

The following guide showcases the surgical steps for a trabeculectomy.

Trabeculectomy		Comments/Explanation
Inject Mitomycin C sub-conjunctively in superior fornix (not shown)	0:12	Mitomycin C helps prevent excess scarring and reduces the risk of trabeculectomy failure
1. Mark superior limbus prior to traction suture to maintain orientation throughout the case	0:20	
2. Place limbal traction suture	0:24	The suture should be deep (~80%) but not full thickness.
a. Create loop and secure inferiorly with hemostat to expose superior region	0:35	
3. Position corneal shield	0:46	
4. Incise conjunctiva along limbus	0:50	
a. Undermine the conjunctiva with blunt dissection	1:09	This is done with a reverse scissoring technique.
5. Scleral electrocautery for hemostasis	1:30	
6. Use Gill knife to prepare/smoothen scleral bed	1:46	This step also helps with wound healing.
7. Create scleral flap	2:00	
a. Initially dissect under flap with 75-13 scalpel, then extend to limbus with 2.5 crescent blade	2:10	
8. Pre-place 10-0 nylon sutures at the corner of the flap (repeat on other side)	2:46	
9. Miochol-E injection (especially important if following phacoemulsification)	3:06	
Steps 10-12 occur in rapid succession. Confirm patient is comfortable, the blood pressure is okay, there is a patent paracentesis, release traction suture, and all instruments are rapidly available.		
10. Use a 75-13 scalpel to enter the anterior chamber at the base of the flap	3:22	
a. Use a Kelly punch to create sclerotomy	3:30	
b. Create surgical iridotomy	3:42	If you have an assistant, it can help to have them hold the flap out of the way.
11. Use slip knots to secure flap down	3:53	
a. Adjust knot tension until the flap is holding pressure but easily burped	4:02	
b. Complete and bury slip knots	4:09	This helps decrease the risk of conjunctival erosion
12. Place two additional "safety sutures" with slip knots.	4:30	These are looser than the corner sutures and can be helpful to titrate IOP post-operatively as sutures begin to be cut (starting with the tightest).
a. Bury knots	4:58	This helps decrease the risk of conjunctival erosion
13. Conjunctival closure	5:06	
a. Place wing suture and anchor with 3-1-1 knot	5:06	
b. Radial closure with running suture and secure with 2-1-1 knot	5:49	
c. Roughen limbal surface with Gill knife and close other side of conjunctiva	6:20	
14. Use BSS to bring eye to physiologic pressure, if necessary	6:32	
15. Burp flap to test trabeculectomy flap and bleb closure	6:41	
16. Use a fluorescein strip to check for any leaks	6:50	Leakage will appear as a bright green stream of dye under cobalt blue light.
17. Remove traction suture and finish with sub-conjunctival injection of Ancef/Decadron into inferior fornix	6:57	