



NORTHWEST EYE SURGEONS

Northwest Eye Surgeons Co-Management Manual

A Resource for Optometric Physicians

As a reflection of your practice, we value a personalized approach to each and every patient. We believe that once patients are stable following surgery, their care can be managed safely and successfully by you, their optometric physician. Our joint responsibility to your patients is to provide the best service and the best outcomes available.

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Clinic Locations

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Ph. 206-528-6000
Ph. 800-826-4631
Fax 206-528-0014

795 N 5th Ave
Sequim, WA 98382
Ph. 360-683-2010
Fax 360-683-2320

1412 SW 43rd St #310
Renton, WA 98057
Ph. 425-235-1200
Fax 425-917-9465

16404 Smokey Point Blvd #303
Arlington, WA 98223
Ph. 360-658-6224
Fax 360-658-6227

1306 Roosevelt Ave
Mount Vernon, WA 98273
Ph. 360-428-2020
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The representatives are available to assist you with forms, business cards, and literature for your office. They are also able to help set up a meeting with one of our physicians, a tour of our facilities or a surgery observation.



The Essentials of Cooperative Co-Management

THE TEAM APPROACH

Since our inception in 1986, **Northwest Eye Surgeons (NWES)** has pioneered and advocated for collaborative co-management of post-surgical patients. We believe that once patients are stable following surgery, their care is managed safely and successfully by you, their primary care optometric physician.

Post-surgical co-management is frequent in other medical and surgical specialties, and is recognized by the American Academy of Ophthalmology, the American Society of Cataract and Refractive Surgery, the American Academy of Optometry and the American Optometric Association as responsible in the care of patients. This practice is also endorsed by insurance carriers and the Society of Excellence in Eye Care. Co-management in an atmosphere of mutual trust, shared learning, and continuous communication can be a successful way to optimize patient care.

Northwest Eye Surgeons offers expertise in a broad range of specialized surgical and medical eye care for patients of all ages. Our entire team of physicians and support staff are dedicated to providing personalized and high quality patient care, applying innovative and advanced technologies, and achieving surgical results that meet and exceed expectations.

For cataract surgery, we offer patient-centered vision enhancement options and intraocular lens (IOL) choices, including aspheric monofocal IOLs, astigmatic correcting and advanced technology IOLs for appropriate candidates. These progressive and industry leading specialty technology lenses allow vision to be restored at multiple focal points with reduced dependence on glasses, if this is your patient's preference. Our surgeons continually evaluate new products, surgical techniques, and best practices philosophy available in this ever-changing landscape. We prioritize patient needs when reviewing IOL options.

We use the iLASIK system for refractive surgery, which combines the IntraLase Femtosecond laser and the VISX Star S4 Excimer Laser with its state-of-the-art wavefront guided treatment and iris registration. For highly myopic patients who are outside the recommended parameters for iLASIK or PRK, we also implant the Verisyse™ and Visian ICL™ phakic IOLs, if suitable.

As a reflection of your practice, we value a personalized approach to each and every patient. Each patient will meet the surgeon at the time of the consultation prior to surgery, and be given the opportunity for options presented and have questions thoroughly answered.

Communication is a priority. Our mutual responsibility to your patients is to provide the best service and the best outcomes available. Together, we can accomplish this through frequent communication and coordinated care. We hope this manual will provide useful tools to ensure responsible and fluid co-management, including protocols, preoperative and postoperative exam forms, and post-surgical management guidelines. We appreciate the commitment to broaden your practice services by incorporating post-surgical care. Your patients will appreciate knowing that their primary care family eye doctor and surgeon are working together to provide seamless care for their upcoming eye surgery.



Note: Our surgeons and doctors provide a comprehensive range of advanced medical and surgical services including treatments for cataract, corneal disease and refractive surgery, glaucoma, vitreo-retina, oculoplastics, strabismus, anterior segment, uveal diseases and inflammation, and others. This manual will discuss surgeries that can be co-managed, including cataract, laser, and refractive procedures. Please call if you would like more information regarding other services we provide.



NORTHWEST EYE SURGEONS

OUR VISION

Improving the quality of people's lives

OUR MISSION

Northwest Eye Surgeons is the premier ophthalmic referral practice in the Northwest, providing the most technologically advanced medical and surgical care in a warm, patient-centered environment.

OUR VALUES

- ▶ Going the extra mile to show kindness and compassion
- ▶ Delivering personalized patient care
- ▶ Maintaining the leading edge best practices through education and training
- ▶ Continuing commitment to collaborative care
- ▶ Being respectful and cooperative in the work environment



The Role of the Co-managing Doctor

As the patient's primary eye care provider, you have a unique working knowledge and understanding of your patient's visual needs and motivations for surgery. Ideally, cataract and refractive candidates are educated initially in your office regarding timeliness of surgical intervention and the option to choose to receive postoperative care with you or NWES. Further, they need to understand that continued primary eye care in your office is essential after vision correction procedures.

A consistent surgical experience begins with the co-managing doctor's awareness of the surgical consultation process and the options that a patient may hear about upon referral to Northwest Eye Surgeons.

The roles of the primary eye care provider with surgical co-management are the following:

- To select the appropriate candidate for cataract or refractive surgery
- To inform, educate, and counsel patients, including whether you are willing to co-manage their postoperative care
- To discuss and demonstrate monovision preoperatively with the use of a trial lens or contact lens when this option is considered
- To perform manifest and cycloplegic refractions prior to the procedure as appropriate
- To monitor patients at specific and suitable postoperative intervals after the surgery and to communicate findings to the surgeon
- To continue post-surgical care beyond the global period and report to the surgeon any findings related to surgery (co-managing doctor has no obligation for care beyond the global period)
- To assist patients with their postoperative vision needs, including refractive corrections and continued ocular health assessments

Co-management Process*:

- Based on meeting qualification standards, NWES provides patients with recommendations and information on cataract-replacement IOLs, including costs covered and not-covered by Medicare and other insurance carriers.
- NWES informs patients that they may receive their post-surgical care from you, their primary care eye doctor, or at NWES.
- NWES informs patients that their referring optometric physician may charge them additional fees for additional services associated with postoperative care related to advanced technology IOLs and/or Vision Correction Plan.



- NWES transfers patients who elect to be co-managed back to the referring optometric physician when the patient is stable or upon completion of care if the postoperative services are performed at NWES.

**Our interpretation of the co-management guidelines by the Office of the Inspector General (OIG) is that the surgeon is responsible to establish whether the patient is stable prior to transfer of post-op care. Therefore, we can transfer care if your patient is stable, typically at a one-day visit. The first 24 hours following surgery can be a period of fluctuating intraocular pressure, excessive intraocular inflammation, and/or wound instability. Insuring patient stability prior to return to your office is an important component of our shared medical-legal responsibility for accountable co-management.*



Cataract Surgery with Vision Correction

Advanced technology, improved surgical technique, and informed patients have increased patient expectations for cataract surgery outcomes. When medically appropriate, our surgeons may offer femtosecond laser technology for cataract surgery, at no additional cost to patients. The femtosecond laser provides consistent incisions and outcomes; reduces healing time; and gives our surgeons an exceptional tool to help patients achieve their best vision. Many patients desire improved vision after cataract surgery and less dependence on glasses. Our Vision Correction program is designed specifically to help set appropriate expectations for visual outcomes after cataract surgery.

Traditionally, a surgeon provides a thorough explanation for every cataract patient, describing many different lens options and explaining how each lens works. This may confuse patients, making the decision of “What to do?” difficult. Vision Correction simplifies this discussion by focusing on the patient’s desired vision outcome.

The fundamental questions a patient must answer are:

1. *“Do I want only what my insurance covers, and will I accept wearing glasses after surgery?”*
If a patient wants what is covered by their insurance then the expectation is that they may *require* glasses to see clearly for vision needs at all distances.
2. *“Do I want to decrease my need for glasses after surgery?”*
If a patient wants to decrease their need for glasses, then Vision Correction is a suitable choice.

Vision Correction Options

The two options for cataract surgery with Vision Correction address patients’ desires for less dependence on glasses.

Vision Correction 1 (VC1)

This option is for patients who desire good, uncorrected vision at one focal point: Distance or Near. (These patients will likely have either an aspheric monofocal IOL with a LRI or a toric IOL implant)

Vision Correction 2 (VC2)

This option is for patients who desire good, uncorrected vision for two focal points: Typically, distance, and intermediate or near. (These patients will likely receive an accommodative or multifocal lens implant.)

While cataract surgery is an insurance-covered benefit, Vision Correction may not be considered “medically necessary,” and therefore, may not be covered by insurance. Patients choosing Vision Correction will need to pay additional out-of-pocket costs. Vision Correction is an all-inclusive package that comprises enhanced diagnostics and procedures before and during surgery, the newest advanced technology lens implants, and any corrective procedure required postoperatively, to achieve the patient’s desired outcome, within one year of the original surgery. This may include a



lens exchange or rotation, corneal relaxing incisions for astigmatism, corrective YAG capsulotomy if not covered by insurance, and refractive laser enhancement.



Cataract Surgery: Consultation at NWES

The patients sent to NWES/WES for cataract surgery will meet our surgeon for a cataract evaluation and discuss the best way to approach surgical treatment and desired outcomes. In the past, this discussion was centered on different lens choices: monofocal, toric, among others. The discussion would also have involved the advantages and disadvantages of each lens, as well as costs. With the introduction of Vision Correction, we modified our discussion to be less lens-focused and more patient expectation-focused.

Below are the steps we take to evaluate patients for cataract surgery:

- The patient should expect to be in our office about 2 hours, including pupil dilation
- If you see the patient preoperatively and forward chart notes; we will include them in their chart when the patient arrives to see the surgeon
- The surgeon meets and examines the patient, determines the patient's expectations and whether they qualify for surgery, and recommends treatment options based on exam findings and completion of the Vision Questionnaire
- The patient is informed of what to expect before, during and after surgery
- If surgery is indicated, patients view a brief video on risks and benefits of the procedure
- A-scan IOL calculations are performed. We make every effort to accommodate patients who request this service on the same day as the consultation, or who are traveling a significant distance to our office. In some cases, these measurements will be performed on another day.
- The patient meets with a surgery coordinator, who will:
 - Explain details of the co-management process, including the patient's options
 - Schedule the surgery once insurance authorization is received
 - Fax notes to your office after the procedure and 1-day postoperative visit

The Vision Questionnaire

Each patient completes a Vision Questionnaire prior to the exam with our cataract surgeon. The surgeon uses this document to determine what a patient expects from cataract surgery. With friends, neighbors and family members that have had the procedure in the past, patients may come in with pre-determined expectations for their cataract surgery. "I thought I would see well at all distances after cataract surgery. My friend never wears glasses after their cataract surgery," is something that we hear frequently. We expect that co-managing doctors face these same challenges in their offices. The Vision Questionnaire helps our surgeons to focus their discussion on desired outcomes, insurance coverage, and how the patient's expectations might be met using available technology.



Communicating Expectations

In addition to determining patient expectations prior to cataract surgery, our surgeons and technicians talk with the patient about what to plan for after cataract surgery in terms of appointments, recovery period, and most importantly, long-term outcomes. While some patients wish to be less dependent on glasses after surgery, we inform them that some tasks may require optical correction (glasses or contact lenses.)

Many patients elect to have cataract surgery with no additional Vision Correction. These patients are reminded that glasses may be needed for improving distance and reading. We find it especially helpful to discuss glasses with these patients at the 1-day and 1-week post-surgical visits.

Patients who elect Vision Correction 1, at either distance or near, are reminded that our goal through surgery is to reduce their dependence on glasses for one distance, but the converse focal length may require glasses. Those who elect Vision Correction 2 will have reduced dependence on glasses for distance and near, but are reminded that they may need reading lenses for fine print or for performing long period near/reading tasks.



Cataract Surgery: Procedure & Preoperative Care

At NWES, we gently dissect cataracts using phacoemulsification (high-energy ultrasound waves) or femtosecond laser, and remove the cataract. We use clear corneal incisions and a no-stitch technique.

Our surgeons and staff perform a thorough review of medical and ocular history, in addition to other components of a pre-surgical examination.

Preoperative Measurements

Preoperative measurements for surgery are taken after the cataract consultation.

IOL Calculation

Stable keratometric findings are crucial for IOL calculations. Contact lens wear can alter these readings. If any change or distortion is noted, it will be necessary to leave the contact lenses out for a longer period of time until the refraction and/or topography show stabilization.

Potential Visual Acuity

Some patients may not realize that they have more than one ocular health condition affecting their vision and think cataract surgery alone will substantially improve visual acuity. These conditions (e.g., moderate to severe ARMD, advanced glaucoma, amblyopia, corneal scarring and dystrophy, etc.) will preclude the surgeon from recommending and implementing Vision Correction 1 or 2. The patient's vision potential and expectations must be established and discussed prior to surgery.

Optiwave Refractive Analysis

We have an additional *intraoperative* measurement available for Vision Correction 1 and 2 patients, Optiwave Refractive Analysis (ORA). This instrument is attached to the surgical microscope. ORA provides a live, aphakic (after the cataract is removed), intraoperative measurement of refractive error to best determine the most accurate IOL power and alignment of axis, if implanting a premium IOL, for the desired outcome. This measurement is compared with pre-surgical calculations to determine the IOL that will deliver the best visual outcome to meet the patient's expectations.



Cataract Surgery: Postoperative Medication

(Medication protocols may change)

Topical antibiotic recommendation:

- Ofloxacin 0.3% oph sol (or similar): one drop qid for 1 week

Topical corticosteroid recommendation:

- Prednisolone acetate 1.0% oph susp (or Durazol with different taper): one drop qid for 3 weeks, then bid for 1 week

Topical non-steroidal anti-inflammatory drug (NSAID) recommendation:

- Ketorolac oph sol (0.4% or 0.5%): one drop qid for 4 weeks. Other NSAIDS may be used.

Notes:

a) Topical antibiotics are used for one week for prophylaxis.

b) Corticosteroids dosing is dependent on the grade of pseudophakic anterior uveitis, corneal edema, and related response factors.

c) NSAIDs inhibit prostaglandins, lowering the risk of intraocular inflammation and macular edema. NSAIDs are particularly beneficial for high risk patients with diabetes, complicated surgeries, interface retinal disorders (e.g. ERMs, vit-mac traction), past intraocular surgery or inflammation, older patients, and others. We also find these medications useful for specific cataract surgery patients and are preferred with Vision Correction patients.



Cataract Surgery without Additional Vision Correction: Postoperative Care Follow-up Schedule

Patients are seen at Northwest Eye Surgeons on the first postoperative day in most cases (Refer to page 7). Patients who choose to have their post-op care co-managed will be transferred to the co-managing doctor when the eye is stable postoperatively. Recommended postoperative visits are outlined below. Additional visits may be required depending on individual circumstances and clinical judgment (any visit taking place between surgery and the 90th day following should be included in the 90-day global co-management fee).

After completion of each postoperative visit, fax the examination form (either yours or the one provided) to the Northwest Eye Surgeons clinic near you. Fax numbers are listed on page 3. **Communicating your results to us is vital.** This feedback of post-op data allows us to compare projected to actual outcomes and ensure optimum care of your patients. The information also aids in future patients' surgeries, as data is compiled and tabulated per surgeon.

Glossary of abbreviations used below:

UCVA: uncorrected visual acuity
MRx: manifest refraction
CRx: cycloplegic refraction
SLE: slit lamp exam (biomicroscopy)
IOP: intraocular pressure
DFE: dilated fundus exam

Day 1 visit

Tests: UCVA, SLE (wound secure, corneal edema, AC cell and depth, IOL position, other notable findings), IOP

Week 1 visit

Tests: UCVA, MRx, SLE (note above), IOP, DFE

If contralateral/second eye also has cataract, please fax the following data with your 1-week report to our surgery coordinators:

- Lifestyle complaint for the second eye
- Post-op manifest refraction of first surgical eye

We consider your 1-week findings in planning the second eye surgery, and your prompt response is appreciated.

Month 1

Tests: UCVA, MRx, SLE, IOP

Month 3, 6, and 12 (if applicable)

Tests: UCVA, MRx, SLE, IOP, DFE

In addition, please indicate the patient's satisfaction with their surgical outcome on your postoperative records.



Cataract Surgery without Additional Vision Correction: Postoperative Care

(Note: The postoperative global period is 90 days)

Day 1

Symptoms: Vision and comfort depend primarily on level of intraocular inflammation, corneal edema, IOP, and corneal epithelial defects, most commonly small defects around the wound site.

VA: UCVA varies greatly dependent on corneal edema, pupil size, uncorrected astigmatism, and projected end refractive state (note: some patients may choose to be left myopic).

Biomicroscopy: Corneal edema, both microcystic (usually due to increased IOP) and stromal edema with Descemet's membrane folding should be graded 1+ to 4+, AC (depth, WBC grade 1+ to 4+, and record whether hyphema or microhyphema), wound status (secure, no Seidel), IOL centration and PC status, brief disc and macula assessment if adequate pupil size (elective). If no view is possible, notation of the red reflex can be helpful to describe the clarity of the vitreous.

Plan: Review post-op drops, limits on activity, nocturnal use of eye shield for 2 or more nights, and remind to refrain from ocular rubbing.

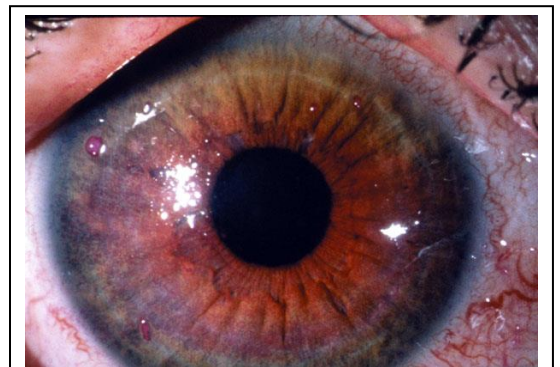
Week 1

Clinical considerations

Vision and comfort should be improved as corneal edema and intraocular inflammation improve with recovery. Patients with pre-existing risk factors may have a slower recovery (both persistent corneal edema and pseudophakic iritis). Pre-existing risk factors include: Fuch's corneal dystrophy and low endothelial cell counts, older patient, long phacoemulsification time, previous recurrent anterior uveitis, use of iris stabilizing devices intraoperatively, and others.

If persistent anterior uveitis, 1) consider increased dose of topical corticosteroids, 2) confirm compliance with medications, including shaking of prednisolone drops, if applicable, 3) change to a more potent corticosteroid (e.g., difluprednate), 4) evaluate for contributing factors such as a small AC lens fragment or chronic microhyphema (blood proteins can trigger persistent inflammation).

Dry eye patients may experience exacerbation of ocular surface disease (OSD), in which case addition of artificial tear supplements—if spaced 20+ minutes from topical Rx meds—should be beneficial. If IOP is elevated any time after the first week of using topical corticosteroids, the patient may be undergoing a steroid response. Temporary use of topical IOP-lowering medications may be indicated. Brimonidine 0.1% (Alphagan®-P oph sol) one drop tid for short term use may be adequate. If IOP exceeds 35-40mmHg, then combination IOP meds, oral acetazolamide, and/or switching to Lotemax may be indicated. If you have questions, please call one of our doctors for a phone consultation.



*Dry eye may be exacerbated with
cataract surgery*



Performing a dilated fundus exam is strongly encouraged at one-week post-op for several reasons. Dilation will provide a better view of IOL centration, status of lens capsule, evaluation of toric IOL axis, an opportunity for a detailed assessment of the optic disc and macula, and a view of the peripheral retina to rule out tears, holes, or detachments. If macular edema is present at one week, it was most likely pre-existing and previous causal factors (diabetes, BRVO, interface retinal disorder, etc.) should be assessed.

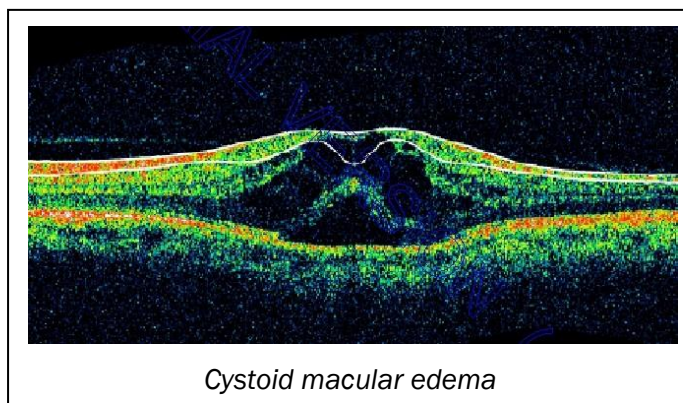
Plan: If your patient's condition is stable, continue the post-op medications per protocol. The patient can usually return to normal activity.

Month 1 (4-6 weeks post-op)

Clinical observation is key to determining if ocular conditions have returned to normal following surgery. There should be no corneal stromal edema / Descemet's folds, AC quiet and deep, IOL centered, and post-op refraction should be stable with good acuity.

Cystoid macular edema, while rare if the patient is compliant with topical NSAIDs and corticosteroids, may be detected 3+ weeks post-op, necessitating a resumption of topical meds (if discontinued) and consulting NWES.

Plan: If stable, refractive decisions can usually be made at this time concerning supplemental glasses or contact lenses at your discretion, with next appointment typically in one year unless other conditions you are following require more prompt evaluation.



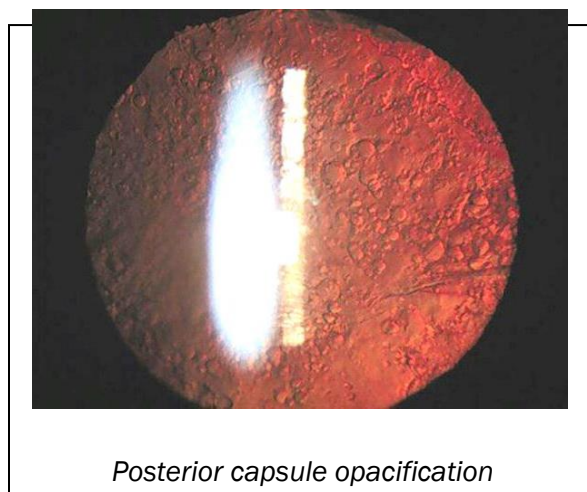
Care After the Global Period is Over

Months 3-12

Posterior capsule opacification (PCO) can develop during the period following cataract surgery and can be carefully treated with a YAG laser capsulotomy. Additionally, refractive fluctuations can occur due to corneal changes up to several months after surgery in some patients. For patients considering enhancements in the case of cataract surgery *without* Vision Correction, please contact us so that we can arrange an appointment with one of our refractive surgeons.

Final note

Under some circumstances, cataract surgery without additional Vision Correction may have unexpected results. Please alert the surgeon early if there is an unexpected visual outcome, including a moderate level of uncorrected *spherical equivalent* detected in your refraction that was not planned for. In exceedingly rare cases, when a patient does not elect for additional Vision Correction, lens exchanges may be indicated and should be caught early.



Please fax your completed exam notes to Northwest Eye Surgeons.



Cataract Surgery with Vision Correction: Postoperative Care Follow-up Schedule

Postoperative management of patients who choose Vision Correction is similar, in that they are seen at Northwest Eye Surgeons on the first postoperative day. Patients who choose to have their post-op care co-managed will be transferred to the co-managing doctor when the eye is stable postoperatively (typically at the one-day visit).

With Vision Correction, each IOL has specific requirements for optimal outcomes. For patients who have chosen cataract surgery with Vision Correction, recommended postoperative visits and guidelines for specific IOLs are outlined below. The postoperative period for Vision Correction is 365 days and all services are included as part of the fee.

After the completion of each postoperative visit, please fax the examination form (either yours or the one provided on our website) to the Northwest Eye Surgeons clinic near you. Fax numbers are listed on page 2 of our co-management manual. Communicating your results to us is vital because it allows us to compare projected to actual outcomes and ensures optimum results and comprehensive care of your patients.

Glossary of abbreviations:

UCVA: uncorrected visual acuity

UCIVA: uncorrected intermediate visual acuity (32 inches)

UCNVA: uncorrected near visual acuity (16 inches)

MRx: manifest refraction

CRx: cycloplegic refraction

SLE: slit lamp exam (biomicroscopy)

IOP: intraocular pressure

DFE: dilated fundus exam

Please fax your completed exam notes to Northwest Eye Surgeons.



Vision Correction 1: Aspheric Monofocal IOL with LRI

Postoperative Care

Day 1 visit

Tests: UCVA, SLE (wound secure, corneal edema, AC cell and depth, IOL position, other notable findings), IOP.

Week 1 visit

Tests: UCVA, MRx (observing any residual cyl), SLE (see Day 1 note above), IOP, DFE.

If visually significant cyl exists, send patient to surgeon 2-3 weeks post-op for opening of LRI incisions.

Once both eyes have been completed, measure monocular UCVA.

If contralateral/second eye also has cataract, please fax the following data with your 1-week report to our surgery coordinators:

- Lifestyle complaint for second eye - how do glare and blur affect activities of daily living
- Post-op manifest refraction of first surgical eye

We consider your 1-week findings in planning the second eye surgery, and your prompt response is appreciated.

Month 1

Tests: UCVA, MRx (again observing any residual cyl), SLE, IOP.

After both eyes have been completed, measure monocular UCVA.

If vision outcome is not as expected when the patient finishes postoperative drops, please alert NWES and return the patient for evaluation.

Month 4

Tests: UCVA, MRx, SLE, IOP.

Once both eyes have been completed, measure monocular UCVA.

In addition, please indicate the patient's satisfaction with their surgical outcome on your postoperative records.

At 12 months

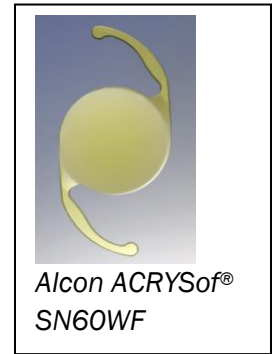
We recommend a comprehensive exam and ask that you please fax the results of UCVA and MRX to our clinic.

Please fax your completed exam notes to Northwest Eye Surgeons.



Monofocal IOLs

For patients without corneal cyl, the monofocal IOL offers very good near or distance vision with an aspheric design. However, most people receiving these lenses require reading glasses or bifocals to have a full range of vision. For patients with less than optimal potential visual acuity (ex. secondary to moderate to severe ARMD) the monofocal IOL is usually the best option. In certain patient cases, monofocal lenses will be indicated even with Vision Correction 1 or 2. These surgeries benefit from additional preoperative measurements and calculations, intraoperative measurements with the ORA, and the promise that all steps will be taken to reach the level of vision discussed by the surgeon and patient preoperatively through the Vision Correction plan. Please keep this in mind before prescribing glasses to any Vision Correction patient, regardless of lens type. Vision Correction will be clearly notated on the 1-day postoperative documentation.



Vision Correction 1: Toric IOL

Postoperative Care

Visually significant IOL rotation off axis by 10 degrees should be corrected as soon as noted. * Typically, correction is made by rotating the IOL in the capsular bag. Please alert NWES promptly with a phone call.

Day 1 visit

Tests: UCVA, SLE (wound secure, corneal edema, AC cell and depth, IOL position, other notable findings), IOP.

Week 1 visit

Tests: UCVA, MRx (observing any residual cyl), SLE (see Day 1 note above), IOP, DFE, upon dilation observe and document Toric axis* – this is critical at the one-week visit. Once both eyes have been completed, measure monocular UCVA

If contralateral/second eye also has cataract, please fax the following data with your 1-week report to our surgery coordinators:

- Lifestyle complaint for second eye - how do glare and blur affect activities of daily living
- Post-op manifest refraction of first surgical eye

We consider your 1-week findings in planning the second eye surgery, and your prompt response is appreciated.

*Toric axis may best be measured by aligning the slit lamp beam parallel to the IOL markings, then note the axis rotation of the light beam on the microscope.

Month 1

Tests: UCVA, MRx (again observing any residual cyl), SLE, IOP.

Consider dilation to observe Toric axis if unexplained vision change or MRx change is noted.

If vision outcome is not as expected when the patient finishes postoperative drops, please alert NWES and return the patient for evaluation. Also note that pseudophakic CME can develop in the 3-6 week post-op period.

Month 4

Tests: UCVA, MRx, SLE, IOP.

Consider dilation to observe Toric axis and presence or absence of posterior capsular opacity if unexplained vision change or MRx change is noted.

In addition, please indicate the patient's satisfaction with their surgical outcome on your postoperative records.

At 12 months

We recommend a comprehensive exam and ask that you please fax the results of UCVA and MRX to our clinic.

Please fax your completed exam notes to Northwest Eye Surgeons.



Toric IOLs

Aspheric toric IOLs offer a range of cylinder powers for patients seeking to reduce spectacle dependence for astigmatism. They have exceptional rotational stability. Most patients need corrective lenses for intermediate and near tasks. Occasionally, patients may select a toric IOL for crisp uncorrected intermediate or near vision depending on their lifestyle needs. Current toric IOLs can correct 1D to 6D of regular corneal astigmatism.



Vision Correction 2: Multifocal IOL Postoperative Care

Best results with multifocal vision are achieved after both eyes are implanted.

Day 1 visit

Tests: UCVA, SLE (wound secure, corneal edema, AC cell and depth, IOL position, other notable findings), IOP.

Week 1 visit

Tests: UCVA, include UCIVA and UCNVA, MRx, SLE (see Day 1 note above), IOP, DFE.
Once both eyes have been completed measure monocular UCVA. If contralateral/second eye also has cataract, please fax the following data with your 1-week report to our surgery coordinators:

- Lifestyle complaint for second eye - how do glare and blur affect activities of daily living
- Post-op manifest refraction of first surgical eye

We consider your 1-week findings in planning the second eye surgery, and your prompt response is appreciated.

Month 1

Tests: UCVA, include UCIVA and UCNVA, MRx, SLE*, IOP.

Once both eyes have been completed measure monocular UCVA.

If vision outcome is not as expected when the patient finishes postoperative drops, please alert NWES and return the patient for evaluation.

*Note: Multifocal IOLs may develop PCO earlier than standard IOLs.

Month 4

Tests: UCVA, include UCIVA and UCNVA, MRx, SLE, IOP.

Once both eyes have been completed measure monocular UCVA.

In addition, please indicate the patient's satisfaction with the surgical outcome on your postoperative records.

At 12 months

We recommend a comprehensive exam and ask that you please fax the results of UCVA, UCIVA, UCNVA, and MRX to our clinic.

Please fax your completed exam notes to Northwest Eye Surgeons.



Multifocal IOL

This IOL is used for immediate distance and near vision, with variable intermediate vision. The best candidates can tolerate some glare and halos at night. Macular disease is a contraindication for such lenses as there is decreased contrast sensitivity. Best to avoid in patients with type A personalities and certain occupations (engineers, cab/truck drivers/artists). Available multifocal IOLs may differ in distance of near point of focus and light-dependence of near vision.



Vision Correction 2: Accommodating IOL Postoperative Care

- Best results with accommodating vision are achieved after both eyes are implanted.
- Distance vision should be achieved on the same timeframe as monofocal IOL.
- Near vision improves 3-6 months post-op and beyond.

Day 1 visit

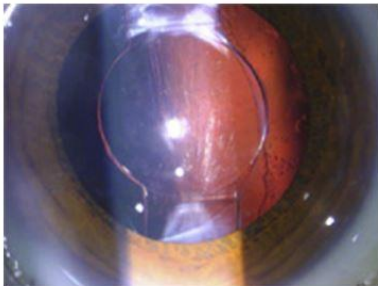
Tests: UCVA, SLE (wound secure, corneal edema, AC cell and depth, IOL position, other notable findings), IOP.

Week 1 visit

Tests: UCVA, include UCIVA and UCNVA, MRx, SLE (see Day 1 note above), IOP, DFE (Cyclopentolate), evaluate lens vault.

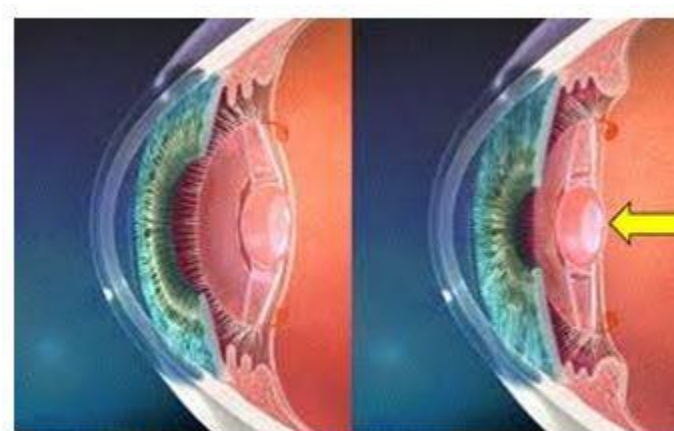
For a Trulign IOL please observe and document the toric axis (pupil dilation will assist). Include cycloplegic refraction to rule out subtle hyperopia/overminus/accommodative spasm.

For both Crystalens® and Trulign™, record the vault—anterior, neutral, and posterior—and any concern regarding Z-formation. Below are examples of incorrect Z-formation and vault.



Picture courtesy of ASCRS EyeWorld News Magazine
Steven G. Safran, M.D.

Incorrect Z-formation: superior hinge is forward and inferior hinge is toward the back of the eye.



Correct anterior vault position.

Incorrect anterior vault position.

The illustration on the left shows correct vault position.



Once both eyes have been completed, measure monocular UCVA.

If contralateral/second eye also has cataract, please fax the following data with your 1-week report to our surgery coordinators:

- Lifestyle complaint for second eye - how do glare and blur affect activities of daily living
- Post-op manifest refraction of first surgical eye

We consider your 1-week findings in planning the second eye surgery, and your prompt response is appreciated.

Month 1

Tests: UCVA, include UCIVA and UCNVA, MRx, SLE, IOP.

Once both eyes have been completed, measure monocular UCVA.

Consider cycloplegic refraction if MRx shows unexpected change.

Consider dilation to evaluate lens vault and Trulign axis.

If vision outcome is not as expected when the patient finishes postoperative drops, please alert NWES and return the patient for evaluation.

▪ Month 4

Tests: UCVA, include UCIVA and UCNVA, MRx, SLE, IOP.

Once both eyes have been completed, measure monocular UCVA.

Consider cycloplegic refraction if MRx shows unexpected change.

Consider dilation to evaluate lens vault and Trulign axis.

In addition, please indicate the patient's satisfaction with the surgical outcome on your postoperative records.

At 12 months

We recommend a comprehensive exam and ask that you please fax the results of UCVA, UCIVA, UCNVA, and MRX to our clinic.

Please Note: With accommodating IOLs even a mild amount of PCO formation can influence lens translation. Also, monitor for any contraction of the anterior capsule as this can also limit lens translation. Elongation or change in shape or size of a round capsulorhexis is an indication of a potential problem. Therefore, in order to achieve the best outcomes, we recommend sending the patient back immediately to Northwest Eye Surgeons for a YAG capsulotomy evaluation when PCO is observed.

Please fax your completed exam notes to Northwest Eye Surgeons.



Vision Correction: Enhancement Policy

Our Commitment

Our goal for Vision Correction is to provide patients their ideal post-surgical refractive outcome. Sometimes the healing process follows an unpredictable course after cataract surgery. Patients with high pre-surgery refractive errors, previous LASIK or other corneal refractive issues, and patients with a high degree of astigmatism may need additional refractive correction. In these circumstances, the surgeon will review all available pre- and post-cataract surgery information with the patient, and discuss the option of an enhancement procedure to improve the remaining refractive correction.

This enhancement policy is valid for one year from the date of the original cataract surgery with Vision Correction at Northwest Eye Surgeons and Whatcom Eye Surgeons of Bellingham. If an enhancement procedure is desired, the earliest wait time between the original surgery and a touch-up surgery, is between 3-6 months. This allows for adequate recovery time from the initial surgery and ensures that the ocular tissues and refractive error/correction are stable. However, there are exceptions, as follows:

YAG Laser

Some patients require early YAGs due to severe PCO, or even minimal PCO with a multifocal IOL. If an early YAG is necessary within 3 months, but it is not considered by insurance to be medically necessary, then there will be no charge for VC patients.

Toric IOLs

If the co-managing doctor notes a toric IOL (monofocal toric, multifocal toric or Crystalens Trulign) to be misaligned at the required one week dilated postoperative visit, or any time after surgery, promptly inform the surgeon and return the patient to NWES. Toric IOLs can be more easily rotated in the capsular bag at this early, post-surgical stage, than if repositioning is delayed.

IOL Exchange

During the early, post-surgical visits (typically 1-2 weeks), if the vision and refractive error are noticeably off from the planned outcome, IOL exchange may be indicated. Prompt communication and scheduling the patient with a NWES surgeon is crucial. If the surgeon determines—with patient agreement—that an IOL exchange is in the patient's best interest, surgical and IOL costs are included with the Vision Correction at no extra cost.

Enhancement Procedures and Visits

The most common procedures that we employ during enhancements include photorefractive keratectomy (PRK) laser treatment, IOL exchange, and corneal limbal relaxing incisions (CRI). The choice of specific enhancement procedure will be based on the patient's individual situation, and in consultation between the patient and the surgeon.

Clinic appointments following enhancements will be performed at the nearest Northwest Eye Surgeons clinic (or at Whatcom Eye Surgeons in Bellingham if this is the nearest location). Patients enrolled in Vision Correction are not charged for enhancement post-op visits.



We encourage co-managing doctors to consider an inclusive post-surgical fee (3-12 months) that includes potential recheck and enhancement post-op visits. Enhancements and subsequent post-op visits are infrequent, perhaps 15% of patients, and we are happy to provide these services at NWES. In the event that patients prefer to see their co-managing doctor for these added visits, those doctors may want to plan their fee structure accordingly.



Vision Correction: Enhancement Policy Frequently Asked Questions

Are there specific qualifications for enhancements?

Any Vision Correction patient dissatisfied with their visual outcome should be scheduled and re-evaluated at one of the Northwest Eye Surgeons clinics or at Whatcom Eye Surgeons in Bellingham. Decisions to re-treat will be made on a case-by-case basis and in consultation with a NWES surgeon.

Our mutual goal for Vision Correction patients is to obtain comfortable, satisfactory vision. We respect and consider individual circumstances regarding the appropriateness of enhancements. Listed here are general guidelines for enhancements, assuming a patient has healthy eyes.

- For VC1 patients, this refers to 20/30 vision at either near or distance.
- For VC2 patients with a multifocal IOL, 20/30 at both near and distance.
- For VC2 patients with an accommodative IOL, we expect about 20/30 vision at distance and intermediate distance of around 32 inches.

Will enhancement recovery be the same as the original surgery?

Recovery from enhancement refractive procedures may be less traumatic and faster, however, some laser procedures may require multiple post-procedure visits. In the infrequent circumstance of IOL replacement, short term ocular swelling (corneal edema) and inflammation (pseudophakic iritis) may be present for a week or two, but would respond well with topical medicines. Patients will be placed prophylactically on drops similar in regimen to the original cataract surgery.

If you have additional questions, please contact any of our surgical coordinators listed alphabetically here by clinic location, and they will be happy to assist you:

Bellingham (Whatcom Eye Surgeons)	360-676-6233
Mount Vernon	360-428-2020
Renton	425-235-1200
Seattle	206-528-6000
Sequim	360-683-2010
Smokey Point	360-658-6224



Refractive Surgery: Procedures

iLASIK™ (LASIK with Intralase™)

Instead of a metal blade, we use the Intralase Femtosecond laser to deliver rapid pulses of laser light to create a thin, highly uniform, and safe corneal flap. After folding back the corneal flap, we use the VISX™ excimer laser, which utilizes the WaveScan Wavefront technology to create a map of the unique aspects of the eye, to reshape the cornea. The flap goes back into place and rapid healing begins immediately. Femtosecond laser flaps (all laser LASIK) result in faster, stronger healing.

Advanced Surface Ablation (PRK or PTK)

Advanced surface ablation is where no stromal flap is created. We use WaveScan Wavefront technology to create a map of the unique aspects of the eye. The epithelium is gently removed and an excimer laser reshapes the surface of the cornea. With a similar treatable range of refractive error as LASIK, advanced surface ablation is safer for patients with thin or irregularly shaped corneas. The recovery is slower than LASIK, but the long-term visual outcomes are equivalent.

Phakic Intraocular Lenses

Phakic intraocular lenses (IOLs) are artificial lens implants that are placed inside the eye while the patient's natural lens remains in place. Good candidates for surgery are high myopes and/or patients with thin or irregular corneas who would not be proper candidates for laser refractive surgery. We use both Visian™ and Verisyse™ lenses.



Refractive Lens Exchange

Refractive lens exchange (RLE) involves the removal of the crystalline lens and replacement with an intraocular lens for patients generally over the age of 50-55. Ideal candidates are presbyopic hyperopes. With multifocal, accommodative and toric IOLs, a RLE can provide quite functional uncorrected distance and near and/or intermediate vision.



Refractive Surgery: Patient Selection

The happy refractive surgery patient begins with thoughtful patient selection. In addition to eye-related subjective factors like refractive error, corneal thickness, etc., you should also consider non eye-related subjective factors such as patient motivation and expectations. Because of experience and established relationship with your patients, you are able to provide the best insight as to the qualifications of someone as a candidate for a refractive procedure.

Patients have a variety of reasons for requesting refractive surgery, as well as expectations of what their vision will be like after surgery. Patients are more likely to be happy with their results if they have realistic expectations prior to their procedure. Current technologies and advanced surgical techniques often help us meet their expectations. Patients with unrealistic demands such as “perfect” vision or 100% glasses free may not be satisfied. Those without a specific objective (occupational, sports, or hobby-related) must be educated as to the limitations of a refractive procedure so that their expectations are reasonable.

Motivation

Reasons for considering refractive procedure:

- Occupational
- Recreational
- Convenience
- Safety
- Contact lens intolerance
- Cosmetic

Be careful when selecting and counseling refractive candidates; consider someone desiring perfection to be a “red flag.”

Questions

Questions to assist you in selecting a good candidate for a refractive procedure:

- Does the patient have realistic goals and expectations?
- Does the patient understand the risks/benefits?
- Does the patient have contact lens intolerance and an otherwise healthy eye?



Refractive Surgery: Preoperative Care

Medical History

Obtain a complete medical history, including the following:

- Allergies and sensitivities
- Medications: Accutane® (present or past) – iLASIK is contraindicated for patients using Accutane® or Amiodarone
- Systemic diseases: diabetes, collagen vascular disease or other immune-compromised conditions are relative contraindications (may be okay if disease is well controlled. Please call us for clarification)
- Pregnancy and lactation are contraindications

Ocular History

Perform a complete ocular history, with special focus on the following:

- Existing and previous ophthalmic conditions (glaucoma, corneal dystrophy, dry-eye, etc.), previous ocular surgery or trauma, and previous history of herpes zoster and herpes simplex
- Stability of refraction – patient should be at least 21 years of age, and two refractions (one year apart) must be stable within 0.50D
- Contact lens history:
 - Soft lenses and soft toric lenses should be removed 7 days prior to refractive surgery consultation
 - Extended wear lenses should not be worn, as they increase risk of infection 15 times that over daily wear contact lenses.
 - Rigid or gas permeable lenses should be removed for one month plus one week for every decade worn (prior to testing and surgery)

If any corneal change or distortion is noted, it will be necessary to leave the lenses out for a longer period of time until measurements are stabilized.

Refraction

Complete a thorough manifest refraction (NWES will perform a cycloplegic refraction).

- Patients with BCVA less than 20/20 may need further evaluation. If the eyes appear normal, then consideration should be given to irregular astigmatism, keratoconus, or contact lens-induced corneal warpage. Patients with reduced BCVA preoperatively should be aware of the visual limitations after surgery.

Keratometry

Carefully evaluate patients whose keratometric values are outside the normal range of 40-47 diopters. Steep corneas may be suspect for keratoconus. Flatter corneas may suggest corneal disease.



Presbyopia

Discuss presbyopia. Determine ocular dominance and trial contact lenses if the patient is considering monovision.

Slit Lamp Examination

Perform a complete slit lamp examination, with special attention to:

- Cornea: Note signs of anterior/epithelial basement membrane dystrophy, and previous scars/opacities
- Lens: Patients with visually significant cataracts or early lenticular changes may consider cataract surgery or refractive lens exchange

Optic Nerve and Retinal Evaluation

Check for glaucomatous cupping. Refractive surgery may be performed on patients with glaucoma but special consideration may be necessary to avoid optic nerve damage or steroid response. Assess patient for retinal pathology, including macular disease and peripheral retinal pathology. The patient should understand the risk of retinal detachment does not decrease simply because the dependence on glasses decreases, particularly with axial myopia.

Emphasize that annual examinations by the primary eye care physician are still required.

Patient counseling by the co-managing optometric physician

After reviewing the benefits and limitations of a refractive procedure, discuss the following with the patient:

- Clinical findings and eye condition
- Refractive options based on refractive error and age
 - An explanation of presbyopia and monovision (if applicable)
 - Options of intraocular lens implants (if applicable)
- Reasonable expectations
 - The possible need for an enhancement after initial treatment
 - 3% enhancement rate with LASIK or PRK
 - Presbyopic patients will still need reading glasses after LASIK or PRK
 - With refractive IOL options, the goal is to decrease but not eliminate dependency on glasses
- The upcoming consultation with the surgeon at NWES
- How the postoperative care will be co-managed



Refractive Surgery: Consultation at NWES

During the consultation process, we take great care to ensure patients feel comfortable at our facility and with our physicians and staff. We are committed to provide your patients with a positive experience. Below are the steps we take in evaluating your patients for refractive surgery.

- The patient should expect to be in our office about 2 hours
- If you see the patient preoperatively and forward chart notes; we will include them in the chart when the patient arrives to see us
- WaveScan, corneal pentacam topography and optical pachymetry are performed
- The surgeon meets and examines the patient, determines the patient's candidacy, and recommends the best refractive procedure
- The patient is informed of what to expect before, during and after surgery
- The patient meets with the refractive surgery coordinator, who will:
 - Explain the co-management process, including options to receive follow up care with the surgeon or the referring OD
 - Discuss cost and payment options
 - Schedule the patient for surgery. If the patient does not schedule, the refractive surgery coordinator will ask the reason for not scheduling and/or follow up with the patient in the near future
 - Fax plans to your office after the consultation
 - Fax notes to your office after the 1-day postoperative visit



Refractive Surgery: Postoperative Medication

Custom IntraLase™ LASIK and LASIK Enhancements

Polytrim® or Ofloxacin – 1 drop qid

Loteprednol or Pred Forte® – 1 drop q2h for 4 days, then 1 drop qid for 1 week.

Restasis® – 1 drop bid; patients will begin taking one week before surgery, and continue for 3 months after surgery.

Refresh Plus® (or alternate **preservative-free** artificial vials)– 1 drop every 30-60 minutes for 2 weeks, then 1 drop every 2-4 hours the following two weeks. After the first month, use 1 drop qid as needed.

Custom PRK and PTK

Polytrim® or Ofloxacin –1 drop qid for the first 24 hours, then bid until epithelial defect resolves

Prolensa – 1 drop qd for 3 days

Lotemax® –

- 1 drop qid for 3 weeks, then
- 1 drop tid for 3 weeks, then
- 1 drop bid for 2 weeks, then
- 1 drop qd for 2 weeks.

Restasis® – 1 drop bid; patients will begin taking one week before surgery, and continue for 3 months after surgery.

Refresh Plus® (or alternate **preservative-free** artificial vials) – 1 drop every 30-60 minutes for 2 weeks, then 1 drop every 2-4 hours the following two weeks. After the first month, use 1 drop qid as needed.

Refractive Lens Exchange

“Less drops” with intracameral antibiotics and steroid

Prolensa or BromSite – 1 drop daily for 4-6 weeks

Refractive Phakic ICLs (Visian™ and Verisyse™)

“Less drops” with intracameral antibiotics

Pred Forte® – 1 drop qid for 3 weeks, then 1 drop bid for 2 weeks. Or Durezol bid for 2 weeks, then qd for 2 weeks

Prolensa or BromSite – 1 drop daily for 4-6 weeks



Refractive Surgery: Postoperative Care Follow-up Schedule

All patients are seen at NWES on the first postoperative day. Patients who choose to co-manage are transferred to the co-managing doctor for their next visit – usually at 4-7 days assuming the eye is stable. Typical postoperative visits are outlined below. Additional visits may occasionally be required depending on clinical features.

After completing each postoperative examination, we ask you to fax the exam form to Northwest Eye Surgeons. Proper communication, including follow-up and feedback will allow us to monitor your patient's status and help us ensure optimal results for your future patients.

Glossary of abbreviations used below:

UCVA: uncorrected visual acuity

MRx: manifest refraction

SLE: slit lamp exam

IOP: intraocular pressure

DFE: dilated fundus exam

*CRx: cycloplegic refraction (only if enhancement on a non-presbyopic patient is being considered)

iLASIK™

Day 1: UCVA, SLE (Performed at NWES)

Day 3-4: UCVA, MRx, SLE

Month 1: UCVA, MRx, SLE, IOP

Month 3: UCVA, MRx, SLE, IOP, *CRx

PRK / PTK

Day 1: UCVA, SLE (Performed at NWES)

Day 3-4: UCVA, SLE, Bandage contact lens removal*

*If there is still an epithelial defect, place another bandage contact lens on the eye and schedule patient for another follow-up in 2-3 days.

Month 1: UCVA, MRx, SLE, IOP

Month 3: UCVA, MRx, SLE, IOP, *CRx

Refractive Lens Exchange

Day 1: UCVA, SLE, IOP (Performed at NWES)

Week 1: UCVA, MRx, SLE, IOP, DFE

Month 1: UCVA, MRx, SLE, IOP

Month 3: UCVA, MRx, SLE, IOP, *CRx

Refractive Phakic ICLs (Visian™ & Verisyse™)

Day 1: UCVA, SLE, IOP (Performed at NWES)

Week 1: UCVA, MRx, SLE, IOP

Month 1: UCVA, MRx, SLE, IOP, DFE

Month 3: UCVA, MRx, SLE, IOP, *CRx



iLASIK: Postoperative Care

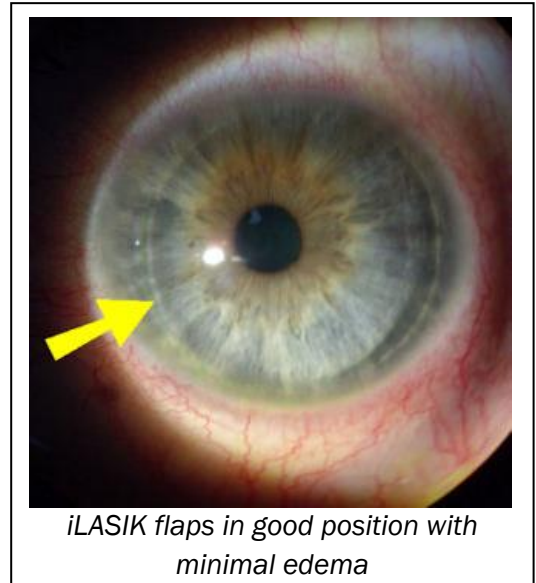
Day 1

Symptoms: The patient should feel comfortable. Mild subjective complaints of foreign body sensation, dryness, and “pressure” are common. Vision is typically good, but may fluctuate.

Visual Acuity: Uncorrected vision is commonly 20/40 or better.

SLE/Biomicroscopy: A clear flap with faint well-aligned edges will be visible. Trace interface opacities and flap edema can sometimes be seen. Any intra-lamellar inflammation should be noted and treated. Occasional trace microstriae may be present, especially in large corrections, but may not have visual significance. Subconjunctival hemorrhages are common at Day 1.

Management: Postoperative drops should be continued per protocol. Frequent artificial tear use is encouraged. Slipped flaps or excessive microstriae should be repositioned by the surgeon immediately. If present, diffuse lamellar keratitis (DLK) should be treated and followed closely.



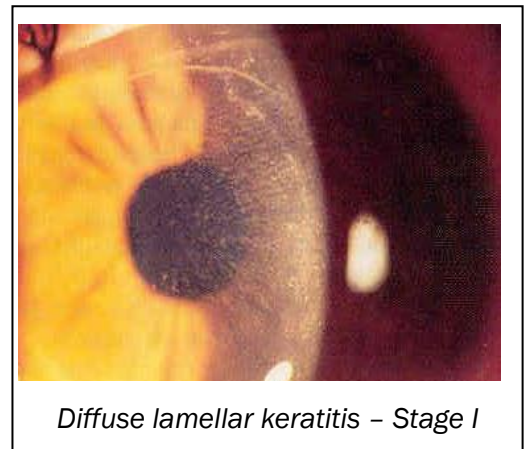
Day 3-4

Symptoms: Dryness with mild visual fluctuation is common.

Visual Acuity: Best corrected vision may not be fully recovered at this point. Night vision symptoms of haloes and glare are not uncommon.

SLE/Biomicroscopy: A clear flap with visible edges is expected. Interface opacities and microstriae should be unchanged from before. No inflammation or infiltrate should be present.

Management: Postoperative drops should be continued per protocol. Frequent artificial tear use is encouraged. Complications should be communicated and referred back to NWES. If present, diffuse lamellar keratitis (DLK) should be treated and followed closely.



Month 1

Symptoms: Dryness with mild visual fluctuation is common.

Visual Acuity: Best unaided acuity is typically achieved. A manifest refraction is performed.

SLE/Biomicroscopy: A clear flap with barely visible edges is expected. Interface opacities and inconsequential microstriae should be unchanged from before. A careful exam for epithelial ingrowth should be done.

Management: Artificial tear use is encouraged. Epithelial ingrowth should be monitored monthly. Any other complications should be referred back to NWES.



Month 3

Symptoms: Dryness is improved. Visual fluctuation is less.

Visual Acuity: A manifest refraction is performed. Night vision is improved. If a patient has a stable residual error, an enhancement may be considered.

SLE/Biomicroscopy: A clear flap with barely visible edges is expected. Epithelial ingrowth, if present, should be measured for stability.

Management: Artificial tear use is encouraged if symptomatic. Discontinue Restasis® if postoperative dryness has resolved. Refer patients considering an enhancement back to the surgeon.



Severe epithelial ingrowth

Please fax your completed exam notes to Northwest Eye Surgeons.



PRK/PTK: Postoperative Care

Day 1

Symptoms: The patient may feel mildly uncomfortable. Foreign body sensation, scratchiness, and vision fluctuation are common. Relieve discomfort with topical steroidal and nonsteroidal eye drops and occasionally with oral analgesic medications.

Visual Acuity: Uncorrected vision is typically 20/40 to 20/100. A manifest refraction would be difficult to perform and best-corrected visual acuity is limited at this point.

SLE/Biomicroscopy: A large circular epithelial defect and subconjunctival hemorrhages are expected findings. The bandage contact lens should fit well with minimal movement. Some mild stromal edema is typically present.

Management: Postoperative drops are continued per protocol. Frequent preservative free artificial tear use is encouraged. If an infiltrate develops, manage aggressively and report to the appropriate surgeon.

Day 3-4

Symptoms: Dryness with moderate visual fluctuation and the sensation of an old contact lens is common.

Visual Acuity: Uncorrected vision can range from 20/30 to 20/80.

SLE/Biomicroscopy: The epithelial defect may be closed, but small epithelial defects at this point are still common. Epithelial irregularity can be seen and correlates with the visual acuity.

Management: Remove the contact lens after the cornea is anesthetized. If the epithelial defect is closed, discontinue antibiotic drops. Continue other postoperative drops per protocol. Encourage artificial tear use. If the epithelial defect is not closed completely, place a new bandage lens, maintain the antibiotic drops and follow up again in 2-4 days.

Month 1

Symptoms: Dryness with mild visual fluctuation is common.

Visual Acuity: Best unaided acuity is typically achieved. Perform a manifest refraction.

SLE/Biomicroscopy: Smooth epithelium with trace to no anterior stromal haze is expected. Punctate epithelial keratopathy may be visible in patients with dry eyes.

Management: Encourage use of artificial tears, tailored to dryness level.

Month 3

Symptoms: Ocular dryness should be improved. Visual fluctuations and night vision complaints should be less.

Visual Acuity: Perform a manifest refraction. If a patient has a stable residual refractive error, consider an enhancement.

SLE/Biomicroscopy: A clear cornea with little to no anterior stromal haze is expected.

Management: Encourage artificial tear use if symptomatic. Stop Restasis® if minimal dry eye signs or symptoms. Refer patients suspected of requiring an enhancement back to NWES.

Please fax your completed exam notes to Northwest Eye Surgeons.



Refractive Phakic IOL: Postoperative Care

Day 1

Symptoms: The patient should be comfortable. Mild foreign body sensation is common and vision may fluctuate mildly. Halo complaints are common.

Visual Acuity: Uncorrected vision is typically 20/40 or better.

SLE/Biomicroscopy: Occasional mild corneal edema may be present. Anterior chamber reaction is minimal. Iridotomies are expected to remain patent and the AC deep. The IOL should be well centered and in good position. Temporal transilluminating iris defects may be present.

Management: Have patient continue postoperative drops per protocol and advise against eye rubbing.

Week 1

Symptoms: The eye should be comfortable, occasional foreign body sensation is not unusual. Halos may persist for several weeks after surgery.

Visual Acuity: Uncorrected vision is typically 20/30 or better.

SLE/Biomicroscopy: The cornea should be clear. Expect the anterior chamber to have a trace amount of inflammation. The IOL should be in good position.

Management: Continue postoperative drops per protocol.

Month 1

Symptoms: The eye should be comfortable.

Visual Acuity: Perform a manifest refraction.

SLE/Biomicroscopy: Expect the eye to be “white” and quiet with a well-positioned IOL. Any stitches used may be removed (the patient can also be referred back to NWES for suture removal.)

Management: Prescribe reading or night-driving glasses, if needed.

Month 3

Symptoms: The eye should be comfortable.

Visual Acuity: Perform a manifest refraction. If the patient has a stable residual refractive error, consider a refractive enhancement (at no additional charge) after at least 3 months.

SLE/Biomicroscopy: Expect the eye to be comfortable and quiet with a well-positioned IOL.

Management: Patients considering an enhancement should be referred back to NWES.

Please fax your completed exam notes to Northwest Eye Surgeons.



Refractive Surgery: Enhancements

Enhancements are an important part of the refractive surgical care provided at NWES. All efforts are made to achieve the desired results after a single surgery. However, if the desired refractive outcome is not achieved, if regression has occurred, or if the refractive goals need to be adjusted (e.g. in monovision), enhancement surgery may be needed.

When to Enhance

Several factors are considered when determining whether a patient is a candidate for an enhancement. Prior to surgery, we review and discuss expectations and visual goals to prepare the patient for realistic postoperative expectations. Ideally, monovision patients undergo a contact lens trial prior to surgery. After surgery, enhancements will be considered after a minimum of three months postoperative or once the refraction has stabilized.

Criteria

After the patient has reached refractive stability, the following guidelines will be considered for enhancements:

1. Patient's reasonable goals not met
2. Uncorrected visual acuity \leq 20/40
3. Significant anisometropia

An enhancement evaluation is similar to the initial refractive evaluation. The same preoperative measurements are performed (including wavefront analysis), with an emphasis on refractive stability. The patient meets with the surgeon and a refractive plan is created. If an enhancement surgery is needed, the same care and treatment is provided as during the initial procedure.



Our Doctors



Aaron Kuzin, M.D.

Aaron Kuzin, MD, joined Northwest Eye Surgeons in 2009. His practice focuses on cataract, pterygium, diabetic and other retinal diseases, with special emphasis on diagnosis and treatment of glaucoma.

Dr. Kuzin is certified by the American Board of Ophthalmology and fluent in Spanish and Portuguese. He enjoys spending time with his wife and two children, exploring the outdoors, hiking, and traveling.



Alana Curatola, O.D.

Alana Curatola, OD joined Northwest Eye Surgeons in 2017. She is passionate about collaborate health care and provides pre- and postoperative as well as medical eye care within the Seattle and Renton clinics.

Dr. Curatola grew up in Orange County, CA before relocating to the Seattle area with her husband. In her free time, she enjoys family time, hanging out with her two dogs, hiking, traveling, cooking, camping, snowboarding, home décor, crafting and watching football on Sunday.



Audrey Talley Rostov, M.D.

Audrey Talley Rostov, MD, joined Northwest Eye Surgeons in 1995. She is certified by the American Board of Ophthalmology in the fields of cataract, cornea and refractive surgery.

She enjoys snowboarding, swimming, running, cycling and spending time with her family. Dr. Talley Rostov is a SightLife global partner (www.sightlife.org).



Brett Bence, O.D., FAAO

Brett Bence, OD, joined Northwest Eye Surgeons in 1988, becoming a partner in 2003. He provides medical ocular consultations and treatment, pre- and postoperative patient care, and facilitates continuing medical education programs.

His professional administrative commitments include being an officer of the American Academy of Optometry and past president of the Optometric Physicians of Washington. He enjoys exploring Pacific Northwest trails, biographies on US presidents, and working vacations on the Nebraska family farm.





Britta Hansen, O.D., FAAO

Britta Hansen, OD, joined Northwest Eye Surgeons in 2012. She provides postoperative and medical care at the Smokey Point, Mount Vernon and Bellingham offices.

Dr. Hansen enjoys the outdoors, including camping, hiking and mountain biking. She grew up in Minnesota, where she still visits family, kayaks on the lakes, and goes snow shoeing.



Bruce Cameron, M.D.

Bruce D. Cameron, MD, joined Northwest Eye Surgeons in 2001. His areas of expertise include glaucoma diagnosis and treatment. He also specializes in cataract, refractive and lens implant surgery.

Dr. Cameron is a Diplomat of the American Board of Ophthalmology. In his spare time, he enjoys cycling, skiing, scuba diving, traveling and exploring the Pacific Northwest.



Davina Kuhnline, O.D.

Davina Kuhnline, OD, joined Northwest Eye Surgeons in 2013. She provides postoperative and medical care at the Sequim office. She is excited to be a participating member of the community in Sequim and the NWES team.

Dr. Kuhnline enjoys hiking, camping, scuba diving, and traveling with her husband.



Ingrid Carlson, M.D.

Ingrid Carlson, MD, joined Northwest Eye Surgeons in 2015 as a specialist in pediatric ophthalmology and adult strabismus. She is a Diplomat of the American Board of Ophthalmology.

Dr. Carlson finds fun in scuba diving, pottery and wilderness hiking, as well as, discovering the Northwest with her two dogs.





Joshua Clermont, O.D.

Joshua Clermont, OD, joined Northwest Eye Surgeons in 2017. He provides postoperative and medical care within the Seattle clinic.

Dr. Clermont is originally from Green Bay, WI and currently lives in Seattle with his wife. He enjoys golfing, snowboarding, traveling, playing the guitar, and watching the Green Bay Packers on Sundays.



Justin Wright, O.D.

Justin Wright, OD joined the clinical staff at Northwest Eye Surgeons in July 2013. He performs pre- and postoperative care and manages ocular disease, including pediatric patients with strabismus and other ocular disorders. He practices in both the Mount Vernon and the Bellingham offices.

Dr. Wright enjoys dating his wife, playing with his kids, skiing, drawing, and both performing and listening to music.



Kristi Bailey, M.D.

Kristi Bailey, MD, joined Northwest Eye Surgeons in 2006. Her practice is focused primarily on the treatment of cataract and medical retinal disorders.

Dr. Bailey is certified by the American Board of Ophthalmology. She enjoys biking, hiking, dance and theatre arts, and spending time with her family.



Landon Jones, O.D., FAAO

Landon Jones, OD, joined the Northwest Eye Surgeons team in 2008. He provides postoperative and medical care within the Seattle and Renton clinics.

In his free time, Dr. Jones enjoys bicycling and running at Green Lake. He sings barbershop quartet and has recently discovered an interest in opera. He also enjoys visits to Southwest Iowa where he can be found eating at the family diner.





Matthew Niemeyer, M.D.

Matthew Niemeyer, MD, joined Northwest Eye Surgeons in 2007. He is certified by the American Board of Ophthalmology and has training and experience with many types of patients including cataract, glaucoma, diabetic retinopathy and other retinal disorders, pterygium and oculoplastics.

Dr. Niemeyer's practice is focused primarily on the treatment of cataract and glaucoma. When not spending time with his wife and children, he enjoys building furniture, hiking, and sailing.



Paul Griggs, M.D.

Paul Griggs joined Northwest Eye Surgeons in 2013. His practice is focused on the management of medical and surgical disorders of the retina and vitreous. Particular areas of interest include age-related macular degeneration, diabetic retinopathy, retinal detachment, and uveitis. He is certified by the American Board of Ophthalmology.

When not working, he enjoys spending time with his family.



Richard Lee, O.D.

Richard Lee, OD joined the professional staff of Northwest Eye Surgeons in 2013. He has worked extensively in the co-management and care of patients with complex vitreoretinal disorders since 2001.

Dr. Lee proudly serves as an officer in the US Air Force Reserves and also participates in humanitarian missions at home and abroad. He enjoys traveling with his family, skiing, and a healthy exercise regimen.



Stacey Keppol, O.D., FAAO

Stacey Keppol, OD joined the Northwest Eye Surgeons team in 2018. She provides pre- and postoperative care, as well as medical eye care at our Seattle and Renton locations.

Dr. Keppol was born and raised in Philadelphia, Pennsylvania, and enjoys taking advantage of the outdoor recreation offered in the Pacific Northwest. Her interests include volunteering, travel, hiking dance, and watching college basketball.





Stephanie Stamoolis, O.D.

Stephanie Stamoolis, OD joined Northwest Eye Surgeons in 2015. She provides medical ocular consultations and treatment and pre- and postoperative care. She is a graduate of the University of California, Berkeley School of Optometry.

Dr. Stamoolis and her husband enjoy hiking, backpacking, fishing and kayaking with their son and two dogs, Olive and Lotus.



Susan Liu Hoki, M.D.

Susan Liu Hoki, MD, joined Northwest Eye Surgeons in 2008. She is certified by the American Board of Ophthalmology and trained to treat various types of eye problems including cataract, pterygium, oculoplastics, diabetic and other retinal diseases, and glaucoma.

Dr. Hoki is fluent in conversational Mandarin Chinese. She enjoys the beautiful outdoors, playing sports, cooking and spending time with her family.



Thomas Osgood, M.D.

Thomas Osgood, MD joined Northwest Eye Surgeons in 2013. The primary focus of his practice is refractive cataract surgery with astigmatism and presbyopia correcting intraocular lenses. He is certified by the American Board of Ophthalmology.

Dr. Osgood enjoys hiking, skiing, kayaking, fly fishing and woodworking. He enjoys spending time with his family and exploring the Northwest with them.



Victor Chin, M.D.

Victor Chin, MD, joined Northwest Eye Surgeons in 2012. He is a fully Board Certified ophthalmologist specializing in advanced technology lens and cataract surgery.

In his spare time, he enjoys hiking, snowboarding, and exploring the outdoors. He also has a passion for great food and trying out new restaurants and recipes.





Werner Cadera, M.D.

Werner Cadera, MD, joined Northwest Eye Surgeons in 1992. He is a specialist in pediatric ophthalmology, strabismus, eyelid and cosmetic laser surgery, and Botox.

Dr. Cadera is board certified both in the US and abroad as a Fellow with the Royal College of Physicians and Surgeons of Canada. He is also a Diplomat of the American Board of Ophthalmology. He loves the Northwest and enjoys hiking, fishing and the theatre.

