# Novel use of an autologous scleral button post evisceration surgery

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*For the full video technique*

## Background

- One challenge in evisceration surgery is achieving **volume replacement** in the anterior orbit.
- After placing an adequately sized implant within the scleral shell, the **surgical dilemma is shell closure without undue tension**.
- We examine the outcomes of a novel technique using an **autologous scleral graft** to close the anterior scleral defect in a series of 5 patients.

## What is different about our technique?

- Most evisceration techniques use expansion sclerotomies to accommodate a larger implant
- In this technique, a scleral button is lifted from the posterior scleral shell
- This is then sewn over the anterior defect, resulting in a swifter procedure with fewer incisions

## Study design

Evisceration surgery performed by an Oculoplastic surgeon

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Review of notes recording:

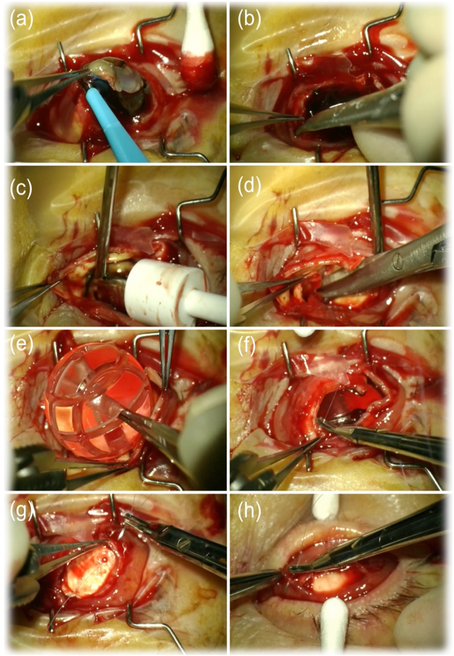
- Indication for evisceration
- Type and size of implant used
- Post-op complications
- Time taken to see ocularist
- Further ophthalmic surgery performed

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Patients invited to return to clinic to review:

- Eye motility
- Eye lid height
- Self and independent assessment of cosmesis
- Complication screen
- Medical photography

## Surgical technique




*Removal of corneal button*

*Relieving incisions being made, avoiding the rectus muscle insertions*

*Dermatological punch being used to create posterior scleral button, inferomedial to optic nerve head*

*Excising the scleral button*

*Sizing and positioning of the acrylic implant*

*Closure of the relieving incisions*

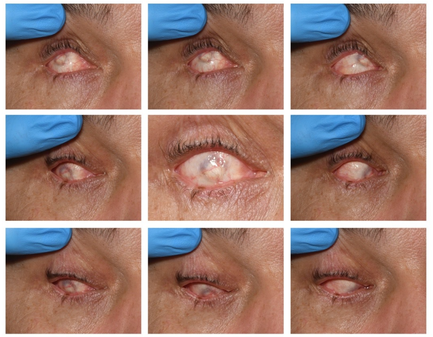
*Suturing the scleral button in place*

*Closing the conjunctiva and Tenon's over the scleral shell*

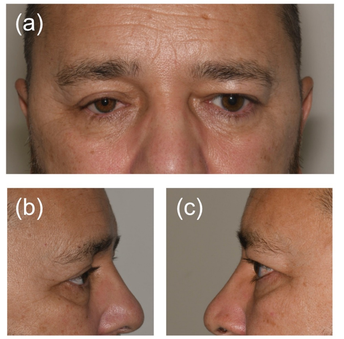
## Results

- This technique of closing the sclera has been used in five cases
- 4/5 returned to clinic for review 2-5 years after surgery (1 died)
- Compared with fellow eye, all had < 1mm upper lid asymmetry and at least 5mm horizontal gaze motility
- No cases of granulation, thinning, implant extrusion or infection
- Very rapid recovery with minimal pain and patients ready to see ocularist in < 8 weeks

| Case | Age | Follow-up, years | Indication | Clinical background | Implant size used, mm |
|---|---|---|---|---|---|
| 1 | 49 | 5.6 | Penetrating trauma | Trauma from pliers one year prior to procedure | 18 |
| 2 | 73 | 4.3 | Corneal ulcer | Exposure keratitis related to facial vasculitic ulcer | 20 |
| 3 | 81 | 4.2 | Perforated corneal ulcer | N/a | 18 |
| 4 | 72 | 1.9 | Chemical injury | Alkali trauma in childhood with previous failed graft. Limbal cell deficiency. Extensive conjunctival scarring | 20 |
| 5 | 93 | 0 | Corneal ulcer, endophthalmitis | N/a | 18 |



Five years post-op showing good cosmetic outcome




## Conclusions

- Using an autologous scleral button is a straightforward, quick and effective technique to close the scleral shell following evisceration surgery.
- Recovery is quick, often with minimal pain and inflammation.
- With continued use of this technique and future comparative study, the significance of these outcomes can be better highlighted.