

BrightMEM Preloaded™ Corneal Allograft for Descemet's Membrane Anterior Keratoplasty (DMAK) Surgical Instructions

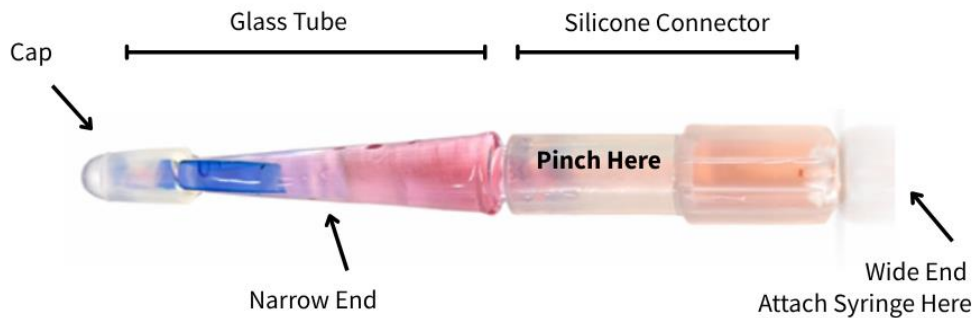
Materials Needed

5% Betadine	Speculum
Balanced Salt Solution (BSS)	0.3 or larger forceps
Weck-Cel Spears	Non-toothed forceps
Tissue Fibrin Glue	Toothed (0.12) Forceps
3cc Syringe	25 gauge Cannula
Bandage Contact Lens	Paton Spatula
Eye Shield	

BrightMEM Preloaded Allograft Preparation

- The BrightMEM Preloaded allograft is shipped in a glass cannula in corneal storage media vial. It arrives pre-stripped, pre-punched, and preloaded. The default allograft size is 7.5mm unless otherwise ordered.
- Fill a 3cc syringe with BSS or corneal storage media drawn from the carrier vial.
- Use a pair of 0.3 or larger forceps to remove the BrightMEM Preloaded Allograft in a Glass Cannula with attached silicone connector from the carrier vial.
- Prime the prefilled syringe and attach it to the silicone connector (note: though the connector is not Luer-lock, it will connect securely to a Luer-lock syringe).
- Do not apply pressure to syringe plunger and do not remove the cap from the narrow end until ready to eject tissue onto the eye.

BrightMEM Preloaded Corneal Allograft in Glass Cannula



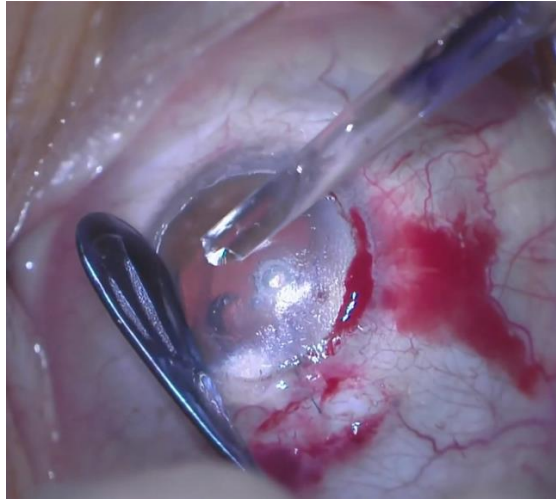
Preparing the Patient's Eye

- Scrub the lid margins with 5% betadine and instill two drops to the ocular surface for 5 minutes prior to the procedure to mitigate risk of infection.
- Place a speculum in the patient's eye and debride the irregular epithelium or pannus over the cornea to the size clinically indicated (varies with each patient). NOTE: The BrightMEM Preloaded allograft must be at least 1mm smaller than the debrided area, leaving a "buffer zone" of at least 0.5 mm at each edge. Confirm the allograft diameter (7.5mm is default size unless otherwise pre-ordered) and be sure to perform a large enough superficial keratectomy.
- If you anticipate bleeding after the superficial keratectomy, 2.5% or 10% phenylephrine drops should be administered preoperatively. Intraoperatively, direct pressure with Weck-Cel sponges soaked in epinephrine 1:1000 can be helpful.
- The corneal surface should be free of debris or heme but should be moist (e.g. with BSS).

Placing the BrightMEM Preloaded Allograft

- Confirm that the silicone connector is securely connected to your syringe containing BSS or corneal storage media and that the corneal surface is clear of debris and moist.
- Remove the cap from the narrow end of the glass cannula over a sterile field.

- Hold a Paton spatula ahead of the ejection location to prevent the allograft traveling off the cornea as it exits the glass cannula. Be sure to eject the allograft SLOWLY, by avoiding too rapid advancement of the plunger of the syringe connected to the carrier tube.



- Use a non-toothed forceps or a 3cc BSS-filled syringe with a 25G cannula tip to gently un-scroll the tissue on the corneal surface.
- Confirm the graft is "right side up" by observation of the "S" stamp. A reverse "S" means the graft is upside down. If this occurs, the graft can be reoriented by sweeping with the 25G cannula tip or using the non-toothed forceps to flip the tissue over.

Smoothing the Allograft

- Once the tissue is properly oriented, apply 2-3 drops of BSS to the surface and use the shaft (not the tip) of the 25G cannula to press down and sweep / squeegee over the graft to smooth it out, removing all wrinkles and fluid. Repeated application of 1-2 drops of BSS on the cornea can facilitate both visualization of wrinkles and the smoothing process.
- Do not begin squeegeeing from edge to edge, as adherence of the graft to the underlying cornea (Bowman's layer or stroma, depending on the depth of the superficial keratectomy) may still be incomplete. Begin by squeegeeing from the midperiphery (25% in from the edge) and sweep outward in all four quadrants. Then repeat from the middle of the allograft sweeping outward in all four quadrants. Finally, repeat squeegeeing across the entire graft. The smoothing process should take 3-4 minutes. This time is important to ensure both complete smoothing and also to promote adherence of the graft.
- After confirming the graft is completely smooth and adherent, dab 360° around the periphery of the allograft using a Weck-Cel sponge to wick out any residual fluid. Avoid touching the Weck-Cel to the graft as the graft may stick to the sponge surface.
- Allow the graft to **dry for 2 minutes or longer**. This time is necessary to facilitate adherence.

Securing the Edges of the BrightMEM Preloaded Allograft

- The purpose of the tissue adhesive is to prevent edge curling post operatively, so it is only necessary to cover the graft edges, not the central portion of the graft.
- Some surgeons prefer transferring both the thick and thin components of Tisseel / fibrin glue into separate 3cc syringes with 25G cannulas. Others just switch the (large) cannulas that are packaged with Tisseel with these smaller cannulas above.
- Cover the graft edge for 360 degrees with a small amount (2-4 small individual drops) of the thick component of tissue fibrin glue and spreading them with gentle sweeps of the cannula. Ensure coverage for 360 degrees.

- Afterwards, apply several drops of the thin component over the perimeter of the graft to mix with the thick component and **allow one minute for polymerization.**
- Place a bandage contact lens over the glue. If any excess glue prevents the contact lens from sitting well on the cornea, trim it with a Wescott scissors. A flat base curve is preferable, as air bubbles can interfere with adherence.
- Carefully remove the lid speculum without dislodging the contact lens.

Post-operative instructions

- Instruct patients to avoid eye rubbing and (importantly!) wear an eye-shield at night for one month.
- Leave the contact lens in place and undisturbed for 1 month to minimize risks of graft dislocation or late wrinkling.
- To prevent infection, use topical antibiotics QID for the first week post-operatively, then taper weekly until the bandage contact lens comes off.
- Use topical corticosteroids QID and taper by one drop weekly over four weeks or as appropriate by your patient.
- Use topical hypertonic saline 5% QID for 1-2 weeks to help with graft adhesion.
- Aggressive lubrication recommended with preservative-free artificial tears or autologous serum tears. Avoid ocular ointments while the contact lens is in place.