

The most appropriate timing of a secondary pars plana vitrectomy is unclear, but the eye should be carefully monitored for complications, such as elevated IOP and inflammation.⁷⁸⁸⁻⁷⁹⁰

Retinal detachment

Overall rates of RD range from 0.26% to 4%.^{734, 737, 766, 791-796} Risk factors for the development of RD after cataract surgery include moderate to high axial length, posterior capsule tear, vitreous loss, younger age, male gender, lattice retinal degeneration, zonular dehiscence, RD in the fellow eye, and the new onset of a postoperative posterior vitreous detachment.^{766, 791-796} In one study, the mean interval between cataract surgery and RD was 39 months,⁷⁹⁶ but the increased risk of RD in pseudophakic eyes may continue for as long as 20 years.⁷⁹⁷ There was no statistically significant difference in the probability of RD after phacoemulsification compared with ECCE.⁷⁹⁷

Suprachoroidal hemorrhage

Historically, the incidence of suprachoroidal hemorrhage related to large-incision cataract surgery was reported to be 0.15% to 0.19% and to be associated with myopia, glaucoma, diabetes, atherosclerotic vascular diseases, hypertension, and prolonged intraoperative hypotony.⁷⁹⁸ Published data on the incidence of suprachoroidal hemorrhage following phacoemulsification are lacking. The risk is probably lower because the surgical duration is shorter and the hypotony time is reduced. Suprachoroidal hemorrhage has been reported during FLACS.⁷⁹⁹ The majority of published studies support the continuation of anticoagulant and antiplatelet therapy during cataract surgery.⁸⁰⁰ Anticoagulation with warfarin does not significantly increase the frequency of (supra)choroidal hemorrhage.⁸⁰¹

Clinical signs and symptoms of an intraoperative (supra)choroidal hemorrhage include sudden pain, scotoma and loss of red reflex, elevated IOP, shallowing of the anterior chamber, and iris prolapse.⁸⁰² Prompt diagnosis of a hemorrhage and immediate incision closure minimizes the likelihood of sight-threatening complications.

Cystoid macular edema

Clinically significant CME occurs infrequently after routine, uncomplicated phacoemulsification (1%–3%)^{716, 731, 733} and often responds well to topical anti-inflammatory medication; however, recalcitrant cases (0.02% of cases) may be associated with permanent impairment of visual acuity. Risk factors for CME include previous uveitis, posterior capsule rupture with vitreous loss, retained lens material, diabetic retinopathy, venous occlusive disease, epiretinal membranes, prior vitreoretinal surgery, nanophthalmos, retinitis pigmentosa, radiation retinopathy, male gender, older age, and a history of pseudophakic CME in the fellow eye.⁸⁰³ Anatomic diagnosis is frequently made using OCT, a less invasive technique than fluorescein angiography. Snellen visual acuity may underestimate the impact of CME on visual function.

Because CME is generally associated with postsurgical inflammation, topical anti-inflammatory medications are used to prevent it and to treat established CME. There is evidence that nonsteroidal anti-inflammatory drugs (NSAIDs), alone or in combination with topical corticosteroids, decrease the likelihood of postoperative CME, especially in diabetics.^{804, 805} (*I+*, *Good*, *Strong*) Studies show a short term benefit in visual recovery, but no level I evidence yet of long-term benefit (i.e., 3 months or more).^{806, 807} The 2018 ESCRS PREMED randomized clinical trial compared bromfenac 0.09% twice a day with dexamethasone 0.1% four times a day versus a combination of the two. The study found that patients receiving the combination had a lower incidence of CME after cataract surgery than patients treated with either medication alone.⁸⁰⁸

The use of intravitreal anti-angiogenesis agents at the time of cataract surgery for prophylaxis or treatment of select cases of CME is being investigated.⁸⁰⁹ In the PREMED 2 study, patients were randomized to receive 40 mg of subconjunctival triamcinolone acetonide, a 1.25mg injection of bevacizumab, a combination of both, or no treatment. The study found that subconjunctival triamcinolone decreased macular thickness and volume at