

Repositioning a Luxated Lens

The glued IOL technique maintains a closed system and minimizes incision size, trauma, surgical time, and intraocular pressure fluctuation.

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Postoperative luxation of an IOL remains an infrequent but significant sight-threatening complication after cataract surgery (Figure 1). The limited management options include observation and IOL exchange or repositioning. In these situations, we frequently choose to reposition and glue the implanted IOL into the posterior chamber with no lens exchange. This method minimizes astigmatism induced by the corneal wound¹⁻⁴ and can be performed with the following types of IOLs: rigid PMMA, three-piece posterior chamber foldable IOLs, and those with modified PMMA haptics.

SURGICAL TECHNIQUE

After localized scleral peritomy and wet cautery, two partial-thickness scleral flaps (2.5 X 3 mm) are created approximately 1 mm from the limbus. The flaps are

located 180° diagonally apart, and an infusion cannula is fixed in another quadrant (Figure 2). After vitrectomy—using triamcinolone for better visualization if preferred—two straight sclerotomies are made under the scleral flaps, approximately 1 mm from the limbus, with a 20-gauge needle. The tip of the haptic of the dislocated IOL is externalized through one of the sclerotomies (Figure 3) using microrhexis forceps to hold the haptic tip.

While another assistant holds the tip of the externalized haptic, the surgeon is free to pull the other haptic through the second sclerotomy and tuck the tips of the haptics into scleral tunnels created at the point of externalization with a 26-gauge needle (Figure 4). The scleral flaps and peritomies are closed with fibrin glue (Tisseel; Baxter Healthcare, Deerfield, Illinois; Figures 5 and 6).

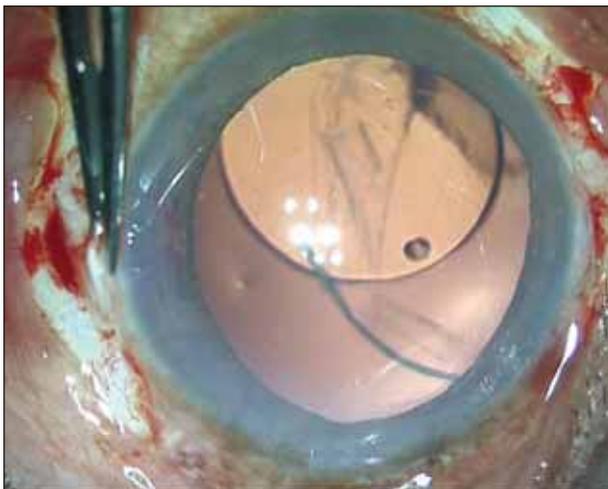


Figure 1. A dislocated IOL with the posterior capsule visible.

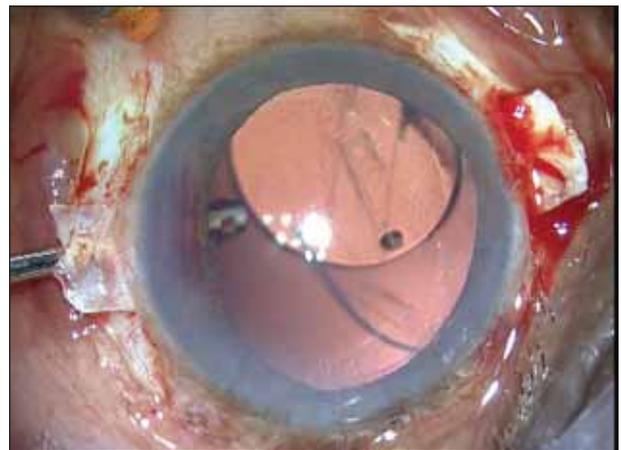


Figure 2. Two scleral flaps are made 180° apart, and an infusion cannula is placed after vitrectomy.

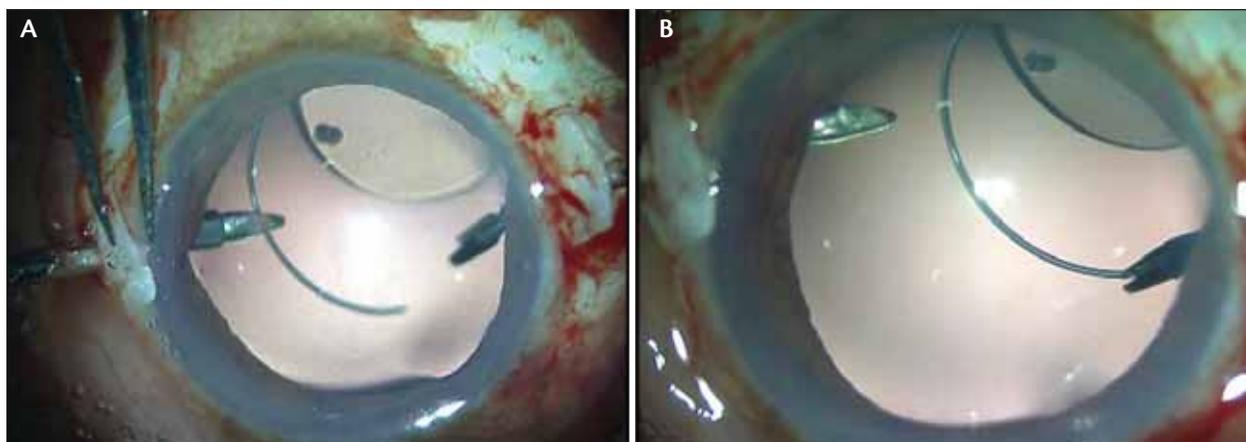


Figure 3. (A,B) Microrhexis forceps manipulate the haptic to externalize it under the scleral flap.



Figure 3. (C) The second haptic is externalized.

HAPTIC STABILITY AND IOL CENTRATION

Fibrin glue allows the rough apposing surfaces of the manually created flaps and stromal beds to heal firmly around the haptics, helps in forming good surgical adhesion, and prevents haptic movement along the long axis. Tucking the haptic tip into the scleral wall provides additional stability and prevents haptic movement along the transverse axis. The IOL loops maintain their original symmetrical configuration; loop rigidity and loop memory allow the haptics to be stretched and compressed in vivo. Adequate loop memory enables the IOL to remain stable in the posterior chamber.

In our study, no IOL tilt was observed. Additionally, postoperative anterior segment optical coherence tomography (OCT) showed perfect scleral flap adhesion as early as day 1 and again at 1 week and 1 month. Commonly reported complications during management of subluxated and posteriorly dislocated IOLs (ie, intraoperative retinal dialysis, postoperative extension of an existing subclinical retinal detachment, recurrent

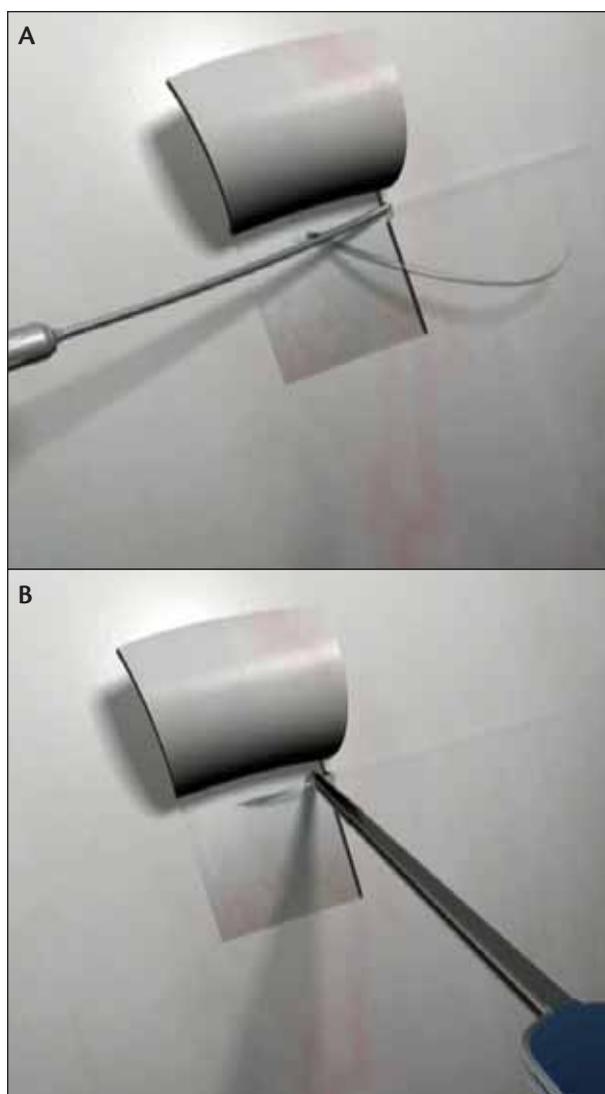


Figure 4. (A) A scleral pocket is created with a needle at the edge of the tunnel, and the (B) haptic is tucked into the scleral pocket.

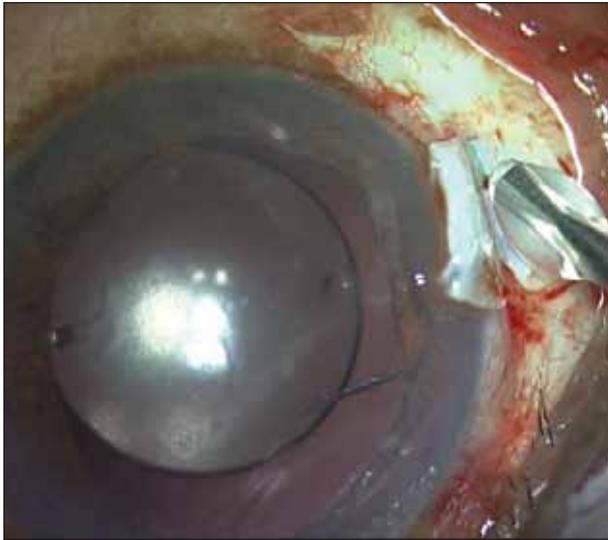


Figure 5. The scleral flap is closed with fibrin glue.

subluxation of an anterior chamber IOL, breakdown of chronic cystoid macular edema to form a macular hole, and pseudophakic pupillary block requiring laser iridotomy) were not encountered.

CONCLUSION

After this IOL-rescue procedure, complete wound healing may take up to 3 months, but the IOL continues to remain stable. During lengthy procedures to suture IOLs to the sclera, retinal photic injury can occur; however, the short surgical time associated with the glued IOL technique reduces this risk. Because the IOL haptic is tucked into the scleral tunnel, further movement of the haptic is prevented and late redislocation is minimized. Because no sutures are used, there is no threat of suture-related complications such as suture erosion, suture knot exposure, dislocation of the

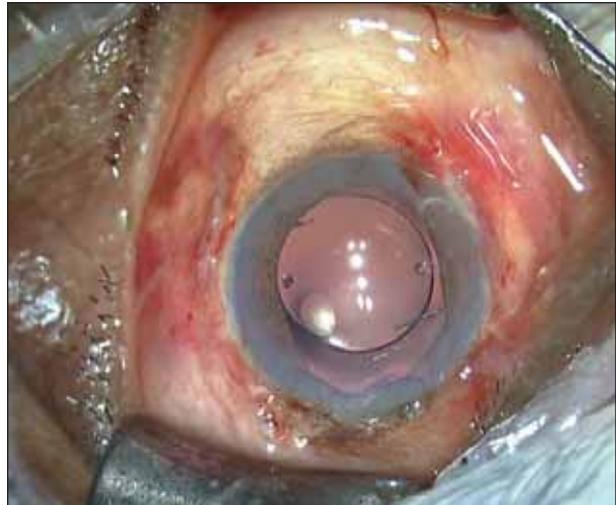


Figure 6. The conjunctiva is sealed with fibrin glue. Note that the IOL is stable in the posterior chamber.

IOL after suture disintegration, or broken suture.

Repositioning and gluing the original IOL in the posterior chamber avoids the use of large surgical incisions and minimizes surgically induced trauma from sclerotomy sites, prolonged surgical time, and intraocular pressure fluctuation. Interim results are promising; however, long-term follow-up is required to assess the safety of this technique. ■

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TAKE-HOME MESSAGE

- In cases presenting with IOL subluxation, the IOL may be repositioned and glued in place with fibrin glue.
- The absence of sutures eliminates the threat of suture-related complications.
- The short surgical time required reduces risk of retinal photic injury.
- Eyetube direct link: <http://eyetube.net/vasp?gasiha>



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