## Postoperative Evaluation/findings/complications

**Postoperative Schedule for either Refractive Lens Exchange or Cataract Surgery:**

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| **Visits** | **Medications (starting on day 1)** |
|  Day 1 | Zymaxid BID /Besivance TID for 1 week then D/C |
|  7 Days | Pred Forte x 1 month |
| 2 2 2-4 weeks |  Prolensa QD x 1 month |

Post-Operative Exams

Same Day or Day 1 (Performed by Surgeon)

Responsibities:

* Perform the post-procedure discharge evaluation and provide written postoperative care instructions
* Determine when the patient is stable and refer to co-managing optometrist as planned
* Remain available throughout the postoperative period at request of patient or co-managing optometrist

All Post-Operative Exams to Include

* Interval history taking
* Auto or Manual Refraction
* Visual Acuity Testing - at all distances for multifocal or EDOF IOL’s
* Intraocular Pressure Check 
* Slit-lamp Examination 
* Management Plan (continuing medications, restrictions, further post-operative appointments)

**It is imperative that co-managing optometrists send co-management forms/exams to our office after each examination, as it is required for surgeon to review, date, and sign each exam/test/report. We will send you all exams and forms performed by our RELC ophthalmic surgeon.**

If the patient is deemed stable by the ophthalmic surgeon, patient’s will either be referred back to their co-managing optometrist after the same day post-op (or day one) or after the same day (or day one) post-op of the second eye.

Postoperative exam responsibility after day 1

All post-op visits have one main priority: to determine whether the patient can achieve a best corrected acuity towards 20/20 if possible. Retinal problems such as macular degeneration or surface wrinkling retinopathy may limit visual potential.

 ***The most common and important recognizable problems are corneal edema, macular edema, intraocular inflammation (cells and flare) and increased intraocular pressure.***

Co-Managing optometrists should consult or refer back to the ophthalmic surgeon for the following conditions:

Intraocular pressure greater than 30 if not responding to IOP meds, Macular Edema, Recurrent Erosion, Retained Cortex, Retinal Detachment, any sign of abnormal inflammation, any sign of infection, or prolonged Corneal Edema.

Our surgeons are available throughout the post-operative period to consult with the co- managing optometrist or patient for any questions or concerns and are encouraged to do so. If transferring care back to the ophthalmic surgeon, the optometrist should inform the patient of the need to refer to the surgeon and document and/or communicate his/her exam findings to the ophthalmic surgeon.

At all times the ophthalmic surgeon will be available via phone (517-393-2020) for consultation. The answering service will readily contact the surgeon upon request by patient or referring optometrist.

 **Please do not hesitate to contact our office/surgeons at any point during the care of shared patients.**

**Expected Postoperative finding:**

* **Foreign Body Sensation-** This is usually caused by some epithelial irregularity around the wound. Additional lubrication may help.
* **Hyperemia-** Some conjunctival injection is expected. At one week, typically there is trace to 1+ injection. If there is inflammation, prolonged steroid use may be indicated
* **Floaters-** Patients may experience floaters, which generally resolve in a few weeks. A dilated fundus exam can disclose a PVD, retained cataract remnants, a retinal tear, or a vitreous/retinal hemorrhage.
* **Shimmering or fluttering in the vision-** This is probably due to an optical effect from the implant and should not persist beyond the first couple of weeks
* **Edge Glare-** The most common annoying dysphotopsia from IOL’s is described by patients as a temporal arc and is thought to be related to anomalous light ray reflex though the nasal anterior or posterior capsules. Horizontal alignment of the haptics has been advocated as a prevention of this problem.

**Complications within 48 hours of surgery:**

* **Corneal Edema-**This finding can vary in severity and is caused by prolonged phacoemulsification time (energy) with or without pre-existing endothelial cell dystrophy. In the majority of cases, even the severe cases with folds in Descemet’s Membrane will resolve during the first week.
* **Raised Intraocular Pressure (IOP)** Retained viscoelastic and/or pre-existing glaucoma are common causes of high IOP. Unless cupping is present, 25mm IOP or less reading acceptable on day one. We restart any pre-operative pre-existing meds if the IOP is elevated on day one. The following is a suggested regime for the treatment of post-operative raised IOP on day one:

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| --- | --- | --- |
|  **IOP**  |  **Treatment** |  **Follow-up** |
| <25 mmHg |  None | See in 1 week |
| 25-30 mmHg |  Istalol qd | See in 1 week |
| >30 mmHg |  Diamox Sequel 500 mg or Co-sopt, Beta-blocker gtts, Tap Wound begin topical or even oral glaucoma meds | If meds will not lower pressure at office, refer to surgeon. IOP must be checked 30-45min post tap for rebound IOP spike |
|  |  |  |

* **Corneal Abrasion-** These painful watery eyes can be made comfortable with a soft bandage contact lens as resolution occurs within a few days.
* **Retained Cortex-** Small pieces can slowly dissolve with inflammation controlled with topical steroids, but larger fragments must be washed out or aspirated in the OR. It is bet to discuss this situation with your surgeon because of the concern for elevated IOP from trabecular work debris.
* **Wound Leak:** Self -sealing wounds have virtually eliminated this problem. After instillation of fluorescein and examination under a blue light escaping aqueous will be seen diluting the fluorescein at the site. (Seidel test) If there is profound hypotony, refer to surgeon.
* **Iris prolapse or Incarceration of vitreous in the wound**. Also rarely seen with self-sealing incisions. Repositioning or at times excising the trapped tissue is essential to minimize the risk of chronic anterior uveitis, CME and endophthalmitis. Refer to surgeon ASAP
* **Anterior Chamber Abnormalities**: A collapsed anterior chamber and hypotony requires immediate referral back to surgeon.
* **Uveitis**-Cells in the anterior chamber can be expected after surgery and topical steroids are given as a matter of course. Retained lens material can exacerbate inflammation. Corticosteroids are increased to every 1-2 hour. Consult surgeon if extensive fibrin is noticed “plastic iritis”.
* **Displaced IOL**- Optical aberrations will ensue if the IOL is mal-positioned. ***If the patient has a malpoistioned toric IOL, there will be an increase, lack of effect and shift in the cylinder and axis***. Any displaced IOL should be referred back to the surgeon.

**Longer-term complications of surgery:**

* **Cystoid Macular Edema (CME):** Multiple cyst-like (cystoid areas of fluid appearing in the macula. ***This entity must be suspected in any post-op patient with decreased best-corrected vision without obvious cause.*** OCT or fluorescein angiography will readily make the diagnosis. Most patients improve with topical NSAID and/or topical steroids and on occasion, sub-tenon steroid injection. The condition is much higher incidence in Diabetics. Referral and discussion with the surgeon are mandatory. Chronic CME can lead to a macular hole or permanent loss of best corrected vision.
* **Endophthalmitis:** Early recognition and treatment is key. Pain, marked visual loss, hypopyon, corneal edema, corneal infiltrate, anterior chamber and/or vitreous cells are seen. One can also see chamber inflammation, retinitis, chemosis, severe conjunctival injection and eyelid edema. Treatment is with intravitreal antibiotics, peri-ocular injection, topical and systemic steroids, and even surgery. Where further injection can be entertained. These cases obviously need early recognition and IMMEDIATE return to the surgeon.
* **Retinal Detachment:** Approximately 0.1 to 0.2 % of cataract patients experience a retinal detachment with the first 3 months after uncomplicated surgery. There is a 2% incidence following posterior capsulotomy. Proper management and early detection is key.
* **Posterior Capsule Opacification:** Regenerated migratory lens epithelial cells reduce the quality and amount of vision. Acrylic material has decreased the incidence. The average time this opacification occurs is 26 months post-op opacification can be seen within the first 3 months or as late as 4 years. Treatment is with the Nd: YAG laser.
* **Unsatisfactory Refractive Error:** Extreme post-operative refractive outcomes should alert of this diagnosis. Only a rare patient requires IOL removal and replacement. Once a posterior capsule has been opened. If the posterior capsule is opened with a Yag laser, it is recommended that the IOL NOT be removed.

Management of residual refractive error has 3 options:

* **IOL exchange**:
	+ It is best performed early in the postoperative course before the capsular bag has formed adhesions that essentially lock the IOL into place.
	+ It works best when the surgeon feels he or she can safely remove the existing lens implant and still preserve an intact capsular bag.
	+ Potential complications include posterior capsular rupture and zonular dialysis that destabilize the lens implant.
* **Corneal refractive surgery with the excimer laser**
	+ This is accomplished when the refractive error is stable and the cornea and corneal shape are completely normal.
* **Piggy back IOL (sulcus fixation)**
* Patients with a history of RK are excellent candidates, because they are prone to hyperopic surprises after cataract surgery.
* They are limited in USA to spherical error as no toric model exists.

**Postoperative Expectations and Activity Restrictions** *(courtesy Gimbel Eye Center, Canada)*

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