

GIMBEL EYE CENTRE Surgery Co-Management Guide

Table of Contents

If you are reading a digital format click on the bolded headings to jump to that section of the guide.

The Role of the Co-Managing Eyecare Provider	2
Pre-Operative Evaluation	2
Referrals to Gimbel Eye Centre	2
Post-Operative Evaluations	2
Co-Management Fees	2
Corneal Refractive Surgery Descriptions	3
Small Incision Lenticule Extraction (SMILE).....	3
Laser Assisted In Situ Keratomileusis (LASIK)	3
Photo Refractive Keratectomy (PRK)	3
Photo Therapeutic Keratectomy (PTK)	3
Laser Technology and Wavefront Treatment.....	3
Comparison Chart.....	4
Corneal Refractive Surgery Patient Selection	5
Eligibility Criteria for Corneal Refractive Surgery	5
Contraindications for Corneal Refractive Surgery	6
Corneal Refractive Surgery Post Operative Care	7
Postoperative Medication and Follow Up Regimen	7
PRK Post-Operative Extended Medication Protocol.....	8
Corneal Surgery Post Operative Presentation and Activity Restrictions.....	9
Corneal Refractive Surgery Complications and Treatment	10
Phakic IOL Refractive Surgery Descriptions	12
Implantable Collamer Lenses (ICL)	11
Phakic IOL Surgery Patient Selection	13
Eligibility Criteria for Phakic IOL Surgery	13
Contraindications for Phakic IOL Surgery.....	13
Phakic IOL Postoperative Care	14
Postoperative Medication and Follow Up Regimen	14
Phakic IOL Post Operative Presentation and Activity Restrictions	15
Phakic IOL Postoperative Evaluation Considerations.....	16
Phakic IOL Surgery Complications and Treatment.....	17
Refractive Lens Exchange and Cataract Surgery Patient Selection	18
Refractive Lens Exchange/Cataract Surgery Lifestyle Implant Choices	19
Refractive Lens Exchange/Cataract Surgery Post Operative Care	20
Refractive Lens Exchange and Cataract Surgery Post Operative Medications and Follow up	20
Refractive Lens Exchange and Cataract Surgery Post Operative Presentations and Activity Restrictions	21
Refractive Lens Exchange/Cataract Surgery Complications and Treatment	22
Accelerated Collagen Cross Linking Patient Selection	23
Special Considerations in Refractive Surgery	24

The Role of the Co-Managing Eyecare Provider

As the Primary Eyecare provider, your role is important in the patient's Refractive Surgery journey, from beginning to end.

Pre-Operative Evaluation

A full eye examination including complete ocular and health history, refractive status, and dilated ocular health evaluation is recommended prior to referring the patient to our Centre. This is advantageous to the patient because we can pre-screen the referral and handle/discuss any issues prior to the patient's arrival for Gimbel Eye Centre assessment. This is advantageous to you because it establishes your participation in the patient's experience and encourages the patient to return to you for follow up care and beyond. The data collected in your referral will be carefully evaluated in conjunction with a complete Gimbel Eye Centre assessment to maximize accuracy and repeatability in the data used for surgery purposes. There is historical precedence that it is both the Refractive Surgery Centre's and the Primary Eyecare Provider's responsibility to ensure adequate informed consent surrounding the risks and benefits of refractive surgery, including presbyopia considerations and monovision.

Refractions: For refractive surgery purposes: it is recommended to **maximize the cyl** and minimize the sphere component as this increases the odds of achieving emmetropia.

Visual Acuity: For testing standardization, we request measurements up to 20/15.

Referrals to Gimbel Eye Centre

Pre-Operative Surgery Assessment Referral Forms (found at <https://www.gimbeleyecentre.com/co-management-guide/forms/>) can be forwarded via fax or e-mail. Our Patient Counselor will then contact the patient directly to make arrangements for a Gimbel Eye Centre preoperative assessment, surgery, and 1-day post-operative follow-up. A few things to be aware of in referring your patients:

For All Surgery Types: The patient is required to discontinue soft contact lens wear for a minimum of 48 hours prior to testing at Gimbel Eye Centre, or 2 weeks for RGP contact lenses.

For Potential Phakic IOL candidates: The patient should be prepared for **two** days of pre-operative testing at Gimbel Eye Centre and should make their travel arrangements accordingly.

Post-Operative Evaluations

After the patient's 1-day follow up visit, we encourage the patient to return to you for their follow up care. A report will be sent to you indicating type of surgery performed and the patient's current vision status. Follow up frequency and testing will be outlined in each section of this guide. A Post-Operative Follow Up Referral form (found at <https://www.gimbeleyecentre.com/co-management-guide/forms/>) should be sent to Gimbel Eye Centre for review, and a response will be returned if requested. We are happy to reassess the patient upon your request at no additional fee. Please be advised that due to processing times, it may be several weeks before you receive co-management fees.

Co-Management Fees:

PROCEDURES	COST PER EYE	FEE PAID TO CO-MANAGING OPTOMETRIST - flat fee per patient
WAVEFRONT PRK, PRK XTRA LASIK, LASIK EXTRA	\$2400	\$600 flat fee
WAVEFRONT SMILE	\$2650	\$600 flat fee
PHAKIC IOL	\$4295	\$600 flat fee
REFRACTIVE LENS EXCHANGE	\$3595 (starting at)	\$600 flat fee

Corneal Refractive Surgery Descriptions

Small Incision Lenticule Extraction (SMILE)

SMILE is a type of LASIK surgery—a small incision LASIK with no flap. In the SMILE surgery, only a Femtosecond (FS) laser is used, Zeiss Visumax. The FS laser is used to delineate a small lens-shaped disc of tissue “lenticule” within the mid-layer of the cornea. This is the “lenticule” that gives the surgery its name. The laser then makes a small incision in the cornea to access and remove the disc of tissue. This reshapes the cornea while maintaining its structural strength.

Laser Assisted In Situ Keratomileusis (LASIK).

There are two lasers used in this procedure. The IntraLase Femtosecond Laser (Visumax) creates a flap by introducing focused energy, which creates a H₂O/CO₂ bubble in between the corneal layers. The laser then creates the laser flap edge by cutting around the perimeter, leaving a superior hinge. This advanced method of flap creation avoids most of the risks of using a mechanical microkeratome blade, reducing post-operative complications such as dryness, providing better contrast sensitivity, and creating an optimal stromal bed surface. Once the flap is lifted, the Zeiss Excimer Laser (MEL 90) re-contours the corneal surface by ablating tissue to correct the refractive error and minimizing higher order aberrations. If IntraLASIK Xtra was chosen, the KXL collagen cross linking procedure is performed (see KXL Collagen Cross linking section). The surgeon replaces the flap, taking care to ensure good flap position and adherence.

Photo Refractive Keratectomy (PRK)

The surgeon loosens the corneal epithelium with pharmaceutically pure ethanol solution and gently removes the epithelial cells. The Zeiss Excimer Laser re-contours the corneal surface by ablating tissue to correct the refractive error and minimizing higher order aberrations. If PRK Xtra was chosen, the KXL collagen cross linking procedure is performed (see KXL Collagen Cross linking section). The surgeon inserts a bandage contact lens.

Photo Therapeutic Keratectomy (PTK)

This procedure is not a refractive surgery in that it is done therapeutically, primarily for corneal conditions such as scarring, haze, or recurrent corneal erosion. It is similar to PRK as described above, except the surgeon limits the laser tissue ablation to the pathology or higher order aberrations being treated and stops once sufficient pathological tissue has been removed. The surgeon then inserts a bandage contact lens and healing will be similar to PRK.

Laser Technology and Wavefront Treatment

All patients at Gimbel Eye Centre undergo wavefront analysis, which measures the Higher Order Aberrations of the entire eye. Factors affecting Higher Order Aberrations include refractive error, corneal abnormalities (such as scars), and lenticular changes, which can impact the quality of the vision. The standard laser treatment for all Gimbel Eye Centre patients is an **aspheric, wavefront-optimized treatment**. In addition, our surgeons use **Active Tracker** technology to follow the eye's movements during laser treatment.

Comparison Table

	LASIK	PRK	SMILE
Recovery to Function Average	1 day	7 to 10 days	2 to 3 days
Pain/discomfort	Can be significant for 4-6 hours.	Usually moderate for 72 hours/ 3 days. Second day can be more sensitive than Day 1 or 3	Usually minor for 3-5 hours
Dryness	Variable depending on age, CL history, allergy etc. Can be significant for 3 months, sometimes limiting amount of reading/computer time per day. Can take up to 12 months. Approximately 5% can have long term dryness.	Pre-existing dryness variable due to age, CL history, allergy etc. can prolong initial recovery to reading/driving function past the usual 7 to 10 days. May occur in about 5% of patients.	Possible but significantly less likely than with LASIK and initial return to function is not significantly affected because the surface layer (epithelium) is not removed as in PRK.
Trauma Resistance	LASIK flap only heals and adheres to the corneal surface with 2-3 percent of the original adherence strength of the original surface layers. Therefore patients engaging in sports and careers with potential impact to the eye are generally counselled against having LASIK.	No flap, therefore OK for sports and careers with potential impact to the eye. However surface layer (epithelium) removal can result in some patients noting longterm discomfort to the eye when rubbing or upon awakening in the morning. Approximately 5%.	No flap, No flap edge, therefore acceptable for sports and careers with potential impact to the eye. Small incision of 4mm or less under upper lid, therefore unlikely to be impacted by any trauma. No epithelium removal, therefore no sensitivity to rubbing or on awakening.
Note on corneal structure - applies to all 3 procedures: Notes A B C	Note A – 1 in 500 of the population have naturally unstable corneas (eg. keratoconus) and approximately 5% share similar corneal characteristics revealed by map and corneal thickness measurements. These patients are eliminated from consideration of refractive surgery of any type.	Note B – The epithelium – outer layer of the corneal is a soft cellular layer constantly smoothing itself in response to trauma or adverse environmental conditions but is not structurally important. 50 microns thick. The stroma is the hard solid layer of cornea that needs to be reshaped to achieve vision correction – typically 500 microns thick.	Note C – Specifically for SMILE, although the structural strength of SMILE should be stronger than LASIK by a significant amount and slightly stronger than PRK (see box below) we presently and for the foreseeable future, will err on the safe side by using the same criteria for SMILE eligibility as for PRK and LASIK.
Structural Stability	LASIK flap only heals and adheres to the corneal surface with 2-3 percent of the original adherence strength of the original surface layers. Therefore, from a structural perspective, the cornea is permanently thinner by the thickness of that flap (70 microns of stroma) and can be prone to instability (ectasia). Even if carefully screened for potential weakness, a risk of serious weakness (ectasia) can still be approximately 1/1000.	After the soft outer epithelium layer is removed PRK laser removes a portion of the strongest outer stroma corneal layer to reshape the cornea but no other layer is disturbed. The outer layers of the cornea are the strongest with inner layers progressively less strong, so some structural weakness theoretically occurs with PRK but ectasia is extremely rare.	Like PRK no flap is made so the cornea is not weakened by the absence of flap healing as occurs in LASIK. Whereas in LASIK, the strongest outer 70 microns of corneal thickness is <i>removed</i> from the corneal structure – with SMILE the strongest outer 90 microns of the cornea remain essentially untouched and is <i>preserved</i> . Studies are still in progress to determine if there is any risk for ectasia greater than for PRK but final results are not yet available.

Corneal Refractive Surgery Patient Selection

Eligibility Criteria for Corneal Refractive Surgery*

Type of Surgery	Refractive Range	Healing Time	Other Considerations
PRK	-0.75 to -8.00D +1.00 to +2.00D cyl -0.50D to -4.00D	7-10 days healing Pain/discomfort 72 hours/3 days usually moderate discomfort. Second day can be more sensitive than day 1 or 3	<ul style="list-style-type: none"> • adequate pachymetry • acceptable corneal topography • may be preferred for certain occupations (police) • ease of enhancement
PTK	any	7-10 days healing Pain/discomfort 72 hours/3 days usually moderate discomfort. Second day can be more sensitive than day 1 or 3	<ul style="list-style-type: none"> • reserved for corneal pathologies such as scars, haze, or recurrent corneal erosion, higher order aberrations
LASIK	-0.75 to -8.00D +1.00 to +2.00D cyl -0.50D to -4.00D	1 day discomfort can be significant for 4-6 hours	<ul style="list-style-type: none"> • adequate pachymetry • acceptable corneal topography • consider rare risk of flap dislodgement
SMILE	-0.75 to -10.00D cyl -0.00 to -3.00D	2-3 days discomfort usually minor for 3-5 hours	<ul style="list-style-type: none"> • adequate pachymetry • acceptable corneal topography • may be preferred for certain occupations (police) • ease of enhancement – retreatments done with PRK

*The patient should be at least 18 years of age, not pregnant or nursing, with at least 12 months of stable refractions (within +/-0.50D).

Corneal Refractive Surgery Patient Selection

Contraindications for Corneal Refractive Surgery

Category	Condition	Comments
Ocular Pathology	Corneal scar	PRK may be preferred due to risk of flap complication
	Endothelial Dystrophy	PRK may be preferred due to risk of endothelial cell damage with flap creation
	Map Dot Fingerprint Dystrophy and/or Recurrent Corneal Erosion	PRK may be preferred due to weak Bowman's layer
	Herpes Simplex/Zoster with history of ocular involvement	Considered on a case-by-case basis due to risk of re-activation
	Lid Disease i.e. Blepharitis	Must be pre-treated due to risk of infiltrates/infection
	Extreme Dry Eyes	Considered on a case-by-case basis SMILE or Phakic IOLs may be preferred
	Binocular Dysfunction	If prism required in glasses and/or pt experiences diplopia/headaches with contact lenses, then there may be a risk of decompensation after surgery and may require glasses with prism after surgery.
	Amblyopia (BCVA <20/40)	Pt must understand the risks/implications of doing surgery when one eye is already weak
	Nystagmus	Considered on a case-by-case basis. Consider challenges in eye stability during the surgical procedure.
	Other i.e. macular degeneration, retinal holes or tears	Priority will be given to the pathology first. Consider potential vision loss due to surgery.
Systemic Pathology	Autoimmune Disorders: – rheumatoid arthritis, Sjogren's syndrome, Lupus	Considered on a case-by-case basis due to risk of corneal melt. Phakic IOLs may be preferred. One eye at a time with 1-3 months between may be recommended.
	Gastrointestinal Disorders: – Ulcerative Colitis, Crohn's Disease, Irritable Bowel Syndrome	Considered on a case-by-case basis due to risk of inflammatory reaction. Must be in remission. Phakic IOLs may be preferred. One eye at a time with 1-3 months between may be recommended.
	Diabetes	Must not have any retinopathy, and blood sugar levels should be controlled. Consider infection risk.
	Immuno-compromised patients: HIV, AIDS, Hepatitis	Prefer that the patient is on HART therapy and the virus is not detectable in the blood. Consider infection risk. For Hep B or C, consider risk of transmission.
Medications	Accutane, Clarus	Must be off this medication for 6 months prior to surgery due to risk of severe dryness

Corneal Refractive Surgery Post Operative Care

Postoperative Medication and Follow Up Regimen

Type of Corneal Surgery	Medication/Treatment Protocol	Follow Up Schedule
LASIK & SMILE	Prednisolone 1.0% <ul style="list-style-type: none"> • qid x 7 days 	Day 1, Week 1, Month 1 Then at 18 months. Additional visits as needed. After 18 month visit, yearly visits with the patients optometrist are recommended.
	Vigamox 0.5% <ul style="list-style-type: none"> • qid x 7 days then stop 	
	Artificial Tears: <ul style="list-style-type: none"> • q15-30 minutes during waking hours x 2 days, then prn • HYLO drops recommended or similar preservative free AT 	
PRK/PTK	Vigamox 0.5% <ul style="list-style-type: none"> • qid x 7 days then stop 	Day1, Day 3, Week 1, Month 1, Month 6 Then at 18 months. Additional visits as needed. After 18 month visit, yearly visits with the patients optometrist are recommended. Rarely a patient may be a steroid responder. This should be evident at the 1 month visit after being on FML qid for the first month. If normal, monthly visits are not needed unless in doubt.
	Gabapentin <ul style="list-style-type: none"> • 300 mg p.o. tid x 3 days • okay to use Advil or Tylenol in conjunction with Gabapentin if needed 	
	FML 0.1% <ul style="list-style-type: none"> • qid x 1 month minimum (see Extended Medication Protocol next page) 	
	Nevanac 0.1% <ul style="list-style-type: none"> • qid on day of surgery then prn up to qid for the first week 	
	Tetracaine 0.5% <ul style="list-style-type: none"> • last resort pain eye drop prn, used sparingly 	
	Artificial tears <ul style="list-style-type: none"> • q15-30 minutes-waking hours until contact lens is removed then prn • HYLO drops recommended 	
	Eye Shields	
	Bandage Contact Lens: <ul style="list-style-type: none"> • To be removed after re-epithelialization, with forceps, by Doctor 	

* Additional visits should be performed as deemed clinically necessary. The post operative co-management fee includes the first 18 months of follow up, not including the yearly eye examination.

PRK Post-Operative Extended Medication

All patients require FML qid for the first month. Taper regimen is based upon primary preoperative refraction. For patients having an enhancement, the taper regimen is determined by the initial preoperative refraction prior to the first surgery; not the current refraction.

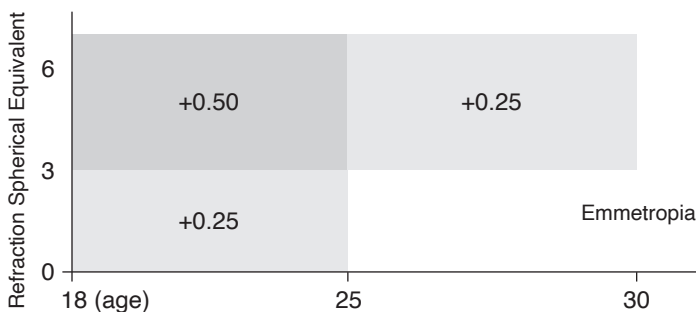
Pre-Operative Sphere + Cyl added together	FML 0.1% Duration Guideline
+2.00D to -3.00D	Qid x 1 month then stop
-3.00D to -5.00D	Qid x 1 month Tid x 1 month Bid x 1 month Qd x 1 month then stop/4 months
-5.00D or greater	Qid x 1 month Tid x 1 month Bid x 1 month Bid/qd alternating days x 1 month Qd x 1 month Qd every 2nd day x 2 months Then 1 gtt 2 times per week x 2 months/9 months

Guidelines in altering FML taper regimens:

It was thought in the early era of PRK treatments that modifying FML frequently up or down might affect regression patterns. It appears that this is unlikely therefore current recommendation is to simply continue the initially designated taper pattern and to report any over or under response to us when noted.

Note the Targeted Refraction Chart. We expect patients to settle to that level at 18 months post op.

Targeted Refraction Chart



Haze/Regression prevention

	AT TIME OF SURGERY	FML
< 3.00	Mitomycin 12 sec	qid x 1 month
3.00 - 4.75	Mitomycin 20 sec	4 month taper
5.00 and above	Mitomycin 30 sec	9 month taper

Corneal Surgery Post Operative Presentation and Activity Restrictions

The following is a summary of potential symptoms and findings associated with each surgery. For the normal findings, an expected timeline for the finding to subside is provided.

(H= hours, D= days, W=Weeks, M= Months)

Type of Surgery	Normal (Time to Subside)	Not Normal	Activity Restrictions
LASIK/SMILE	VA 20/15 to 20/50 (may take 3-5 days to start improving) Foreign Body Sensation (48 H) Tearing/Photophobia (72H) Dry Eyes (up to 3M with SMILE, 6M with LASIK) Sub-conjunctival hemorrhage (2-3W) Ghosting/Halos/Glare (2-3M) Less contrast sensitivity (improves up to 6M but usually reaches 98% of original contrast) Epithelial edema (2-4W)	Pus-like discharge Dislocated/wrinkled flap Unusually high pain Interface cloudiness Epithelial Defect Infiltrate Epithelial cells under flap/cap Foreign body/debris under flap/cap Diffuse Lamellar Keratitis	<ul style="list-style-type: none"> • No pets in the bed for 2 nights after surgery • No eye make-up for 7 days • No swimming, hot tub, water sports for 14 days • No Dusty/smoky environments for 14 days • No eye rubbing for 6 weeks
PRK/PTK *same discomfort elements as PRK and PTK	VA 20/30 to 20/400 (up to 1W) Mild to severe pain (48H) Foreign body sensation (3-5D) Tearing, Photophobia (3-5D) Lid edema (3-5D) Ghost images (2-4W) Dry eyes (up to 3 M) Halo/Glare (2-3M) Drop in VA/diplopia (occurs at day 3-5 and is a result of fusion line formation)(72H) Less contrast sensitivity (improves up to 6M but usually reaches 98% of original contrast) Descemet's Folds (72H) Epithelial Defect (3-5D) Presence of Contact Lens (remove after re-epithelialization)	Pus-like discharge Infiltrate/infection Anterior chamber cells Non-healing epithelial defect (beyond 5-7 days) Raised IOP (check after 3W) Corneal haze	<ul style="list-style-type: none"> • UV protection for 6 months • Safety glasses during appropriate activities sports or industrial

Corneal Refractive Surgery Complications and Treatment

This list contains the most likely observed complications. If you have any questions please contact us.

Complication	SMILE	LASIK	PRK/PTK	Description	Treatment
Dry Eyes	X	X	X	Common after surgery and usually improves over time although can be permanent. If severe diffuse SPK noted, consider preservative toxicity. Less with SMILE.	Traditional Dry Eye Therapy modalities
Inflammation	X	X	X	May present as whitish distinct or diffuse infiltrates sometimes in a perilimbal arcuate pattern. Risk of corneal melt in rare cases. Look for corneal thinning. May be associated with systemic autoimmune conditions.	Refer to GEC for assessment. Prompt and aggressive treatment is needed.
Halos/ Starbursts	X	X	X	Usually diminish over a few months but can be permanent and affect night driving. Patients with large pre-op pupil size should be advised of this potential risk.	Usually subsides but can use yellow tinted glasses, or Alphagan gtts prn
Epithelial Ingrowth	X	X		Migration and proliferation of epithelial cells under the flap. More common after relifting of a LASIK flap i.e. LASIK enhancements. May cause blurry vision, FBS, dryness, tearing.	Monitor, if migrating more than 1 mm consider surgical intervention.
Infection	X	X	X	Rare but possible. Ulcers, epithelial defects, haze, decrease in vision, pus-like discharge, red eye.	Contact GEC for guidance in treatment
Corneal Haze	X	X	X	With LASIK/SMILE can have patchy areas of haze that are not clinically significant. With PRK it appears like superficial white grainy subepithelial cells that don't stain. It typically presents within 1 month and peaks around 2-3 months before subsiding.	For PRK: Advise UV protection, treat with steroids. In rare cases, PTK may be considered.
Ectasia	X	X	X	Corneal instability resulting in refractive error, typically increases in astigmatism, which is why we encourage yearly visits with the optometrist after post op follow up protocol is finished. Schedule (18 months). Vision decline with visual distortion. Usually requires topography to diagnose.	Refer to GEC for assessment if vision affected.
Flap Disturbances		X		Mild wrinkles, shifting of flap, striae formation. May or may not be visually significant.	Refer to GEC for assessment.

More on next page...

Corneal Refractive Surgery Complications and Treatment (con't)

This list contains the most likely observed complications. If you have any questions please contact us.

Complication	SMILE	LASIK	PRK/PTK	Description	Treatment
Epithelial Erosion		X	X	May result in loose epithelium, rough edges or defects especially along flap margin in LASIK, or ablation zone in PRK. Foreign body sensation, pain especially when opening eyes in the morning, decrease in vision. Increases risk of DLK and epithelial ingrowth in LASIK patients. May subside as eye heals further.	Copious non-preserved lubrication. Some cases may require antibiotics and/or bandage contact lens. Rarely, PTK may be considered.
Diffuse Lamellar Keratitis (Sands of Sahara) Toxic Keratopathy	?	X		Rapid onset, non-infectious white blood cells reaction in the interface (looks like fine white grainy cells). May have pain, blurry vision, FBS, photophobia and can rapidly progress if not aggressively treated. In early stages may be asymptomatic and limited to the periphery of the flap/cap, and one needs to rely on clinical diagnosis. More severe cases can involve the central cornea, and present with sand-dune-like cell accumulation, hazy flap, edema and striae. Usually occurs within 1-3 days post-operatively but can also present later in cases of trauma.	Prompt and aggressive treatment is needed. Please contact GEC immediately so the surgeon can be involved in treatment as this has the potential to have permanent vision effects.
Refractive Error	X	X	X	May be due to regression (mild keratometry changes from either epithelial fill-in or prolific epithelial growth resulting in refractive error). May settle/resolve over time. May also be influenced by dry eyes, therefore dry eye therapy is recommended for all patients with post-operative refractive error.	Consider enhancement after 3 months of stable vision. Coverage is 18 months. Minimum refractive error is >0.50D. May enhance only one eye at a time. If deemed unsafe, the surgeon may advise against further surgery.

Phakic IOL Refractive Surgery Descriptions

Phakic IOLs refer to synthetic implants that are inserted into the eye without removing the natural crystalline lens. They are considered a “premium” option as they provide superior quality of optics compared to corneal refractive surgery in all but relatively small refractive errors. They are removable, preserve remaining natural accommodation, and pose less retinal risk compared to lensectomy surgeries i.e. Refractive Lens Exchange. Please be aware that the need for special testing, calculations, and lens implant ordering times necessitates a processing time of 1-3 months from the date of the initial consultation to the actual surgery date. Gimbel Eye Centre currently performs one type of Phakic IOL surgery:

Implantable Collamer Lenses (ICL)

Performed at Gimbel Eye Centre since 1997, this implant sits in the posterior chamber, supported by the sulcus and aqueous humour pressure. The new EVO ICL has the KS-Aquaport, which means an iridotomy is no longer required for myopic ICLs. For hyperopic ICLs, prior to the day of surgery, a prophylactic peripheral iridotomy will be performed (usually 2 iridotomies between the 10 and 2 o'clock position in the eye). This is done to ensure adequate aqueous flow. Occasionally a single Surgical Iridectomy will be chosen instead, if the patient's irises are very darkly pigmented. The ICL surgery takes about 15 minutes per eye, involves less than a 3mm self-sealing clear corneal incision, and usually no stitches or needles are required. After the incision is made, and the anterior chamber is filled with a viscoelastic material, the implant is placed initially in the anterior chamber. Then the plate haptics are manipulated to go behind the iris, so that the implant vaults over the natural crystalline lens. If a Toric Implant is inserted, the surgeon manipulates the implant to the desired orientation. The viscoelastic is flushed from the eye and care is taken to ensure the wound is secure. These implants are not visible to the naked eye.

Phakic IOL Surgery Patient Selection

Eligibility Criteria for Phakic IOL Surgery

Type of Surgery	Refractive Range	Healing Time/Time off Work	Other Considerations
ICL	-1.00D to -16.00D +1.00D to +12.00D Cylinder -0.50 to -6.00D (myopic torics only)	3 days healing 1 week off work (for numerous appointments)	<ul style="list-style-type: none"> • Minimum AC depth 2.6/2.75 mm. Younger patients need more generous AC depth • Corneal diameter 10.50 - 13.00 mm • Bioptics can be considered

*The patient should be at least 18 years of age, not pregnant or nursing, with at least 12 months of stable refractions (within +/-0.50D).

Contraindications for Phakic IOL Surgery

Category	Condition	Comments
Ocular Pathology	Glaucoma	May impede aqueous flow
	Pigment Dispersion Syndrome	Implant may interact with weakened iris layer, worsening the condition
	Recurrent Uveitis	Implant may exacerbate the condition
	Binocular Dysfunction	If prism required in glasses and/or pt experiences diplopia/headaches with contact lenses, then there may be a risk of decompensation after surgery
	Amblyopia	Pt must understand the risks/implications of doing surgery on an amblyopic system
	Other i.e. macular degeneration, retinal holes/tears	Priority will be given to the pathology first. Consider potential vision loss.
Systemic Pathology	Diabetes	Must not have any retinopathy, and blood sugar levels should be controlled. Consider infection risk.
	Immuno-compromised Patients: HIV, AIDS, Hepatitis	Prefer that the patient is on HART therapy and the virus is not detectable in the blood. Consider infection risk. For Hep B or C, consider risk of transmission.

Phakic IOL Postoperative Care

Postoperative Medication and Follow Up Regimen

Type of Phakic IOL Surgery	Medications/Treatment Protocol	Follow Up Schedule
ICL	Prednisolone 1.0%: • qid starting day of surgery until 1 week post op • bid x 2 weeks	Day 1, Week 2, Month 2, Month 6, Month 12, then yearly eye examinations
	Vigamox 0.5%: • qid starting 1 day pre-op until 1 week post op	
	Emergency Medications: Cyclogel 1.0% bid x 3 days Phenylephrine 10% bid x 3 days (to be taken if symptoms of brow ache, pt to first contact their follow up Doctor)	
	Artificial tears: q1h for 1-2 days then prn	

*Additional visits should be performed as deemed clinically necessary. The post operative co-management fee includes the first 12 months of follow up, not including the yearly eye examination.

Phakic IOL Post Operative Presentation and Activity Restrictions

The following is a summary of potential symptoms and findings associated with each surgery. For the normal findings, an expected timeline for the finding to subside is provided.

(H= hours, D= days, W=Weeks, M= Months)

Type of Surgery	Normal (Time to Subside)	Not Normal	Activity Restrictions
ICL	VA 20/15 to 20/50 (accommodation may be affected by pupil dilation) Foreign Body Sensation (48 H) Tearing/Photophobia (48H) Dry Eyes (up to 2M) Ghosting/Halos/Glare (may take a while for pupil to return to normal size)(6M) Edema at the incision side (1W) Descemet's Folds (72H) Pupil Dilation (48H) Vault 2-4+ (see next page) Orientation should be on target immediately Mild AC reaction (1-2+ cells, 1+flare)	Pus-like discharge Wound gaping/leak Unusually high pain Epithelial Defect Elevated IOP High Vault (see next page) Low to No Vault Shallow Angle Iris to Corneal touch Iris Transillumination Non resolving anterior chamber reaction Iridotomy not patent Progressively excessive deposits on the IOL Anterior subcapsular lens changes ICL is rotated (see next page) Retinal Detachment	<ul style="list-style-type: none"> • No pets in the bed for 2 nights after surgery • No eye make-up for 7 days • No swimming, hot tub, water sports for 14 days • No Dusty/smoky environments for 14 days • No vigorous eye rubbing • Safety glasses during appropriate activities

Phakic IOL Postoperative Evaluation Considerations

The Phakic IOLs have special considerations during the follow up care. If you have any questions please contact us.

Type of Surgery	Special Consideration	Description/Evaluation	Interpretation
ICL	Vaulting	The subjective assessment of how many central IOL thicknesses could be placed in the space between the natural crystalline lens and the implant. This may be influenced by implant length, thickness, position in the sulcus, trapped viscoelastic fluid behind the implant, and PI patency. Example: 2 ICL thicknesses= 2+ vault	<ul style="list-style-type: none"> • Vault less than 1+ poses risk of cataract formation • Vault more than 4+ poses risk of pupil block In both situations, GEC should be notified.
	Orientation	The subjective assessment of the location of the Toric engraving on the implant haptic, in relation to a 180 degree scale. Must be done dilated to see the marking. Example: 030 degrees *Note this does NOT equal refractive error axis	<ul style="list-style-type: none"> • If orientation does not match intended orientation, refractive error will be impacted • Consider improper implant rotation if pt presents with a significant hyperopic astigmatic error Example: +2.50-2.50 x 010

Phakic IOL Surgery Complications and Treatment

This list contains the most likely observed complications. If you have any questions please contact us.

Complication	Description	Treatment
Pupil Block	Pain, brow ache, photophobia, blur, nausea, elevated IOP. Usually occurs early post-operatively and can be associated with implant length, trapped viscoelastic fluid, or PI patency issues.	Contact GEC ASAP for guidance as the treatment varies with different causes of pupil block and amount of IOP elevation.
Cataract	Occurs later postoperatively (mean time is 3 years) and is often associated with low vault. It is important to distinguish implant related lens changes (anterior subcapsular) versus natural progression of age-related (nuclear sclerosis or cortical spoking).	Contact GEC for guidance in treatment. The risk of removal and replacement of the implant has to be considered (traumatic cataract).
Infection	Endophthalmitis is rare. Unilateral red, painful eye, anterior and/or posterior chamber reaction, blurry vision, hypopyon, white clumps in vitreous.	Contact GEC immediately for surgeon guidance as this is a potentially sight threatening condition.
Intraocular Inflammation	Significant AC reaction.	Aggressive steroidal treatment, contact GEC.
Corneal Haze/Decompensation	Descemet's folds, corneal edema, decrease in vision.	Muro 128 gtts qid, contact GEC if no improvement after 72 hours.
Dry Eyes	Common early post-operatively but longer term is less risk than corneal refractive surgery and similar to cataract surgery.	Traditional Dry Eye Therapy Modalities
Halos/glare	Greater risk with large pupils and high correction. May subside over time.	May subside after 6 months, monitor. Alphagan gtts prn may be considered.
Refractive Error	May be associated with temporary corneal edema. May also be associated with implant rotation.	Consider etiology and treat accordingly. Bioptics may be considered.
Implant Rotation	Usually obvious by the 2-week check after surgery. Refractive error and blur are present if toric ICL. Often a hyperopic astigmatic error.	Contact GEC for surgical treatment consideration.
Wound Leak	Very low IOP, ache, blur. Globe soft on palpation. +/- Seidel sign. Wound may be gaping.	Contact GEC ASAP for surgical intervention, risk of endophthalmitis.

Refractive Lens Exchange/Cataract Surgery Patient Selection

Eligibility Criteria for Refractive Lens Exchange/Cataract Surgery

Type of Surgery	Refractive Range	Healing Time/Time Off Work	Other Considerations
Refractive Lens Exchange	All ranges of correction IOL powers available -10.00D to +40.00D Astigmatism: -0.75D to -11.00D Toric considered if corneal cyl >=-0.50D	3-5 days healing 3-5 days off work	<ul style="list-style-type: none"> careful lifestyle review will influence implant selection pt is responsible for all costs pt must understand loss of accommodation and the limitations of lifestyle implants
Cataract Surgery	All ranges of correction IOL powers available -10.00D to +40.00D Astigmatism: -0.75D to -11.00D Toric considered if corneal cyl >=-0.50D	3-5 days healing 3-5 days off work	<ul style="list-style-type: none"> only a standard spherical implant is covered under AHC for all other implant choices, pt to pay the difference pt must understand loss of accommodation and the limitations of lifestyle implants

Contraindications for Refractive Lens Exchange/Cataract Surgery

Category	Condition	Comments
Ocular Pathology	Endothelial dystrophy/poor endothelial morphology	Rarely, corneal decompensation can occur, sometimes requiring corneal transplant.
	Any acute ocular condition that warrants priority treatment Example: uncontrolled glaucoma or wet macular degeneration or retinal pathology	<ul style="list-style-type: none"> Priority treatment is given to the acute ocular condition before surgery. A risk/benefit analysis should be viewed quite differently between an elective (RLE) and medically necessary procedure (cataract surgery)
Systemic Pathology	Immuno-compromised Patients: HIV, AIDS, Hepatitis	Prefer that the patient is on HART therapy and the virus is not detectable in the blood. Consider infection risk. For Hep B or C, consider risk of transmission.
	Congestive Heart Failure, COPD and other lung problems	If necessary, the surgery can be performed with the chest elevated 30-45 degrees.
Medications	Flomax	Risk of Floppy Iris Syndrome. GEC would like to be informed in advance if pt is taking this medication.

Refractive Lens Exchange/Cataract Surgery Lifestyle Implant Choices

Careful screening of patient's lifestyle should be done prior to implant selection.

Implant Type	Description	Advantages	Disadvantages	Comments
Fixed Focus (Acrysof, Acrysof Toric, Rayner T Flex Toric etc.)	The traditional treatment using a fixed focus implant to either target OU distance, intermediate, near or monovision.	Highest quality optics	Only one ideal range for each eye — the patient is expected to be dependent on glasses for all other ranges.	Toric considered for corneal cyl greater than -0.50D.
Monovision (same brands as above)	Using a fixed focus implant targeting one eye for near (-1.00D to -2.50D).	Greater range of functional vision	Distance vision quality compromise. May affect depth perception.	Recommend trialing with contact lenses prior to surgery if possible. Please note this will not be exact demonstration of surgery due to presence of lens changes/ loss of remaining accommodation.
Multifocal (Restor, Restor Toric, Rayner M Flex, Rayner M flex T, Panoptics)	Power is in annular rings which splits the images in a refractive or diffractive pattern. Functions may be influenced by changes in pupil size during far/ near work.	Better refractive predictability than Accommodative implants.	Loss in contrast sensitivity/distance vision quality. Potential halos or rings of lights around light sources at night.	Intermediate range is the weakest. Neural adaptation may have symptoms reduce after 2-6 months.
Sulcoflex	Pseudophakic supplementary IOL can provide additional sphere, toric or multifocal power to the eye.	Removable Predictable outcomes	The multifocal choice has the same disadvantages as noted above but is easily removable.	A removable option that can be done during primary surgery or as secondary surgery

Refractive Lens Exchange/Cataract Surgery

Post Operative Care

Post Operative Medication and Follow Up Regimens

Type of Surgery	Medication/Treatment Protocol	Follow Up Schedule
Refractive Lens Exchange	Vigamox 0.5%: qid starting 1 day pre-op until 1 week post op	Day 1, Week 2, Week 8 then yearly eye examinations
	Prednisolone 1.0%: • qid starting day of surgery until 1 week post op • bid x 2 weeks	
	Artificial Tears: • q1/2 hour x 3 days • prn afterwards	
	Glasses: • Should allow 4-6 weeks for capsular contraction before prescribing glasses for any residual refractive error.	
Cataract Surgery	Vigamox 0.5%: qid starting 1 day pre-op until 1 week post op	Day 1, Week 2, Week 8 then yearly eye examinations
	Prednisolone 1.0%: • qid starting day of surgery until 1 week post op • bid x 2 weeks	
	Artificial Tears: • q1/2 hour x 3 days • prn afterwards	
	Glasses: • Should allow 4-6 weeks for capsular contraction before prescribing glasses for any residual refractive error.	

*Additional visits should be performed as deemed clinically necessary. For RLE, the post operative co-management fee includes the first 12 months of follow up, not including the yearly eye examination. For Cataract Surgery, billing is in compliance with Alberta Health Care Regulations.

Refractive Lens Exchange and Cataract Surgery Post Operative Presentations and Activity Restrictions

The following is a summary of potential symptoms and findings associated with each surgery. For the normal findings, an expected timeline for the finding to subside is provided.

(H= hours, D= days, W=Weeks, M= Months)

Type of Surgery	Normal (Time to Subside)	Not Normal	Activity Restrictions
Refractive Lens Exchange/ Cataract Surgery	VA 20/15 to 20/50 (consideration should be given to other ocular conditions affecting BCVA) Foreign Body Sensation (48 H) Tearing/Photophobia (48H) Dry Eyes (up to 2M) Ghosting/Halos/Glare (2-3M) Edema at the incision site (1W) Descemet's Folds (72H) Pupil Dilation (24H) Reflections/Distortions from IOL (4W) Increase in floaters (indefinite) Mild AC reaction (1-2+ cells, 1+flare)Change in pupil size/ shape	Pus-like discharge Wound gaping/leak Unusually high pain Epithelial Defect Elevated IOP Significant anterior chamber reaction Fibrous tissue formation Hypopyon Lens is rotated (Toric) Retinal Detachment Posterior capsular opacification Macular Edema Implant not sitting "in the capsular bag" Implant displaced from central position Posterior capsular tear Implant decentration off of the visual axis (especially for multifocal implants)	<ul style="list-style-type: none"> • No pets in the bed for 2 nights after surgery • No eye make-up for 7 days • No swimming, hot tub, water sports for 21 days • No Dusty/smoky environments for 14 days • No eye rubbing • Safety glasses during appropriate activities

Refractive Lens Exchange/Cataract Surgery Complications and Treatment

This list contains the most likely observed complications. If you have any questions please contact us.

Complication	Description	Treatment
Infection	Endophthalmitis is rare. Unilateral red, painful eye, anterior and/or posterior chamber reaction, blurry vision, hypopyon, white clumps in vitreous.	Contact GEC immediately for surgeon guidance as this is a potentially sight threatening condition. Hours of waiting can make a big difference.
Elevated IOP	Common early postoperatively, trapped viscoelastic fluid. May or may not be symptomatic.	Topical and oral medications. If IOP > 40 mm Hg consider paracentesis aqueous drainage by the surgeon.
Intraocular Inflammation	Significant AC reaction. Rarely fibrous strands across the pupil.	Aggressive steroidal treatment – Prednisolone 1% q1h, Atropine 1% or at least Cyclopentolate 1% , contact GEC.
Corneal Haze/Decompensation	Descemets folds, corneal edema, decrease in vision.	Muro 128 gtts qid, can also add Pred Forte 1.0% qid if needed, contact GEC if no improvement after 72 hours.
Cystoid Macular Edema	Painless decrease in vision usually after the first few weeks. Elevated macula with or without hemorrhages.	Contact GEC for further diagnosis (OCT) and treatment considerations.
Posterior Subcapsular Opacification	Painless decrease in vision usually after the first few weeks. Posterior capsule may have white or clear fibrotic cells, Elschnig pearls, or visually significant striations.	Non-urgent referral to GEC if visually significant. *YAG treatment preferably deferred until 3 months post op if possible to minimize risks of treatment.
Retinal Detachment/Hemorrhage	Painless decrease in vision associated with increase in floaters, flashes, or curtain to side of vision. May also see hemorrhages/red blood cells in the vitreous/retina.	Urgent referral to retinal specialist.
Refractive Error	May be associated with temporary corneal edema near the incision. May also be associated with implant rotation.	Consider etiology and treat accordingly. Consider further refractive surgery, or glasses, after 6-8 weeks.
Implant Dislocation	Usually a result of trauma with zonular tears if capsule and IOL are subluxated by the CCC. May subluxate months or years after surgery.	Refer to GEC for surgical treatment.

Accelerated Collagen Cross Linking (KXL) Patient Selection

Eligibility and Contraindications for Collagen Cross Linking

Type of Treatment	Clinical Findings	Contraindications	Comments
Prophylactic	<p>Minimum residual corneal bed depth after laser ablation of 325 microns</p> <p>Some eligible risk factors are:</p> <ul style="list-style-type: none"> • Young age • Thin corneas • Minor topographical asymmetry • Against-the-rule astigmatism • Steep Keratometry 	<p>Pseudophakia if no IOL UV protection</p> <p>Aphakia</p> <p>Macular Degeneration</p> <p>Pregnancy</p> <p>Herpetic keratitis</p> <p>Rheumatoid disorders</p> <p>Known riboflavin allergy</p> <p>Patients who are diagnosed with corneal pathology and are not good candidates for refractive surgery</p>	<p>The minimum corneal thickness of 325 microns is to protect the endothelium and is an improvement over the previous technology (minimum was 400 microns)</p> <p>*Patients must discontinue vitamin C supplements for 1 week prior and 1 week after surgery</p>
Therapeutic	<p>Minimum starting pachymetry of 325 microns</p> <p>Corneal pathology such as:</p> <ul style="list-style-type: none"> • Keratoconus • Pellucid Marginal • Degeneration • Iatrogenic Ectasia 	<p>Pseudophakia if no IOL UV protection</p> <p>Aphakics</p> <p>Macular Degeneration</p> <p>Pregnancy</p> <p>Herpetic keratitis</p> <p>Rheumatoid disorders</p> <p>Known riboflavin allergy</p>	<p>Currently not insured by Alberta Health Services</p> <p>The minimum corneal thickness of 325 microns is to protect the endothelium and is an improvement over the previous technology (minimum was 400 microns)</p> <p>*Patients must discontinue vitamin C supplements for 1 week prior and 1 week after surgery</p>

Special Consideration in Refractive Surgery

There will always be special circumstances that may arise surrounding Refractive Surgery.

Below are a few of these situations:

Previous RK patients

Radial Keratotomy (RK) was one of the first refractive surgeries performed at Gimbel Eye Centre in the mid 1980's. A diamond knife was used to create spoke-like incisions on the cornea to flatten the overall curvature. Although quite successful considering the choices available at the time, many patients have experienced a moderate to high hyperopic drift over the years. They may also experience moderate fluctuations in refractive error throughout the day. Patients with this condition desiring refractive surgery should have multiple refractions performed, at different times of the day, to carefully evaluate the range of refractive errors. Choices of surgery may include Refractive Lens Exchange, Phakic IOLs, or PRK surgery depending on the circumstance.

Refractive Surgery for the Unusual or High Refractive Error

Sometimes the patient's refractive error exceeds any surgical option available. In these cases, a Bioptic procedure can be considered—where multiple procedures can be combined to achieve the desired result. Usually the primary surgery will be chosen to address the majority of the prescription. For example, a +12.00-3.00 x 010 patient could consider an ICL for their hyperopia, then consider corneal refractive surgery for the remainder of the astigmatism. In these cases, the patient will likely wait 2-4 months in between the procedures to allow for stabilization, and the patient should be advised of the need of a pair of interim glasses.

Refractive Surgery for Keratoconics

A keratoconic patient is a good example of a potentially difficult refractive error to manage, due to corneal pathology. Often it is a challenge to work within the traditional methods of optical devices due to the refractive error. Gimbel Eye Centre has successfully treated many of these patients with Phakic IOLs. More recently, **PRK with topography guided segmental ablation with therapeutic cross linking** has been introduced into the practice when the refractive error is low to moderate. Although it is recognized that the refractive procedure has not halted the underlying pathological condition after cross linking, it can bring the patient's refractive error into a more manageable range and can be used in conjunction with other optical devices. Often the overall optical quality of the vision may improve, by neutralizing the majority, if not all, of the current refractive error.

Second Opinions

Gimbel Eye Centre welcomes requests for second opinions on patients who have had surgery at another clinic and desire an assessment of their results/concerns. We are committed to provide an honest, but diplomatic consultation and make every effort to respect the patient's needs and fears, as well as our colleague's need for respectful consideration.

Primary Eye Care Provider Refractive Surgery Follow Up Form

Patient Name (Dr./ Mr./Mrs./Ms./ Miss): _____

DOB (m/d/y): _____ Examination Date: _____

Assessing Doctor: _____ OD MD
Surgery Date: _____ Type: LASIK PRK ICL SMILE RLE Cross Linking

EXAMINATION	OD	OS
Visual Acuity Without Correction	_____	_____
Manifest Refraction	_____	_____
Keratometry	_____	_____
Intraocular Pressure	_____ mm Hg	_____ mm Hg
Ocular Medications: Current	_____	_____
LASIK/SMILE Interface clear	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Flap smooth	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Flap in good condition	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
PRK Haze Grading (please specify)	<input type="checkbox"/> Clear	<input type="checkbox"/> Clear
	<input type="checkbox"/> Mild	<input type="checkbox"/> Mild
	<input type="checkbox"/> Marked	<input type="checkbox"/> Marked
RLE / ICL	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
IOL/ICL centred	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Crystalline lens grading (ICL only)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Periphery intact	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Vaulting grading _____ +Vaulting _____ +Vaulting		
(Visual estimate of space between back surface of ICL and front of crystalline lens, i.e., If space is 2x central ICL thickness, then 2+ vault)		
Toric ICL orientation (in degrees) _____ Degrees _____ Degrees		

Comments or questions: _____

Treatment plan: _____

Is the patient satisfied with the surgical outcome? Yes No

Comments: _____

Assessing Doctor's Fax: _____ Would you like a reply: Yes No

Signature of Assessing Doctor: _____

FOR GEC OFFICE USE ONLY

Surgeon Comments: _____

Gimbel Eye Centre Calgary Fax: (403) 286-2943

Cataract Surgery Assessment & Referral Form

Patient referred for: Cataract Assessment Primary Cataract
 Secondary Cataract/YAG laser Tx 2nd Opinion on Previous Cataract Sx

Referral Date (m/d/y): _____

Patient Name (Dr./Mr./Mrs./Ms./Miss): _____ Sex: Female Male

DOB (m/d/y): _____ Alberta Health Care #: _____

Address: _____ E-mail: _____

Telephone (res): _____ (bus): _____ (cell): _____

City: _____ Prov/State: _____ Postal/Zip: _____

If the Patient may not be reached or would have difficult answering questions, please indicate a contact person below:

Name of Contact Person: _____ Relationship to Patient: _____

Telephone (res): _____ (bus): _____ (cell): _____

Assessing Doctor Name: _____ Type of doctor: OD MD OPH

Address: _____ PRACID #: _____

Telephone: _____ Facsimile: _____

City: _____ Prov/State: _____ Postal/Zip: _____

Patient Health History

Ocular History (e.g., Injury, Amblyopia, Dry Eye, etc.): _____

If Patient has had previous eye surgery, please indicate type of sx: OD _____

OS _____

Name of Surgeon: _____ Location: _____

Date of Sx (m/d/y): _____ Was a lens implanted? Yes No

Please Check: Diabetes Mobility Problem Benign Prostatic Hypertrophy Heart
 Asthma Auto Immune Disease Immune Deficiency Language Difficulty
 Hepatitis Ocular Herpes Zoster Ocular Herpes Simplex Hearing Difficulty
 Atopy Pregnancy/Nursing Collagen Vascular Disease Hypertension
 Other health problems or concerns (If yes, please specify): _____

List medications, include Imitrex® (migraine), Accutane® (acne), Amiodarone® (cardiac anti-arrhythmic) &/or Flomax® (urinary flow):

Ocular: _____ Systemic: _____

List allergies to food (include nuts and shellfish) medications, surgical tape, eye drops, iodine &/or latex:

_____ Specify if allergies are: Airborne Contact

PLEASE COMPLETE BOTH SIDES OF THIS FORM

Cataract Surgery Assessment & Referral Form cont'd

Patient Name: _____

Does Patient have cataracts? Yes No If Yes, indicate: OD OS

Does Patient have glaucoma? Yes No If Yes, indicate: OD OS

Current or last IOP: _____ OD _____ OS

IOP measured by: AT NCT

Does Patient have macular degeneration? Yes No If Yes, indicate: OD OS

Any abnormalities of the cornea? Yes No If Yes, indicate: OD OS

If Yes, please explain: _____

Any abnormalities of the iris? Yes No If Yes, indicate: OD OS

If Yes, please explain: _____

Best Corrected Visual Acuity OD 20/ _____ OS 20/ _____

Current Spectacles Rx OD _____ OS _____

Does the patient wear prism(s) in his/her current spectacles? Yes No

Would you prefer that our office (Calgary or Edmonton) performed follow-up care? Yes No Other

If Other, please specify: _____

Does Patient wear contact lenses? Yes No

If Yes, indicate: Hard Soft Rigid Gas Permeable Other, please specify: _____

Instructed to leave out contact lenses for _____ days prior to assessment

Comments: _____

Has Gimbel Eye Centre seen this Patient previously? Yes No

Signature of Assessing Doctor: _____

For Office Use Only

Patient ID: _____

Appointment Date: _____ Appointment Type: _____

Comments: _____

Gimbel Eye Centre Calgary Fax: (403) 286-2943

Primary Eye Care Provider Cataract Surgery Follow-Up Form

PLEASE TYPE / PRINT

Patient Name (Mr./Mrs./Ms.): _____

DOB (m/d/y): _____ Follow-Up Exam Date (m/d/y): _____

City: _____ Patient's Telephone: _____

Assessing Dr.: _____ OD MD

City: _____ Surgery Date (m/d/y): _____

EXAMINATION

OD

OS

Visual Acuity Without Correction _____

Manifest Refraction _____

Keratometry _____

Visual Acuity With Above Refraction _____

Intraocular Pressure by NCT AT _____ mm Hg _____ mm Hg

Slit Lamp

AC clear Yes No Yes No

Cornea clear Yes No Yes No

IOL centred Yes No Yes No

Posterior Capsule clear Yes No Yes No

Retina Posterior Pole intact Yes No Yes No

Additional Observations, Comments or Questions: _____

Is the patient satisfied with the surgical outcome? Yes No

If No, please indicate why the patient is dissatisfied. _____

Next visit scheduled (m/d/y): _____ Would you like a reply? Yes No

Assessing Doctor's Fax: _____

Signature of Assessing Doctor

FOR GEC OFFICE USE ONLY

Surgeon Comments: _____

Gimbel Eye Centre Calgary Fax: (403) 286-2943