

## CASES ASSISTED BY ENDOSCOPY

### ENDOSCOPY IN CATARACT SURGERY

### ADVANTAGES PROVIDED BY ENDOSCOPY

Checks lens implant placement	Prevents need for second surgery to reposition lens
Checks for residual cataract material hidden behind Iris	Prevents need for second surgery to remove hidden material
Checks zonule integrity to prevent dislocations	Prevents further surgery to remove dislocated implants – decreases risk of retinal detachment and its surgery
Checks anatomy in anomalous eyes	Prevents second surgeries dealing with complications arising from anatomic variation
Can assist in Cataract extraction when cornea is opaque especially in pediatric cases	Prevents need for second surgery.
Can identify source of recurring hemorrhage associated with intraocular lens haptic erosion behind iris and can be combined with laser to seal bleeding sites.	Prevents need for second surgery.
Can delineate relative health or degeneration of optic nerve or retina in eyes with anterior segment opacification that are under consideration for extensive surgery.	Saves extensive surgery multiple surgeries in eyes demonstrating severe pre-existing damage

**ENDOSCOPY IN  
GLAUCOMA SURGERY**

**ADVANTAGES PROVIDED  
BY ENDOSCOPY**

Check patency of trabeculectomy sites – Can be simultaneously used to open them.	Saves need for second surgery.
Can be combined with cataract surgery to re-establish failed glaucoma surgery site.	Saves need for second surgery.
Can be combined with Cyclo- photocoagulation to treat glaucoma at same time of cataract surgery.	Prevents a second operation or higher risk of complications associated with phaco-trabeculectomy.
Can be combined with Cyclo- photocoagulation to treat congenital glaucoma with opaque cornea – with or without cataract surgery.	Saves need for multiple further surgeries
Can be combined with goniotomy to treat congenital glaucoma. Most of these patients have an opaque cornea. Visualization of the target tissue is superior to the “blind” standard approach.	This results in higher success rates, fewer complications and fewer re- operations.
Can be combined with Cyclo- photocoagulation to treat almost all mechanisms of glaucoma that have failed all other treatments.	Saves need for further glaucoma surgery with poor prognosis.
Combined with Cyclophotocogulation.	Is minimally invasive compared to standard techniques such as trabeculectomy or tube implantation
Can be combined with Cyclophotocoagulation as primary glaucoma treatment.	Has better track record for fewer re- ops and complications than trabeculectomy.
Can be combined with Cyclo- photocoagulation to treat glaucoma at the same time as the patient is having a vitrectomy for posterior segment disease	
Combined with laser to find and close cyclodialysis cleft.	Prevents need for further multiple surgeries to control eye pressure
Combined with cyclophotocoagulation is the only treatment for glaucoma associated with keratoprosthesis.	Prevents blindness.

**ENDOSCOPY IN  
VITREO-RETINAL SURGERY**

**ADVANTAGES PROVIDED  
BY ENDOSCOPY**

Check peripheral anatomy and address pathology unseen through microscope	Saves re-ops for detachment.
Identify source of bleeding in posterior segment not visible through operating microscope.	Saves re-ops for recurrent hemorrhage.
Permits continuation of vitrectomy when anterior segment conditions preclude view through microscope.	Saves re-ops
Combined with laser to treat periphery more completely.	Prevents re-ops or recurring disease.
Combined with laser to treat periphery when posterior segment disease drives anterior segment pathology, e.g. neovascular glaucoma	Decreases need for re-ops and failure.
Combined with laser or membranectomy or other vitreo-retinal technique in gas filled eye that does not allow microscope view.	More complete initial surgery diminishes need for further surgery.
Combined with vitrectomy techniques for remove of "hidden" lens fragments or foci of infection producing recurrent inflammation and/or glaucoma.	Diminishes morbidity and the need for further surgery
	Enhances teaching for OR personnel, other physician and physicians in training because more anatomy is visible with endoscope than microscope

## **EFFICACY AND SAFETY**

- Endoscopic inspection improves surgical outcomes by permitting a more thorough evaluation of troubling anatomy, prosthetics and other clinical situations than using the operating microscope alone with virtually no morbidity.
- Combined with laser in the treatment of glaucoma this approach is often more effective than other long standing techniques such as trabeculectomy or tube implantation but is associated with fewer minor and major complications.
- When combined with vitrectomy and allied techniques, increases effectiveness of surgery compared to using the microscope alone because two simultaneous methods of viewing the intraocular anatomy are superior to one. Anatomy difficult to access by the microscope can be easily addressed endoscopically. In addition, anterior segment conditions obscuring a posterior view through the microscope would not interfere with the endoscopic view.
- When combined with endophotocoagulation permit more complete treatment of the most difficult portion of the retina to access that is the far periphery.
- When combined with vitrectomy and membranectomy can achieve more complete peripheral membrane dissection in substantially shorter time and with less assistance when compared to microscope only controlled visualization.

NOT ONLY HELPS PATIENT DURING SURGERY BUT IT CAN REPRESENT A MONETARY SAVINGS TO THE PATIENT BECAUSE IT PREVENTS THEM FROM NEEDING OTHER PROCEDURES AT A LATER DATE.