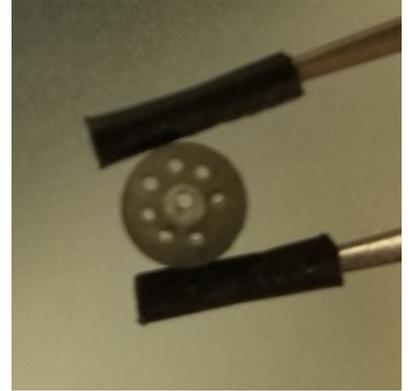


## Anchor Disk Assembly and Use

### Parts List:

1. Printed Anchor Disk (recommend resin highest res printer you can find, wash well multiple times, use compressed air to make sure all the holes are open)



2. NOA68 - Optical Adhesive for Bonding Glass to Plastic  
<https://www.thorlabs.com/thorproduct.cfm?partnumber=NOA68>
3. Portable UV light source to cure glue. I like [this](#) one from Amazon (\$24).
4. Bare tungsten wire for implanting - <https://www.a-msystems.com/p-762-bare-tungsten-wire.aspx>
5. Hemostats
6. Fine forceps (fingers also work!)
7. 27 gauge needle

(Optional, but Recommended)

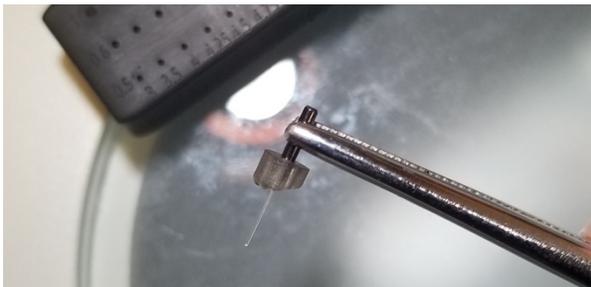
8. Jig to hold fiber in place while gluing
9. Dissecting microscope

### Instructions

1. Cut an optical fiber to the desired length using standard procedures. Ensure that the transmission is at least 80% before continuing.
2. Slide the anchor disk over the fiber. The fiber core should go through the center hole. You may need to apply a little force to get the ferrule properly seated in the anchor disk.



3. With the anchor disk attached feed the fiber optic core end into the jig so that you can view the top of the disk and the ferrule for gluing.



4. Apply a small amount of Nordic optical glue to the tip of a 27 gauge needle (you don't need much!).



5. Apply this glue to around the base of the ferrule where it touches the anchor disk. The glue should go all the way around the ferrule. **IMPORTANT NOTE:** Do not get glue on the surrounding holes. We want to keep those open! **TRICK:** If you get small drop of glue you can apply it to the ceramic ferrule close to where it meets the anchor disk. Then let gravity do the work and allow it to run down and you can use the needle tip to draw it to other areas.



6. Apply UV light to the glue to cure it and hold for 30 seconds. It should be hard to the touch of a needle after curing.



7. Ready for use!

### Surgical Application Notes

1. Drill a larger hole than usual as you will need space to feed the wires in. I recommend using a [trephine drill bit](#) as you would to implant a GRIN lens. Don't worry we will cover the larger hole later.
2. The fiber can be held using your normal fiber holder as long as it grips on the top of the ferrule.
3. Lower your optical fiber to your target depth as you normally would.
4. Using a dissecting scope feed precut tungsten wires through the outer holes. I push these wires through until the wires are flush with the top of the disk. **IMPORTANT NOTE:** Precut wires to length where they will not hit your target site! (I have been doing a little over 5 mm for 6 mm long optical fiber). I recommend feeding 5 wires through. If you feel resistance the wires

may be running into the skull and not going through the cranial hole. In this case, try another hole on the disc. There are multiple options for this reason.

5. Once you have completed the wire inserts, mix a small amount of Kwik-cast silicon to cover the top of the craniotomy. Apply it with a needle and cover as much as you can see.
6. Form the skull cap as you normally would (metabond or dental cement). The hardening reagent should fill any remaining space in the anchor disk as it wicks upwards.