

# Organ Cultured Cornea

This cornea has been preserved in an organ culture system to reach you in optimum condition.

Maintain between 10°C to 37°C.

Do not refrigerate or freeze.

## Shelf life

The tissue is intended for transplantation within 24 hours of its arrival at the recipient centre. However, if the surgery must be postponed, the tissue may remain viable for several days. During the organ culture period at the Eye Bank the culture conditions cause swelling of the corneal stroma which becomes thickened and overhydrated. Before despatch the culture fluid is changed to one containing high molecular weight dextran. This osmotically thins the cornea so that it should be around normal thickness when it reaches you. If kept in dextran medium for more than 48 hours the cornea will tend to gradually swell, due to entry of the dextran molecules into the corneal stroma. This means that the tissue will be thicker and deturgesce more slowly post-operatively, but does not preclude successful transplantation.

## Instructions for use

Break the plastic security seal on the bottle top and remove it. Unscrew the top and pour the contents of the bottle briskly into a sterile gallipot on the nursing assistant's trolley. If the cornea does not come out pour the

fluid back into the bottle and decant again. Remove the corneo-scleral segment from the gallipot by grasping the scleral rim with forceps. Place the tissue onto a concave Teflon block and punch the desired diameter corneal button from the centre. Press the trephine down firmly to ensure a complete cut, and then remove the trephine and tissue rim. The corneal button should be kept moist with a few drops of the culture fluid until it is required. Before transplantation of the corneal button, the excess fluid can be removed with a microsponge, but the endothelium must not be touched by the microsponge. If the tissue is manoeuvred towards the edge of the Teflon block so that its lower surface begins to ride clear, it may be grasped with microforceps on the epithelial side. This avoids damage to the endothelial cells.

## Trephine size

When the cornea is punched on a block from the endothelial side many surgeons prefer to use a trephine 0.25mm - 0.5mm greater in diameter than that used to cut the recipient cornea. Alternatively, if you wish to cut the donor cornea from the epithelial side, the corneo-scleral rim must be mounted on an artificial anterior chamber using viscoelastic material to protect the endothelium. The corneal button may then be prepared using a guided trephine system, and in this case the same size of trephine is generally used for both the donor and recipient.

## Post-operative

The organ culture environment is designed for optimal preservation of the corneal endothelium, and during the culture process the epithelium becomes attenuated. Because of this it is not uncommon to find epithelial defects on the graft surface at the first post-operative dressing. The graft becomes rapidly re-epithelialised by the host epithelium. The stroma of organ cultured corneas may take longer to regain normal thickness after transplantation due to the length of time necessary for the dextran to move out of the tissue.

### **Queries**

If you have any queries or special requirements please contact:

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**KEEP AT ROOM TEMPERATURE**