and antifungals.

Scleral Buckling Surgery

This is the type of surgery is usually required for fresh detachment of retina when the patient seeks treatment early. It involves a repair of the detached retina with attachment of a buckling material over the sclera of the eye to stick and support the retina.

Vitrectomy

Recent advances in instrumentation and expertise have led to the development of suturelessvitrectomy for appropriate indications. Diseases commonly requiring Vitrectomy surgery are listed above under common surgical retina conditions.