

Guidelines for the Blood Transfusion Services

21.12: Ocular tissue retrieval, processing and storage

<http://www.transfusionguidelines.org/red-book/chapter-21/21-12-ocular-tissue-retrieval-and-storage>

21.12: Ocular tissue retrieval, processing and storage

21.12.1: Eye retrieval

All required documentation must be fully completed by the eye retriever, including information related to the tissue donor and body map.

Approved SOPs must be followed.

The final cosmetic appearance is of critical importance as family or friends may wish to view the body. Any bleeding or bruising resulting from the enucleation must be documented, and this documentation transferred to the tissue establishment.

21.12.2: Ocular tissue processing and storage

Corneas should be excised and placed in an appropriate storage solution as soon as possible, but no longer than 24 hours after enucleation. Corneas may be stored for up to 2 weeks at 4°C in an appropriate hypothermic storage solution. Alternatively, the great majority of corneas in the UK are stored for up to 4 weeks in organ culture at 34°C. The corneal endothelium is examined by light microscopy a few days before use to ensure its suitability for transplantation in patients with corneal endothelial disease/deficiency. Organ-cultured corneas are delivered to hospitals in medium containing 5% dextran to reverse the stromal oedema that occurs during storage. Corneas with an inadequate endothelium may still be suitable for anterior lamellar grafts. These corneas may also be transferred to 70% ethanol and stored at room temperature for up to 12 months for use in glaucoma surgery. Sclera, which is also stored in 70% ethanol for up to 12 months, is used for glaucoma or other reconstructive surgery. Ocular surface stem cells may be isolated from the limbus and expanded in ex vivo culture for treating limbal stem cell deficiency.