

Use of the Hoffman Technique to Stabilise the Capsular Bag in Traumatic Cataract

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BACKGROUND

Traumatic cataracts with zonular dialysis pose significant surgical challenges. While the Hoffman corneoscleral pocket technique is established for IOL fixation, its use in securing capsular tension segments (CTS) is novel. This case explores its adaptation in a patient with traumatic ectopia lentis.

OBJECTIVES

To demonstrate the feasibility, safety, and effectiveness of **using the Hoffman pocket technique** to scleral-fixate a capsular tension segment (CTS) in **a case of traumatic cataract with zonular dialysis**.

CASE & METHODS

A 60-year-old woman was referred for progressively worsening blurred vision in her left eye after blunt ocular trauma from a shuttlecock. Examination revealed posterior subcapsular and cortical cataract with inferonasal zonular loss and superotemporal lens subluxation. Best-corrected visual acuity was 6/36.

1. Corneoscleral Pocket Formation:



Figure 1. A crescent blade was used to create a partial-thickness corneoscleral pocket at the 2 o'clock position. A Sinsky hook confirmed tunnel integrity, and the posterior edge was marked to guide suture placement.

2. Chamber Stability:

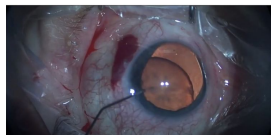


Figure 2. Healon GV was injected to maintain anterior chamber stability and create a tamponade.

3. Capsule Visualisation and Access:

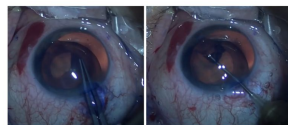


Figure 3. Capsulorhexis was performed using a combination of (A) standard capsulorhexis forceps and (B) Almed MST forceps to enhance precision and control during anterior capsule manipulation.

4. Zonular Support During Surgery:

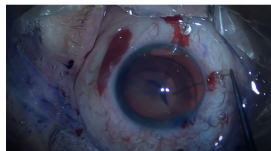


Figure 4. Capsular hooks inserted at the 1 and 3 o'clock positions.

5. Cataract Extraction:

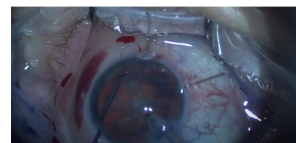


Figure 5. Phacoemulsification was achieved using a combination of phaco chop and chip-and-flip techniques. Residual cortical material was removed with a Simcoe cannula to maintain fine control.

6. Implantation of IOL and CTS:

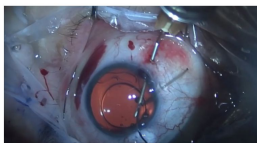


Figure 6. A CT-5 Gore-Tex suture was straightened and docked onto a bent 25-gauge needle, which was then passed through the central cyst of the Almed capsular tension segment (CTS) in preparation for scleral fixation.

7. Suture Fixation and Wound Closure:

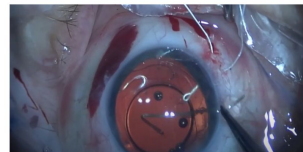


Figure 7. Capsular hooks were removed following successful placement of the capsular tension segment (CTS). The knot was buried within the pocket, ensuring both cosmetic and structural success.

Patient Consent Statement

The patient provided informed consent on 2nd October 2024 to the operating surgeon, one of the co-authors, for the use of her case in a fully anonymised format for teaching, publication, and social media dissemination.

OTHER APPLICATION

Published case series describe the successful use of the Hoffman pocket for secondary IOL fixation, including:

Author	Year	Technique/Application	Context
Hoffman <i>et al.</i>	2006	Hoffman pocket for scleral fixation of IOL	Subluxated/dislocated IOL ⁷
Chee SP	2011	Half-bow sliding knot within Hoffman pocket	Secondary IOL fixation ⁷
Das <i>et al.</i>	2016	Scleral fixation with Gore-Tex through the Hoffman pocket	Foldable IOL fixation in eyes with inadequate capsular support ⁸
Budoff <i>et al.</i>	2016	Rescue and fixation of IOL-bag complex via Hoffman pocket	Posteriorly dislocated IOL-bag complex, no conjunctival opening ⁹
Dhingra <i>et al.</i>	2019	CTS + CTR fixation via Hoffman pocket	Lens coloboma with zonular loss >4 clock hours ¹⁰
Manousakis <i>et al.</i>	2022	Scleral fixation of Carlevale IOL using Hoffman pockets	Conjunctiva-sparing technique for Carlevale IOL implantation ¹¹
This case	2025	CTS fixation using the Hoffman pocket	Traumatic cataract with extensive zonular dialysis

Table 1. Summary of Published Applications of the Hoffman Pocket Technique in Anterior Segment Surgery.

RESULT

Unaided vision improved from 6/36 to 6/6 by day one, stabilising at 6/9. The IOL remained centred, with no evidence of decentration or recurrent inflammation. Minimal post-op complications were observed. The technique offered secure fixation, reduced trauma, and good cosmetic outcomes.

CONCLUSION

This is the first reported case using a Hoffman pocket to fixate a CTS in traumatic cataract. It enabled single-stage, minimally invasive surgery with excellent visual, structural, and cosmetic results. This approach warrants further exploration as an alternative to traditional scleral fixation.