

# Clinical and Anatomic Outcomes of 3-Piece Poly(methyl methacrylate) Intraocular Lens Rescue and Scleral Refixation

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## ABSTRACT

**Purpose:** To report clinical and anatomic outcomes of a single-stage rescue and sutureless 30-gauge needle-assisted transconjunctival intrascleral fixation of dislocated 3-piece rigid poly(methyl methacrylate) (PMMA) intraocular lenses (IOLs).

**Design:** Retrospective, noncomparative, single-surgeon interventional case series.

**Subjects:** 25 eyes from 24 patients with dislocated or mobile PMMA IOLs that were surgically rescued and fixated to the sclera were examined.

**Intervention:** All eyes underwent concurrent 23- or 25-gauge pars plana vitrectomy and IOL rescue with sutureless transconjunctival needle-assisted flanged haptic intrascleral fixation. Lamellar scleral dissection for haptic fixation was performed 3 mm posterior to the surgical limbus with 30-gauge needles. Postoperative IOL tilt was measured with ultrasound biomicroscopy (UBM).

**Main Outcome Measures:** Visual acuity, lens IOL tilt measured via ultrasound biomicroscopy (UBM), and postoperative complications were analyzed.

**Results:** IOL's were successfully refixedated in 24 of 25 eyes. Mean preoperative LogMAR visual acuity was  $1.21 \pm 0.79$  (median 1.3, Snellen equivalent 20/400) improved to  $0.28 \pm 0.35$  (median 0.14, Snellen equivalent 20/30,  $p < 0.0001$ ). Mean IOL tilt measured by UBM ( $n = 7$ ) was  $3.79 \pm 3.60$  degrees. Average postoperative follow up was  $348 \pm 284$  days (range 7-979 days). Postoperative complications included vitreous hemorrhage ( $n = 9$ ), retinal detachment ( $n = 1$ ), cystoid macular edema ( $n = 3$ ), and persistent corneal edema ( $n = 3$ ). 3 eyes (13%) required additional surgery for the following indications: retinal detachment ( $n = 1$ ) and delayed haptic slippage and secondary IOL tilt causing irregular astigmatism ( $n = 2$ ). All 3 secondary surgeries were successful and resulted in improved visual acuity.

**Conclusions:** Intrascleral needle-assisted fixation of dislocated or mobile 3-piece PMMA IOLs is an effective and safe method to restore visual acuity.