

# Enucleation

Enucleation refers to the surgical removal of an eye. Enucleation is usually performed for several different reasons:

- to remove a malignant tumor that has developed within the eye
- to alleviate intolerable pain in a blind eye affected by a condition such as uncontrollable glaucoma
- to reduce the risk of “sympathetic ophthalmic”
- severe inflammation of unknown cause which may affect the remaining eye when one eye has been severely injured and blinded.

**ENUCLEATION Principle:** The removal of the whole intact eye by cutting the six extraocular muscles and transecting the optic nerve.

**Method:**

1. The operation can usually be performed fairly easily under local anaesthetic with a retrobulbar block. For children general anaesthetic is obviously necessary.
2. A speculum is inserted.
3. Using forceps and scissors an incision in the conjunctiva is made right round the limbus to separate the conjunctiva from the cornea.
4. Using scissors the conjunctiva is separated from the globe in the four quadrants between the insertions of the extraocular muscles. This is an easy dissection but must be carried out back to the equator of the eye.
5. Use a muscle hook (strabismus hook) to catch each of the four rectus muscles in turn. Pass the hook back under the conjunctiva between the rectus muscles and then twist it so that the tip passes under the muscle and catches it. Each muscle should be divided about 1–2 mm from the globe. It may be helpful to use an artery forceps or a strong stitch to grasp the attachment of each muscle to the eye.
6. Heavy scissors are now passed round the eye either nasally or temporally until the optic nerve is felt as a tight cord against the scissors. The blades are opened and the nerve is cut. When the operation is being performed because of a suspected retinoblastoma, it is very important to cut the optic nerve as far back in the orbit as possible. This is done by strong traction. Enucleation.  
Separating the conjunctiva from the globe back to the equator of the eye using scissors. Catching the rectus muscle with a strabismus hook. Insertions of the four extra-ocular muscles with artery

forceps or sutures so as to pull the eye forwards and stretch the optic nerve. There is usually profuse bleeding at this stage.

7. The eye can now be prolapsed forwards from the orbit and the remaining oblique muscles and attachments divided. The socket is packed with gauze swabs and pressure applied for 5 minutes. On removing the swabs the bleeding should have almost stopped.

8. Ideally the wound should be closed in 2 layers, first the Tenon's capsule and then the conjunctiva, using continuous or interrupted absorbable sutures. Antibiotic ointment and a firm pad and bandage are applied.