



NORTHWEST EYE SURGEONS

# Northwest Eye Surgeons Postoperative Co-Management Manual

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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

332 NE Northgate Way  
 Seattle, WA 98125  
 Ph. 206-528-6000  
 Ph. 800-826-4631  
 Fax 206-528-0014

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

795 N 5th Ave  
 Sequim, WA 98382  
 Ph. 360-428-2020  
 Fax 360-683-2320

1306 Roosevelt Ave  
 Mount Vernon, WA 98273  
 Ph. 360-683-2010  
 Fax 360-428-6918

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

Whatcom Eye Surgeons  
 A Division of Northwest Eye Surgeons of Seattle  
 2075 Barkley Blvd #205  
 Bellingham, WA 98226  
 Ph. 360-676-6233  
 Fax 360-676-6298

**Please direct any co-management questions to one of the following:**

Brett G. Bence O.D., FAAO  
Director of Optometry

Email: [bbence@nweyes.com](mailto:bbence@nweyes.com)

Emily A. Bucher, O.D., FAAO  
(Seattle office)

Email: [ebucher@nweyes.com](mailto:ebucher@nweyes.com)

Lauren E. Bobick, O.D., FAAO  
(Bellingham and Mount Vernon offices)

Email: [lbobick@nweyes.com](mailto:lbobick@nweyes.com)

Carl Ekman, O.D.  
(Bellingham and Mount Vernon offices)

Email: [cekman@nweyes.com](mailto:cekman@nweyes.com)

Emily R. Freeman, O.D., M.S., FAAO  
(Bellingham and Mount Vernon offices)

Email: [efreeman@whatcomeyes.com](mailto:efreeman@whatcomeyes.com)

Leigh M. Gongaware, O.D., M.S.  
(Bellingham and Mount Vernon offices)

Email: [lgongaware@whatcomeyes.com](mailto:lgongaware@whatcomeyes.com)

Sarah P. Henderson, O.D.  
(Seattle office)

Email: [shenderson@nweyes.com](mailto:shenderson@nweyes.com)

Landon J. Jones, O.D., FAAO  
(Seattle office)

Email: [ljones@nweyes.com](mailto:ljones@nweyes.com)

Stacey M. Keppol, O.D., FAAO  
(Seattle office)

Email: [skeppol@nweyes.com](mailto:skeppol@nweyes.com)

Katie J. Ker, O.D.  
(Renton office)

Email: [kker@nweyes.com](mailto:kker@nweyes.com)

Davina S. Kuhnline, O.D.  
(Sequim office)

Email: [dkuhnline@nweyes.com](mailto:dkuhnline@nweyes.com)

Rich C. Lee, O.D., FAAO  
(Seattle and Renton offices)

Email: [richard.lee@nweyes.com](mailto:richard.lee@nweyes.com)

Ali S. Mainayar, O.D.  
(Renton office)

Email: [amainayar@nweyes.com](mailto:amainayar@nweyes.com)

Richard Martin, O.D.  
(Renton office)

Email: [rmartin@nweyes.com](mailto:rmartin@nweyes.com)

Sarah E. Sandhaus, O.D., FAAO  
(Renton office)

Email: [ssandhaus@nweyes.com](mailto:ssandhaus@nweyes.com)

Kerri C. Svanda, O.D.  
(Seattle office)

Email: [ksvanda@nweyes.com](mailto:ksvanda@nweyes.com)

Kirk Thompson, O.D.  
(Sequim office)

Email: [kthompson@nweyes.com](mailto:kthompson@nweyes.com)

Justin L. Wright, O.D.  
(Bellingham and Mount Vernon offices)

Email: [jwright@whatcomeyes.com](mailto:jwright@whatcomeyes.com)

Shikha Yadav, O.D., FAAO  
(Seattle office)

Email: [syadav@nweyes.com](mailto:syadav@nweyes.com)

Jeffrey Young, O.D.  
(Bellingham and Mount Vernon offices)

Email: [jyoung@nweyes.com](mailto:jyoung@nweyes.com)

# The Essentials of Cooperative Co-Management

## THE TEAM APPROACH

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

Post-surgical co-management is commonplace 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 is 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 to achieve surgical results that meet and exceed expectations.

For cataract surgery, we offer patient-centered vision improvement options and intraocular lens (IOL) choices, including aspheric monofocal IOLs, astigmatic correcting and advanced technology multifocal 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 have an extensive refractive program. We are offering SMILE, a flapless, minimally invasive procedure using the VisuMax laser. Our iLASIK system 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 SMILE, iLASIK or PRK, we also implant 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 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 medical and surgical practice in the Northwest, providing the most technologically advanced 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, we emphasize the importance of continued primary eye care in your office and that this 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 if indicated by the surgeon and acceptable to the patient.
- 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 a 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 and requests to have their postoperative care co-managed, 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.*

## OD-MD Partnership Dynamics

Northwest Eye Surgeons is a pioneer in the area of co-management of post-surgical patients. We practice with a team approach in order to provide comprehensive patient care, while increasing access to surgical care for our patients. In this team practice model, each ophthalmologist works alongside optometric physicians in a partnership to manage disease and provide pre/postoperative care. This relationship between our ophthalmologists and our optometric physicians establishes a productive, efficient, and comprehensive practice for each specialty. Incorporating optometric physicians into each surgical team improves coordination and communication of care between the specialty and the referring optometric physician communities.

# Cataract Surgery with Vision Correction

Advanced technology, improved surgical technique and informed patients, have increased patient expectations for cataract surgery outcomes. Our surgeons incorporate femtosecond laser technology into 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, intermediate, or Near. (These patients will receive either an aspheric monofocal IOL, with or without a LRI [limbal relaxing incision], 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 receive an extended depth of focus, multifocal, or accommodative lens implant.) While cataract surgery is an insurance-covered benefit, Vision Correction may not be considered “medically necessary,” and therefore is typically not 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 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 predetermined 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 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, optometric physicians, 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 vision at all distances. We find it especially helpful to discuss glasses with these patients at the 1-day, 1-week and 1-month 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 that other focal lengths 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 sutureless technique, in most cases.

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 aid in determining the most accurate IOL power and alignment of the axis. This measurement is compared during surgery with pre-surgical calculations to determine the IOL that will deliver the optimal visual outcome.

# Cataract Surgery: Postoperative Medication

(Per surgeon's preference)

Topical antibiotic recommendations (in most cases):

- Ofloxacin 0.3% oph sol: one drop QID for 1 week
- or, Gatifloxacin 0.5% oph sol: one drop QID for 1 week

Topical corticosteroid recommendation (in most cases):

- Prednisolone acetate 1.0% oph susp: one drop QID for 3 weeks, then BID for 1 week
- or, Lotemax 0.5% oph susp: one drop BID for 4 weeks

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

- Ketorolac oph sol (0.4% or 0.5%): one drop QID for 4 weeks
- or, Prolensa 0.07%: one drop QD for 4 weeks

## Dropless Postoperative Care

Some patients may prefer a “dropless” or “less drops” option. In these cases, patients will typically be offered an injection of intravitreal Tri-Moxi (Triamcinolone and Moxifloxacin) in lieu of the above protocol. Some of our surgeons may prescribe a topical NSAID (not suitable for injection) for prevention of pseudophakic CME. These patients are advised that they will notice an increase in floaters or immediate po blur, which will subside as the medication is cleared in a few days. They are also advised that they may need additional topical drops, depending on their healing response.

### **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 other factors. Prolonged use of corticosteroids may be indicated in patients with persistent, or recurrent, postoperative anterior segment inflammation.
- c) NSAIDs inhibit prostaglandins, lowering the risk of intraocular inflammation and pseudophakic macular edema. NSAIDs are particularly beneficial for high risk patients with diabetes, complicated surgeries, interface retinal disorders (e.g. ERMs, vitreo-macular adhesion), past intraocular surgery or inflammation, older patients, and others.



# 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. 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. This most likely occurs after the 1-day postoperative visit. 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 90<sup>th</sup> 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 reported 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' surgical outcomes, as data are compiled and tabulated per surgeon.

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

- Lifestyle complaint for the 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, SLE, IOP

Consider posterior segment evaluation and examination for CME if vision decreased

# Cataract Surgery with iStent: Postoperative Care Follow-up Schedule

Patients are seen at Northwest Eye Surgeons on the first postoperative day in most cases. 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. This most likely occurs after the 1-day postoperative visit. 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 90<sup>th</sup> 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 reported 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' surgical outcomes, as data are compiled and tabulated per surgeon.

Note: we recommend keeping patients on all of their current IOP lowering medications until the 1 month visit to help mitigate risk of steroid-induced IOP response.

## Day 1 visit

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

\*\*it is not uncommon to see slightly greater AC reaction and/or microhyphema in patients with iStents

## Week 1 visit

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

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

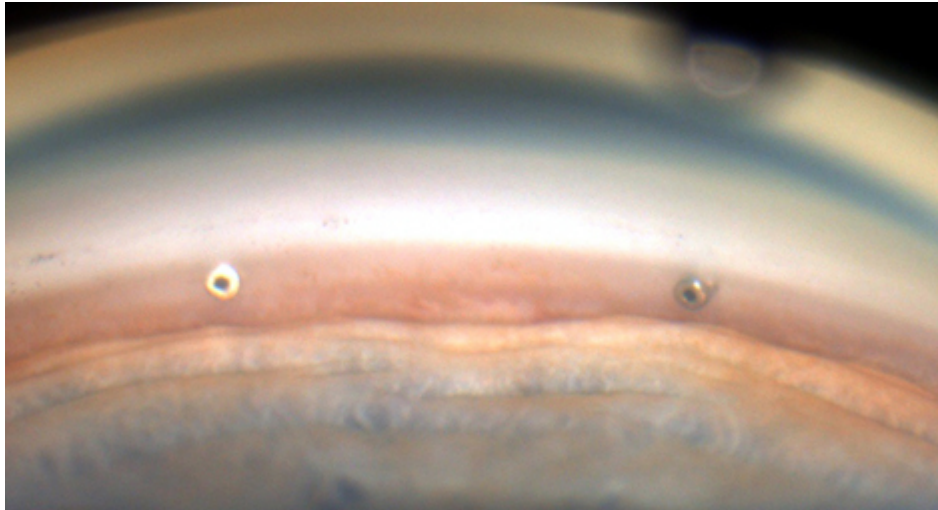
- Lifestyle complaint for the second eye (how do glare and blur affect activities of daily living?)
- Post-op manifest refraction of first surgical eye

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

## Month 1

Tests: UCVA, MRx, SLE, IOP, gonioscopy\*\*

\*\*Please check for proper placement of iStents using gonioscopy. iStents will be located nasally, approximately 2-3 clock hours apart, within the trabecular meshwork



Consider posterior segment evaluation and examination for CME if vision decreased

## Standalone iStent (iStent Infinite): Postoperative Care Follow-up Schedule

Patients are seen at Northwest Eye Surgeons on the first postoperative day in most cases. 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. This most likely occurs after the 1-day postoperative visit. 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 90<sup>th</sup> 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 reported 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' surgical outcomes, as data are compiled and tabulated per surgeon.

Note: we recommend keeping patient on all of their current IOP lowering medications until the 1 month visit to help mitigate risk of steroid response.

**Day 1 visit**

Tests: VA, SLE (wound secure, corneal edema, AC cell and depth\*\*, other notable findings), IOP

\*\*it is not uncommon to see slightly greater AC reaction and/or microhyphema in patients with iStents

**Week 1 visit**

Tests: VA, MRx (if VA decreased from baseline), SLE (note above), IOP, DFE

**Month 1**

Tests: VA, MRx (if VA decreased from baseline), SLE, IOP, gonioscopy\*\*

\*\*Please check for proper placement of iStents using gonioscopy. iStents (3) will be located nasally, approximately 2-3 clock hours apart, within the trabecular meshwork

# 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 depending on corneal edema, pupil size, uncorrected astigmatism, and target 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 presence of hyphema or microhyphema), wound status (secure, no Seidel), IOL centration and posterior capsule 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.

IOP: Intraocular pressure may be elevated in the immediate postoperative period, due to presence of viscoelastic in the anterior chamber. If pressure exceeds 30mmHg, or greater than 10mmHg above baseline, you may consider the short term addition of topical ocular hypotensives. If pressure exceeds 40mmHg, you may consider oral acetazolamide 250mg BID-QID if not contraindicated.

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 postoperative 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

anterior chamber 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 5+ 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.



Performing a dilated fundus exam is strongly encouraged at the 1-week postoperative visit for several reasons. Dilation will provide a better view of IOL centration, status of lens capsule, and evaluation of toric IOL axis. In addition, it provides 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.

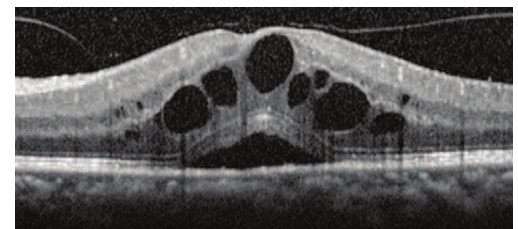
Plan: If your patient's condition is stable, continue the post-op medications per protocol. The patient can usually return to normal activity.

### **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, anterior chamber quiet and deep, IOL centered, and post-op refraction should be stable with good acuity.

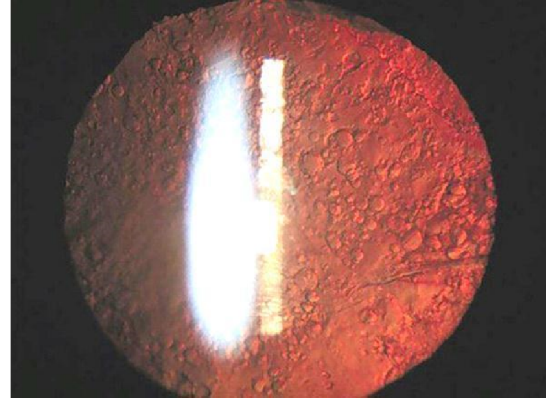
Cystoid macular edema, while rare if the patient is compliant with topical NSAIDs and corticosteroids, may be detected 3+ weeks post-op, necessitating a resumption of topical steroids and NSAIDs (if discontinued) and consulting NWES.

Plan: If stable, refractive decisions can usually be made at this time, and glasses or contact lenses can be prescribed at your discretion. Patients can resume their normal comprehensive eye care schedule, with the next appointment being in one year, unless otherwise indicated.



### 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 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. One week refractive error status is particularly useful in preparation for the patient's second surgery.

**Please fax your completed exam notes to Northwest Eye Surgeons.**



# Vision Correction 1: Aspheric Monofocal IOL with/without 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 cylinder), SLE (see Day 1 note above), IOP, DFE.

If visually significant cylinder exists, send patient to surgeon 2-3 weeks post-op for opening of LRIs.

Once both eyes have been completed, measure monocular UCVA.

If contralateral 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 cylinder), 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 toricity, 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, advanced glaucoma, etc.) the monofocal IOL is usually the best option. In certain patient cases with this type of ocular pathology, Vision Correction 1 may still be indicated with monofocal lenses. 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

## **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, if a distance target is desired. 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.

Visually significant IOL rotation, or a lens that is off axis by 10 degrees or more, should be corrected within about a two month window of time. Typically, correction is made by rotating the IOL in the capsular bag. Please alert NWES promptly with a phone call if IOL rotation is observed.

## 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 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 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 cylinder), 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 postoperative period. CME is most easily detected with OCT testing.

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.**

# Vision Correction 2:

## Multifocal IOL Postoperative Care

### **Multifocal IOL**

This IOL is used for distance and near vision, with variable intermediate vision. The best candidates can tolerate some glare and halos at night. Macular disease is a contraindication to implanting these lenses as there is often decreased contrast sensitivity. It is best to avoid these lenses 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. For example, extended depth of focus (EDOF) lenses allow patients to have good distance and intermediate vision, with variable near vision.

Best results with multifocal lenses are achieved after both eyes are implanted, and after neuroadaptation has had time to occur, roughly 4-6 months.

### 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 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.**

# 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 or multifocal toric) 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 within a few weeks of initial surgery 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 IOL exchange, photorefractive keratectomy (PRK) laser treatment, femtosecond laser-assisted astigmatic keratometry (AK) 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. If you have a Vision Correction patient with a visual complaint, please have them return to NWES or Whatcom Eye Surgeons to discuss further treatment options. If you are not sure you should discuss enhancements or send the patient back, please reach out to any of our providers.

- For VC1 patients, this generally refers to 20/30 vision at either near or distance.
- For VC2 patients with a multifocal IOL, generally 20/30 at both distance, intermediate and/or near.\*

## **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 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 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-Northgate	206-528-6000
Sequim	360-683-2010
Smokey Point	360-658-6224

# Refractive Surgery: Procedures

## **SMILE (Small Incision Lenticule Extraction)**

What makes SMILE unique is that it's an all-femtosecond, one step, one laser refractive procedure. The only laser currently able and approved to perform SMILE is the VisuMax™ femtosecond laser. The surgeon uses this laser to create a small, lens-shaped bit of tissue (lenticule) within the cornea. Then, with the same laser, a small arc-shaped incision is made in the surface of the cornea, and the surgeon extracts the lenticule through this incision and discards it. With the tiny lenticule removed, the shape of the cornea is altered, correcting nearsightedness and astigmatism. The corneal incision heals within a few days without stitches, and sharper vision occurs very quickly. Since there is no cornea flap, there is less disturbance to the corneal nerves and therefore less dryness after SMILE and more corneal stability.

## **LASIK**

Instead of a metal blade, we use the VisuMax laser/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 WaveLight EX500 excimer laser, which utilizes Wavefront optimized or Contoura topography-guided technology to create a map of the unique aspects of the eye, and to reshape the cornea. The flap goes back into place and rapid healing begins immediately.

## **Advanced Surface Ablation (PRK or PTK)**

Advanced surface ablation is where no stromal flap is created. We use Wavefront optimized or Contoura topography guided 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. As of July 2023 we are using the STAAR Surgical® EVO ICL™.

## **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, toric, and extended depth of focus IOLs, an 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)
- 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 two weeks 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, 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. Consider Refractive lens exchange if the patient is >3D hyperopic or over the age of 55.

### 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 SMILE, 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 for 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.
- Topolyzer, corneal Pentacam Tomography, pachymetry, epithelial thickness mapping are performed
- The surgeon, or optometrist team member, meets and examines the patient, determines the patient's candidacy, and recommends the best refractive procedure. The surgeon will always meet with the patient prior to performing surgery.
- 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 NWES 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

## SMILE

1. Polytrim/Ofloxacin + Pred Forte or Imprimis Pred-Moxi combo - 1 drop every 2 hours while awake for 4 days, then QID for 10 days.
2. Cyclosporine or Imprimis Klarity C - 1 drop BID; patients may begin taking one week before surgery, and continue for 1-3 months after surgery.
3. Imprimis Klarity PF or alternate **preservative-free** artificial tears - 1 drop BID-QID 1 week prior to surgery, then 1 drop every 30-60 minutes for one month post surgery.

## LASIK and LASIK Enhancements

1. Polytrim/Ofloxacin + Pred Forte or Imprimis Pred-Moxi combo - 1 drop QID for 14 days.
2. Cyclosporine or Imprimis Klarity C - 1 drop BID; patients may begin taking one week before surgery, and continue for 1-3 months after surgery.
3. Imprimis Klarity PF or alternate **preservative-free** artificial tears -1 drop BID-QID 1 week prior to surgery, then 1 drop every 30-60 minutes for one month post surgery.

## Custom PRK or PTK

1. Polytrim<sup>®</sup> or Ofloxacin - 1 drop QID until epithelial defect resolves
2. Prolensa(Optional) - 1 drop qd for 3 days
3. FML or Lotemax<sup>®</sup> or Prednisolone Acetate:
  - 1 drop QID for 3 weeks, then
  - 1 drop TID for 2 weeks, then
  - 1 drop BID for 2 weeks, then
  - 1 drop QD for 1 week.
4. Imprimis Klarity PF or alternate **preservative-free** artificial tear vials - 1 drop every 30-60 minutes for one month.
5. Oral Vitamin C tablets 1000mg daily for 1-2 months post surgery.

If previous corneal surgery: oral Prednisone tablets 40mg daily for 5 days, starting day of surgery.

## Refractive Lens Exchange

“Less drops” with intracameral antibiotics and steroid

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

## Refractive Phakic ICL (Visian<sup>™</sup> EVO ICL)

1. Ofloxacin QID X 1 week.
2. Prednisolone Acetate - 1 drop QID for 1 week, then TID for 1 week, then BID for 1 week, then once daily for 1 week, then stop.
3. Prolensa or BromSite - 1 drop daily for 4 weeks

OR

1. Imprimis Pred-Moxi-Brom Combo with same steroid taper as above for 4 weeks.

Preservative Free Tears 2-4 times a day for 1 month



# Refractive Surgery: Postoperative Care Follow-up Schedule

All patients are seen at NWES on the first postoperative day for SMILE, LASIK and PRK, and may be seen at day 4 for SMILE. Patients who choose to co-manage are then transferred to the co-managing doctor for their next visit – usually at 7-14 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)

SMILE or LASIK™

Day 1: UCVA, SLE (Performed at NWES)

Week 1: UCVA, MRx, SLE, IOP

Month 1: UCVA, MRx, SLE, IOP

Month 3: UCVA, MRx, SLE, IOP, \*CRx, corneal topography if VA worse than 20/25

\*We suggest waiting until 6 months before proceeding with enhancement s/p SMILE

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

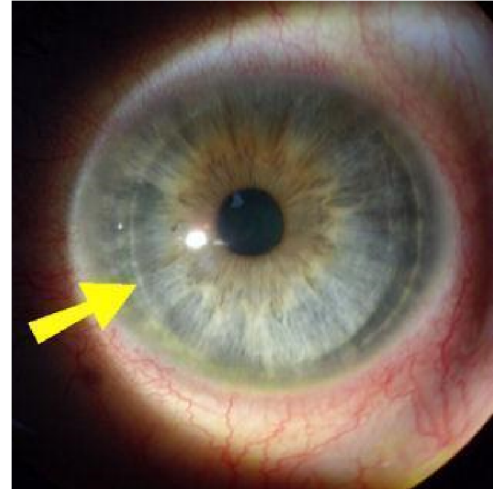
Refractive Phakic ICLs (Visian EVO ICL)

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

# LASIK: Postoperative Care

## Day 1

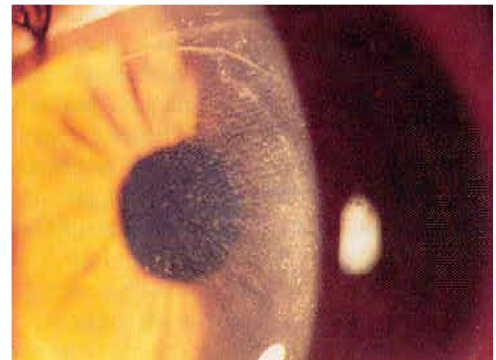
**Symptoms:** The patient should feel comfortable. Mild subjective complaints of foreign body sensation, dryness, and photophobia and epiphora are common. Vision is typically good, but may fluctuate. Visual Acuity: Uncorrected vision is commonly 20/40 or better. SLE/Biomicroscopy: A clear flap with faint 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. Our typical regimen for DLK is oral prednisone 40mg daily for 5 days. Can also consider switching to Durezol with every 2 hours drop schedule.

## Day 5-7

**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 halos 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. The patient may return to normal activities after 1 week.

## 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

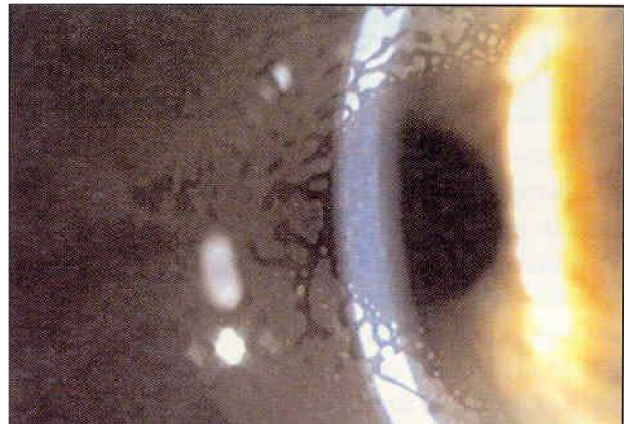
Symptoms: Dryness is improved. Visual fluctuation is less.

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®/Xiidra®/Cequa® if postoperative dryness has resolved. Refer patients considering an enhancement back to the surgeon.



**Please fax your completed exam notes to Northwest Eye Surgeons.**

# SMILE: Postoperative Care

## Day 1

**Symptoms:** The patient should be comfortable. Mild subjective complaints of dryness, foreign body sensation, and “tiredness” are common. Vision is typically adequate, but not clear.

**Visual Acuity:** Uncorrected vision may range from 20/20 to 20/50, and may fluctuate.

**SLE/Biomicroscopy:** A small incision should be visible in the 12 o’clock position, which may have rough edges or a small adjacent epithelial defect. The surgeon may place a bandage contact lens (BCL) the day of surgery if the incision has a large adjacent epithelial defect. The bandage lens is typically removed during the 1 day post op. Some interface edema may be seen.

**Subconjunctival hemorrhages** are common. **Management:** Postoperative drops should be continued per protocol. Frequent artificial tear use is encouraged. If present, diffuse lamellar keratitis (DLK) should be treated and followed closely. Our typical regimen for DLK is oral prednisone 40mg daily for 5 days. Can also consider switching to Durezol with every 2 hours drop schedule. Patients who have an epithelial defect after LASIK or SMILE have an increased risk of DLK.

## Day 5-7

**Symptoms:** These may be similar to day 1. Patients may have complaints of unstable near vision.

**Visual Acuity:** Best corrected vision may not be recovered at this point. Reports of halos and glare are common.

**SLE/Biomicroscopy:** The incision site should have clearly defined edges. Interface edema may be improving, but appearance should be otherwise similar to day 1. **Management:** Observe closely for signs of DLK, and treat any that is noted. The patient may return to normal activities after 1 week.

## Month 1

**Symptoms:** Visual fluctuations, especially at near, or those associated with dryness are common.

**Visual Acuity:** Visual acuity should be recovered, although very large corrections may take up to 6 months to stabilize.

**SLE/Biomicroscopy:** A clear, well healed incision should be visible at the 12 o’clock position. Observe closely for signs of epithelial ingrowth.

**Management:** Epithelial ingrowth should be monitored monthly, and any cases that are resulting in visual distortions or uncorrected astigmatism should be referred back to the surgeon. May discontinue Restasis/Xiidra/Cequa if asymptomatic.

### Month 3

Symptoms: Dryness is improved. Visual fluctuation is less.

Visual Acuity: A manifest refraction is performed. Night vision is improved. SLE/Biomicroscopy: A clear incision should be barely visible at the 12 o'clock position. Management: Refer patients considering an enhancement back to the surgeon. If a patient has a stable residual error, an enhancement may be considered 4-6 months post operatively.

**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, photophobia and epiphora 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 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.**

# EVO ICL: 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 for the first month. Visual Acuity: Uncorrected vision is typically 20/40 or better.

SLE/Biomicroscopy: Occasional mild corneal edema may be present. Anterior chamber reaction is minimal. The ICL should be well centered, in good position with adequate vault.

Management: Have the 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 ICL should be in good position and toric markings (if present) should be noted in the chart after dilated eye exam. 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 ICL.

## 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 ICL.

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

**Please fax your completed exam notes to Northwest Eye Surgeons.**



# Refractive Lens Exchange (RLE)

Refractive lens exchange is ideal for patients aged 50-55+ who are fully experiencing presbyopia, and have a significant enough distance prescription to appreciate improved unaided distance acuity. These patients should not have a visually significant cataract, and should reasonably expect to wear glasses for some activities post operatively. Much like cataract surgery with vision correction, the ideal outcome from RLE is to improve unaided acuities, but not completely eliminate the need for glasses or contact lenses completely. Caution should be taken when considering a myopic patient, who is not experiencing the need for reading glasses.

Patients choosing RLE have the choice between a monofocal IOL, a multifocal or EDOF IOL, or the light adjustable lens. The best lens choice will be chosen based on the patient's ocular health, refractive status, and ultimate vision goals. Best vision after RLE can sometimes take a few months, due to neuroadaptation to the lens chosen.

RLE Post Operative Care is very similar to cataract surgery:

## 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 eye is also having surgery, please fax the following data with your 1-week report to our surgery coordinators:

- 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 3

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.**

# 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. For patients post SMILE, we typically recommend an enhancement after 4-6 months.

## 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.



## [Agnes Huang, MD, MSEE](#)

Agnes Huang, MD joined Northwest Eye Surgeons in 2020. She is a Diplomate of the American Board of Ophthalmology and has sub-specialty expertise in medical and surgical treatment of glaucoma in children and adults as well as cataract surgery and dry eyes.

Dr. Huang is an avid backpacker, camper, and hiker and loves exploring the Pacific Northwest with her dog and family in tow.



## [Ali S. Mainayar, O.D.](#)

Ali S. Mainayar, OD, joined Northwest Eye Surgeons in 2020. His areas of interest include providing pre- and postoperative care and medical eye care in our Renton clinic.

He enjoys spending time with his wife, two dogs and cat. Dr. Mainayar is a novice outdoor enthusiast and has fun identifying native Northwest plants while hiking. You may spot him walking around Lake Washington, on the tennis courts, or cheering for the Seahawks and Sounders.



## [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](http://www.sightlife.org)).



### [Brett Bence, O.D., F.A.O.](#)

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.

His professional commitments include having served as president for the American Academy of Optometry and Optometric Physicians of Washington. He enjoys exploring Pacific Northwest trails, biographies on US presidents, and working vacations on the Nebraska family farm.



### [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 Diplomate of the American Board of Ophthalmology. In his spare time, he enjoys cycling, skiing, scuba diving, traveling and exploring the Pacific Northwest.



### [Carl Ekman, OD.](#)

Carl Ekman, OD, grew up on the Kitsap Peninsula. He joined Northwest Eye Surgeons in 2021, performing pre- and postoperative care with our surgeon teams, and medical eye care. Outside of work, Dr. Ekman and his wife raise five children, play outside and root for the Seattle Sounders. Dr. Ekman speaks Spanish and Italian.



### [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.



[Emily Bucher, O.D., FAAO](#)

Emily Bucher, OD, joined Northwest Eye Surgeons in 2018. She provides postoperative and medical care at the Renton and Seattle offices.

Outside the office, you can find Dr. Bucher exploring the Seattle food scene, cooking, staying active outside or at the gym, snowboarding and spending time with friends and family.



[Emily Freeman, O.D., M.S., FAAO](#)

Emily Freeman, OD, joined Northwest Eye Surgeons in 2019. She provides medical eye care, in addition to pre- and postoperative care, at the Bellingham and Mount Vernon locations.

She is elated to be back in the Pacific Northwest where she can enjoy the things she loves most: hiking, baking, and spending time with family.



[Jack J. Tian, MD.](#)

Dr. Jack Tian, MD, specializes in cataract surgery, intraocular lens exchange, minimally invasive glaucoma surgery and eyelid surgeries. He uses the leading technologies of the industry and helps to refine and build new devices and surgical techniques. Dr. Tian joined Northwest Eye Surgeons in 2022. He enjoys hiking and making music with his family, community service, teaching, traveling, home improvement and mentoring.



[Justin Wright, O.D.](#)

Justin Wright, OD joined the clinical staff at Northwest Eye Surgeons in 2013. His interests include the medical management of glaucoma, ocular disease and performing pre- and postoperative care. 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.



[Jeffrey Young, O.D.](#)

Jeffrey A. Young, OD, joined Northwest Eye Surgeons in 2022. He grew up in Illinois and graduated from the University of Houston College of Optometry. He provides medical eye care in addition to pre- and postoperative care. In his spare time, Dr. Young enjoys swimming, cycling, and spending time with his partner Kathy and their two pit bull rescues.



[Kerri Svanda, O.D.](#)

Kerri Svanda, OD joined the clinical staff at Northwest Eye Surgeons in 2019. She performs pre- and postoperative care and manages ocular disease in the Seattle office. She and her husband have three children who are passionate about hockey, so most weekends she can be found wrapped in a blanket at an ice rink. In her spare time, she enjoys cooking and sculpting.



[Kirk Thompson, O.D.](#)

Dr. Thompson joined the clinical staff at Northwest Eye Surgeons in July of 2022. Kirk was the founder of Angeles Vision Clinic where he was proud to celebrate 30 years practicing full scope optometry before joining NWES. His areas of special interest include the medical management of glaucoma, uveitis and neurology. Dr. Thompson is board certified by the American Board of Optometry. He is an avid outdoorsman and enjoys skiing, backpacking and photography. He and his wife Maureen have four children and 10 grandchildren.



[Katie J. Ker, OD.](#)

Katie J. Ker, OD, joined Northwest Eye Surgeons in 2022 and provides medical and pre- and postoperative care at the Renton clinic. Dr. Ker is a Seattle native and enjoys everything the Pacific Northwest has to offer including hiking, swimming, camping, and drinking lots of coffee.



[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 theater arts, and spending time with her family.



[Kristin Tarbet, M.D., FACS](#)

Kristin J. Tarbet, MD, FACS, performs eyelid, lacrimal and orbital surgeries, and Botox treatments, at our Seattle-Northgate surgery center. Dr. Tarbet is double board-certified, and double Fellowship-trained in both ophthalmology and facial plastic surgery.



[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.



[Lauren E. Bobick, OD, FAAO](#)

Lauren E. Bobick, OD, FAAO, joined Northwest Eye Surgeons in 2022. Her focus is on ocular disease and medical optometry. She completed a residency in Ocular Disease and Primary Care Optometry at the Albuquerque VAMC in 2011. She enjoys spending her spare time working with local animal rescues and shelters to help pets find their forever homes.





[Leigh Gongaware, O.D., M.S.](#)

Leigh Gongaware, OD, joined Northwest Eye Surgeons in 2018. She provides medical eye care, in addition to pre- and postoperative care, at the Bellingham and Mount Vernon locations. She is very excited to serve her community and continue to grow as a provider.

Dr. Gongaware grew up as an Army brat and found the Pacific Northwest felt the most like home.



[Matthew Cardinale, D.O.](#)

Matthew Cardinale, DO, joined Northwest Eye Surgeons in 2022 and is also currently serving in the United States Army. In addition to seeing and treating patients at Northwest Eye Surgeons, he provides eye care for soldiers, veterans, and their families at Madigan Army Medical Center where he works as an active-duty Ophthalmologist. His practice focuses on cataract, pterygium, glaucoma, and refractive surgery including LASIK, SMILE, PRK, ICL Surgery, and Refractive Lens Exchange. In his spare time, he enjoys photography, hiking, traveling, cooking, and skiing.



[Michael R. Banitt, M.D., M.H.A.](#)

Michael R. Banitt, MD, MHA, joined Northwest Eye Surgeons in 2019. His practice specializes in cornea, glaucoma and cataract surgeries and disease management. He has served as faculty for several university ophthalmology programs, and published over 30 peer-reviewed articles in the areas of cornea and glaucoma.

To keep his mind refreshed, he enjoys running outdoors and completes at least one half-marathon per year.



[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.



[Paul Israelsen, M.D.](#)

Paul Israelsen joined Northwest Eye Surgeons in 2020. He specializes in the treatment of standard and complex cataracts, pterygium, glaucoma, iris defects and diabetic retinopathy.

He enjoys spending time with his wife and children, hiking, camping, mountain biking and playing guitar.



[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.



[Richard Martin, O.D.](#)

Richard Martin, OD grew up in the Ozarks in southern Missouri before attending optometry school at Pacific University in Forest Grove, Oregon. After completing a one-year residency in Madison, Wisconsin he joined the Northwest Eye Surgeons team in 2022. In his personal time, he enjoys hiking in the beautiful Pacific Northwest, spending time with his family, watching scary movies, and visiting new restaurants with friends.



[Sarah Henderson, OD](#)

Sarah Henderson, OD joined Northwest Eye Surgeons in 2021, and provides medical eye care at the Seattle clinic.

Dr. Henderson has been on five medical mission trips across Central America, providing eye care to those who would otherwise go without. In her free time, Dr. Henderson loves being active, exploring the PacificNorthwest, trying new recipes, and traveling to see family and friends.



[Sarah Sandhaus, OD, FAAO](#)

Sarah Sandhaus, OD, FAAO, joined the Northwest Eye Surgeons team in 2021. She provides medical and perioperative eye care at the Renton clinic.

Dr. Sandhaus enjoys spending time with her husband and two very cute pups, hiking, backpacking, snowboarding, and practicing photography.



[Shikha Yadav, OD, FAAO.](#)

Shikha Yadav, OD, FAAO joined the Northwest Eye Surgeons team in 2022. She provides pre- and postoperative care, as well as medical care, at the Seattle clinic. Dr. Yadav grew up in Houston, Texas prior to moving to the Pacific Northwest. In her spare time, she loves traveling, cooking, hiking and exploring new restaurants with her friends and family.



[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 location.

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.



[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.



[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 theater.