

One-Site Phaco-Trabeculectomy

"All other things being equal, the simplest solution is the best."

- Occam's Razor

Can a one-site approach to phaco-trabeculectomy achieve an equivalent or better level of surgical success than the two-site method? Consider the example of cataract surgery in a patient with a small pupil and uncontrolled pseudoexfoliative glaucoma. A number of options are available. In this case, the "best" approach has historically been one of personal preference, with a trend in the literature in favor of a two-site approach to phaco-trabeculectomy. A specific, simplified approach to this combined procedure is offered as my preferred response to the aforementioned case. Outcome measures serve to objectify the results.

Consider the possibility that, in glaucoma surgery, the most important surgical principle that leads to success is tissue respect, perhaps even more than the universal principle of exposure. The outcome we desire is one in which there is minimal inflammation and tissue damage. Pupil stretching can break down the blood-aqueous barrier and create inflammation that can threaten the trabeculectomy. Similarly, multiple wound entries create additional healing requirements on the eye that can impact bleb survival. The one-site, microincision (4 mm conjunctival incision, positioned 0.5 to 1 mm posterior to the limbus) approach provides tissue protection and a tighter control over wound modulation than the two-site approach.

While one might have expected that the one-site procedure would result in greater trabeculectomy flap scarring and tissue destruction, modern phacoemulsification techniques and approaches greatly reduce this risk to the point where it no longer appears to influence the success of the procedure. In a series of 80 consecutive eyes that underwent one-site phaco-trabeculectomy and were followed for a mean of 2 years, the one and two year success rates were 100% and 99% in achieving the desired target IOP (90% with 0 medications at both time intervals) with a 10% needling or suture lysis intervention rate. There have been no complications, in these and subsequent cases to date, with this approach.

I concede that the above approach is more difficult to explain, to perform and impart to the novice resident. Yet, once mastered, it has resulted in a procedure that has greatly reduced surgical time, reduced recovery time, reduced intervention and complication rate, and more predictable IOP control than had been obtained with two-site phaco-trabeculectomy surgery, in my practice.

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