

# The Pneumatic Retinopexy versus Vitrectomy for the Management of Primary Rhegmatogenous Retinal Detachment Outcomes Randomized Trial (PIVOT)



## Objective

The aim of this study was to evaluate and compare the results of pneumatic retinopexy (PnR) and pars plana vitrectomy (PPV) as initial treatment option for primary rhegmatogenous retinal detachment (RRD).

## Methods

**Design:** RCT

**Sample Size:** 150 patients with RRD and a single or group or breaks above the 8 o'clock and 4 o'clock meridians

**Treatment Groups:**

- 77 in PnR group
- 73 in PPV group

**Outcome Measures:**

- ETDRS Visual Acuity
- Metamorphopsia scores
- Primary and secondary reattachment rates

## Results

### Point 1: Final Visual Acuity better for PnR than PPV

- ETDRS scores for PnR were better than PPV by 4.9 letters at 12 months ( $79.9 \pm 10.4$  letters vs.  $75.0 \pm 15.2$  letters;  $P=0.024$ ).
- Mean ETDRS visual acuity also was superior for the PnR group compared with the PPV group at 3 months ( $78.4 \pm 12.3$  letters vs.  $68.5 \pm 17.8$  letters) and 6 months ( $79.2 \pm 11.1$  letters vs.  $68.6 \pm 17.2$  letters).

### Point 2: PnR and PPV were mixed on secondary outcomes

- Vertical metamorphopsia scores were superior for the PnR group compared with the PPV group at 12 months ( $0.14 \pm 0.29$  vs.  $0.28 \pm 0.42$ ;  $P=0.026$ ).
- Primary anatomic success at 12 months was achieved by 80.8% of patients undergoing PnR versus 93.2% undergoing PPV ( $P=0.045$ ), with 98.7% and 98.6%, respectively, achieving secondary anatomic success
- 65% of phakic patients in the PPV arm underwent cataract surgery in the study eye before 12 months versus 16% for the PnR arm ( $P < 0.001$ ).

**TLDR: Pneumatic retinopexy is a viable, and even recommended option, as the initial treatment for RRD for RRDs with superior breaks/detachments**