Introduction

- Stereoaucity is gross or nearly-absent in keratoconus, owing to the underlying loss of optical fidelity in the two eyes.¹
- What level of binocularity is retained in keratoconus is not clearly understood. Is there suppression of input from one eye in asymmetric keratoconus?
- Binocular contrast rivalry may be used to measure the contribution of each eye to binocular viewing.²
- Objective: To determine the contribution of each eye to binocular viewing in bilaterally asymmetric keratoconus using contrast rivalry.

Methods

- Participants
  - 44 bilaterally asymmetric keratoconics (12–27yrs) | 12 healthy controls (15–27yrs).
- Contrast presented to the better eye reduced until rivalry switches become symmetric (balance point).

Results

- The median (25th–75th IQR) dwell time of the dominant eye was 2.6sec (2.2–3.2sec) for controls and that of the or stronger eye was 0sec (0-1.9sec) for keratoconic cases at 100% contrast (p<0.001).

Discussion and Conclusion

- Binocular viewing appears dominated by the eye with better acuity.
- There is no correlation between difference in degree of severity (D-index) and the balance point.
- Contribution of worse eye to binocular viewing in keratoconus is better at low spatial frequencies and with contact lens correction.

References