

Incisional Surgical Care

BY STEVEN D. VOLD, MD

As a technician, you play a critical role in determining the quality of patients' experiences in the surgical setting. They rightfully assume that their ophthalmologist is competent and will perform excellent surgery. What differentiates a satisfactory surgical experience from one that leaves people feeling that they are special and that their well-being is of paramount importance to an entire organization? In my opinion, it is the entire team's attitude toward the patient and our careful attention to detail. The little things matter the most to patients. True excellence in medical care is not necessarily achieved through treatment by the best doctor but through the physician's and staff's doing the little things better than anyone else. This is why outstanding technicians are so important to every practice. In many ways, you are what allows practices to perform at the highest level. Your dedication and commitment to patients means the world to your doctor, peers, and patients.

Once the patient and the doctor have come to the mutual decision that surgery is needed, you guide the efficient execution of the surgical process. Each individual surgical procedure requires a different set of steps that result in a successful surgical outcome and patient's experience. Although your doctor's leadership and performance are vital to developing a thriving practice, your role as a key player on the team must not be overlooked. I have always believed that how doctors treat their employees is a great barometer of how much they sincerely care for their patients.

In the glaucoma practice, a fairly wide variety of procedures may be performed. This chapter discusses your role in each surgery on multiple levels.

CATARACT SURGERY

Preoperative Office Visit

When a patient presents with visually significant cataracts, both you and the doctor must document the following in the medical record.

The patient's history must reflect a subjective decrease in quality of life. It must document complaints such as difficulty driving, glare, an inability to read small print, and challenges in carrying out other critical activities of daily living. Completion of a symptom review sheet is highly recommended.

Best-corrected visual acuities and refractions must be documented for every patient scheduled to under-

go cataract surgery. Brightness acuity testing may be required for patients complaining of diminished vision in certain lighting conditions.

Perform intraocular biometry using either ultrasonic or laser interferometry techniques. Corneal topography, wavefront aberrometry, and optical coherence tomography of the posterior segment are highly recommended to optimize refractive outcomes, especially when the surgeon will perform astigmatic corneal incisions and/or implant a toric or presbyopia-correcting intraocular lens (IOL).

A thorough review of available IOLs is mandatory in the current medical climate. You should be trained to understand the different options and be able to discuss the nuances of these products with patients. Although the surgeon is ultimately responsible for the IOL's selection and surgical outcomes, you can provide invaluable information for determining whether a patient is a candidate for presbyopia-correcting and toric IOLs.

Carefully discuss consent forms with patients and have them signed with the doctor's involvement in the informed consent process.

Thoroughly review both pre- and postoperative medications prior to surgery. These instructions are included in the surgical order forms used by the operating facility where the surgery will be performed. A broad-spectrum antibiotic, topical steroid, and possibly nonsteroidal topical medication are prescribed at the preoperative visit. Generally, the antibiotic and nonsteroidal anti-inflammatory drug are initiated 1 to 3 days prior to surgery. Give an instruction sheet outlining all key perioperative instructions to every patient prior to surgery.

Preoperative Surgical Steps

Check the visual acuity (VA) and intraocular pressure (IOP) in both of the patient's eyes.

Complete the order sheets and consent form.

Give the patient the surgical kit, including a prescription or the actual medications. Review with him or her the instruction sheet.

Postoperative Care

On postoperative day 1, check the VA and IOP in the patient's operated eye.

Instruct him or her to use a topical antibiotic and, likely, a steroid medication per the surgeon's preference.

Also instruct the patient to use ocular protection constantly for the first week after surgery (eye shield at night, glasses during the day).

Generally, the patient may resume his or her regular activities within the first week but with no heavy lifting, unless advised differently by the surgeon.

Give the patient detailed information about the signs and symptoms of ocular infection and instruct him or her to call immediately if any problems arise during the postoperative period.

After the 1-day postoperative visit, the patient should return to the clinic once or twice in the first 4 to 6 weeks after surgery for pupillary dilation and refraction. (Refract both eyes if the patient wants a new lens for his or her unoperated eye.)

The patient should continue to use his or her medications as instructed by the surgeon.

Patients often return to their referring eye care specialist when appropriate.

GLAUCOMA FILTRATION SURGERY

Surgeons and technicians have a significantly different discussion with patients prior to glaucoma filtration versus cataract surgery. Patients' expectations after the latter procedure are extremely high in the current health care climate. They expect to see well almost immediately after cataract surgery and to have relatively few restrictions on their postoperative activity. Filtration surgery via trabeculectomy, the Ex-Press Glaucoma Filtration Device (Alcon Laboratories, Inc.), or other tube shunt devices entails a much different postoperative course and, therefore, requires quite different preoperative preparation of the patient.

Preoperative Office Visit

The doctor must undertake a thorough discussion of the indications for glaucoma filtration surgery with the patient. This is especially important, because patients usually do not see better after glaucoma surgery alone. The following indications should be clearly documented in the medical record:

- uncontrolled IOP despite maximal topical medical and laser therapy
- an intolerance of or allergy to topical medication
- noncompliance with prescribed topical medical therapy (eg, forgetfulness, cost, inability to instill drops, etc.)
- type of glaucoma that typically requires surgical treatment (eg, congenital glaucoma, neovascular glaucoma, iridocorneal endothelial syndrome, traumatic glaucoma, glaucoma in eye requiring future corneal transplantation, etc.)

Many clinicians require patients to have someone in house to assist them with their physical duties during the early postoperative period. Restrictions on activities

after filtration surgery may continue for up to 8 weeks for some patients. The doctor must thoroughly discuss these matters with the patient, and you should document the conversation in the medical record.

Consent forms must be carefully discussed with patients and signed with the doctor's involvement in the consent process. Warn patients of potential risks such as blindness, infection, bleeding, filtration failure, diplopia, cataract, ptosis, and the possible need for further surgery. A blunt discussion of the implications of bending, lifting, straining, coughing, or vigorous activity in the early postoperative period must be undertaken not only with the patient but also with his or her family.

Thoroughly review perioperative medications prior to surgery. These instructions are included in the surgical order forms used by the operating facility where the surgery will be performed. A broad-spectrum antibiotic, topical steroid, and possibly a cycloplegic and non-steroidal topical medication are prescribed at the preoperative visit. Generally, the antibiotic and, potentially, anti-inflammatory medication are initiated 1 to 3 days before surgery. Give an instruction sheet outlining all key perioperative instructions to every patient prior to surgery.

Preoperative Surgical Steps

Check the VA and IOP of both of the patient's eyes. Complete the order sheets and consent form.

Give the patient the surgical kit, including a prescription or the actual medications. Review with him or her the instruction sheet.

Postoperative Care

On postoperative day 1, check the VA and IOP in the patient's operated eye.

Instruct him or her to use a topical antibiotic and, likely, a steroid medication per the surgeon's preference. Injections of subconjunctival 5-fluorouracil (5-FU) are given on a case-by-case basis.

Also instruct the patient to protect the eye at all times (eye shield at night, glasses during the day) for approximately 4 to 6 weeks.

Explain that he or she should not bend, strain, lift heavy objects, or engage in vigorous activity for approximately 4 to 6 weeks.

Give the patient detailed information about the signs and symptoms of ocular infection and instruct him or her to call immediately if any problems arise during the postoperative period.

COMBINED CATARACT-GLAUCOMA SURGERY

In the case of combined cataract-glaucoma surgery, the following protocols are used.

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In-Office Procedure Preparation

BY STEVEN D. VOLD, MD

Several less invasive glaucoma procedures can be performed right in the doctor's office. This chapter details the necessary clinical supplies and protocols.

LASER PERIPHERAL IRIDOTOMY

Assess the patient's visual acuity (VA) and intraocular pressure (IOP).

Review the procedure's risks with the patient and have him or her sign a consent form. The risks of laser peripheral iridotomy include increased IOP, decreased VA, diplopia, difficulties with glare, bleeding, iridotomy closure, inflammation, cataract formation, a need for further surgery, corneal or retinal burns, and blindness. Have your doctor answer any questions from the patient prior to the procedure.

In the examination room, place pilocarpine 2% in the presurgical eye. Arrange the patient at the YAG laser. Make sure he or she is comfortably situated and ready for the procedure. Prepare an Abraham iridotomy lens with hydroxypropyl methylcellulose (Goniosol; Novartis Ophthalmics, Inc.). Place a drop of brimonidine tartrate ophthalmic solution (Alphagan P; Allergan, Inc.) in the presurgical eye. Call the physician.

Check the patient's IOP approximately 1 hour after the procedure.

Routine postoperative care is prednisolone acetate 1% q.i.d. for 1 week. Patients return in 1 week for an IOP check.

YAG LASER POSTERIOR CAPSULOTOMY

Assess the patient's VA and IOP.

Review the procedure's risks with the patient and have him or her sign a consent form. The risks of posterior capsulotomy include increased IOP, inflammation, pitting of the intraocular lens, retinal detachment, cystoid macular edema, a need for further surgery, and blindness.

Dilate the pupil with tropicamide (Mydracyl 1%; Alcon Laboratories, Inc.) approximately 5 to 10 minutes before the procedure. Situate the patient comfortably at the YAG laser. Prepare an Abraham capsulotomy lens with hydroxypropyl methylcellulose. Place a drop of brimonidine tartrate in the presurgical eye.

Call the physician.

Check the patient's IOP approximately 1 hour after the procedure.

Patients return in 1 week for an IOP check and dilated examination.

ARGON/SELECTIVE LASER TRABECULOPLASTY

Assess the patient's VA and IOP.

Review the procedure's risks with the patient and have him or her sign a consent form. The risks of argon and selective laser trabeculoplasty include increased IOP, failure, pupillary abnormalities, inflammation, cataract formation, a need for further surgery, bleeding, and blindness. Have your doctor answer any questions from the patient prior to the procedure.

Bring the patient to the laser room. Make sure he or she is comfortably situated and ready for the procedure. Prepare a Goldmann or Ritch trabeculoplasty lens with hydroxypropyl methylcellulose. Place a drop of brimonidine tartrate in the presurgical eye. Call the physician to let him or her know that the patient is ready.

Check the patient's IOP approximately 1 hour after the procedure. Routine postoperative care is commonly a mild topical anti-inflammatory drug. Glaucoma medications are commonly continued but may be discontinued in select cases.

Patients return in 1 to 2 weeks for a follow-up examination and an IOP check.

ARGON LASER SUTURE LYSIS

Suture lysis is a part of routine postoperative trabeculectomy care. A Blumenthal, Hoskins, Ritch, or Mandelkorn lens is used for this procedure.

Bring the patient to the laser room. Situate him or her comfortably at the argon or diode laser.

Call the physician to let him or her know that the patient is ready.

BLEB REVISION

Assess the patient's VA and IOP.

Review the procedure's risks with the patient and

have him or her sign a consent form. The risks of bleb revision include bleeding, infection, cataract formation, hypotony, choroidal detachment, bleb failure, a need for further surgery, and blindness. Use a glaucoma surgery stamp for the clinic note.

Instrumentation for the procedure is as follows: tetracaine 0.5%, povidone-iodine swabs, a 27-gauge needle, a lid speculum, Healon5 (Abbott Medical Optics Inc.), and possibly a combination of lidocaine and mitomycin C in a tuberculin syringe (0.2 mL lidocaine hydrochloride solution 1% [Xylocaine MPF; AstraZeneca LP] and 0.2 mL 0.4 mg/mL mitomycin C). Be prepared for a possible postoperative injection of 5-fluorouracil.

DIODE TRANSCLERAL CYCLODESTRUCTIVE PROCEDURE

Assess the patient's blood pressure, pulse, and respiratory rate.

Review the procedure's risks with the patient and have him or her sign a consent form. The risks of a

diode transscleral cyclodestructive procedure include blindness, phthisis bulbi, a neurotrophic cornea, hypotony, choroidal detachment, cataract formation, failure, a need for further surgery, and inflammation.

Ask the surgeon about oral sedation (diazepam 5-10 mg). For the retro- or peribulbar injection, draw up the surgeon's preferred anesthetic in a 5- to 10-mL syringe. Do not forget to set up the G-probe with the diode laser.

At the end of the procedure, place the surgeon's preferred cycloplegic and anti-inflammatory medication on the eye. Patch the eye with two eye pads (paper tape) for approximately 2 hours after the procedure.

Recheck the patient's vitals at the conclusion of the case.

A CAUTIONARY WORD

Always label syringes with exactly what is in them and show your doctor the bottles from which you drew them. ■

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Preoperative Surgical Steps

Check the VA and IOP in both of the patient's eyes. Complete the order sheets and consent form.

Give the patient the surgical kit, including a prescription or the actual medications. Review with him or her the instruction sheet.

Postoperative Care

On postoperative day 1, check the VA and IOP in the patient's operated eye.

Instruct him or her to use a topical antibiotic and, likely, a steroid medication per the surgeon's preference. Injections of subconjunctival 5-FU are given on a case-by-case basis.

Also instruct the patient to protect the eye at all times (eye shield at night, glasses during the day) for approximately 4 to 6 weeks.

Explain that he or she should not bend, strain, lift heavy objects, or engage in vigorous activity for approximately 4 to 6 weeks.

Give the patient detailed information about the signs and symptoms of ocular infection and instruct him or her to call immediately if any problems arise during the postoperative period.

SURGICAL CENTER MAINTENANCE

Room Care

Keep the countertops as clean as possible.

Restock necessary supplies weekly (eg, fluorescein strips, alcohol swabs, cotton tips, tissues, dilating drops, Volk lens cleaner, paper supplies, etc.).

Keep prescription pads in drawers at all times.

Keep cabinets organized and uncluttered. Throw away things that will not be used.

Instrument Care

Handle the pachymeter and tonopen with great care! Keep tips covered at all times.

Account for all lenses, retinoscopes, ophthalmoscopes, and transilluminators daily.

Keep replacement slit-lamp bulb available in a selected cabinet.

Swab the slit lamp and tonometer's tip with alcohol before examining each patient.

Cover instruments at day's end as necessary.

Calibrate Goldmann tonometers per the instruction manual.

Medication Care

Always replace the cap on all eye drop bottles after use.

Never touch the tip of the bottle to a patient's eye or eyelid. If contact occurs, throw the bottle away.

Ensure that 5-FU supplies are adequate.

If the supply of certain glaucoma medications is low, let the physician know. ■