

New Adaptation to the Assaf Ocular Motility Analyser

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Introduction

¥ The Assaf Ocular Motility Analyser (OMA) is a digital method of recording dissociated ocular deviation in 25 positions of gaze and was designed to replace the manually recorded Lees or Hess screens.

¥ However, initial clinical trials suggested that it produced a large exo-error that could mask subtle incomitance, especially if horizontal.

¥ Initial trials suggested that the error may be due to the close testing distance (26cm) in comparison to the Lees screen. There was a weak correlation with near exophoria. (BISA 2005)

¥ A subsequent adaptation, using an increased testing distance of 35 cm has been tested and results compared with our previous results.



Methods

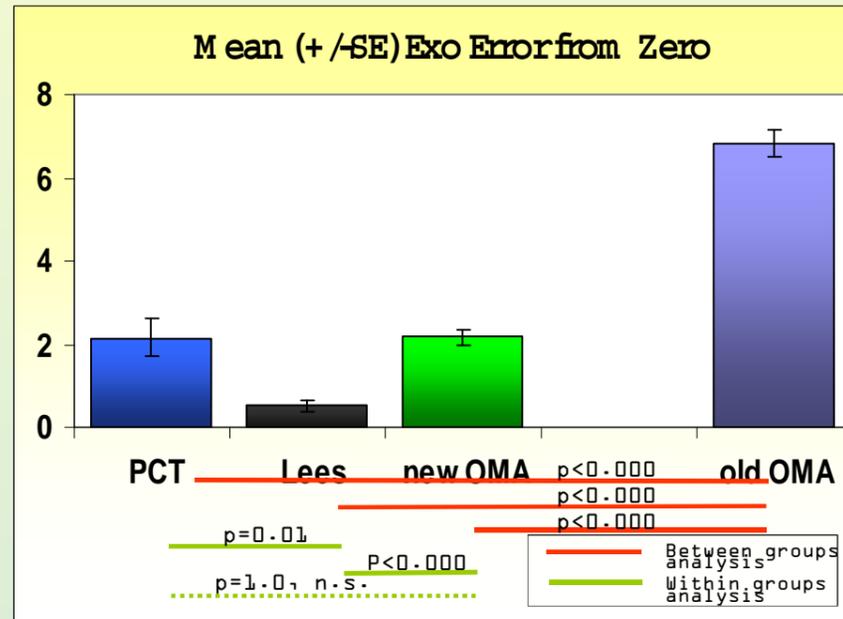
¥ 19 participants with a range of asymptomatic near heterophorias were assessed.

¥ All were tested with the Lees Screen at 50cm, the adapted OMA at 35 cm and Prism Cover Test at 33cm.

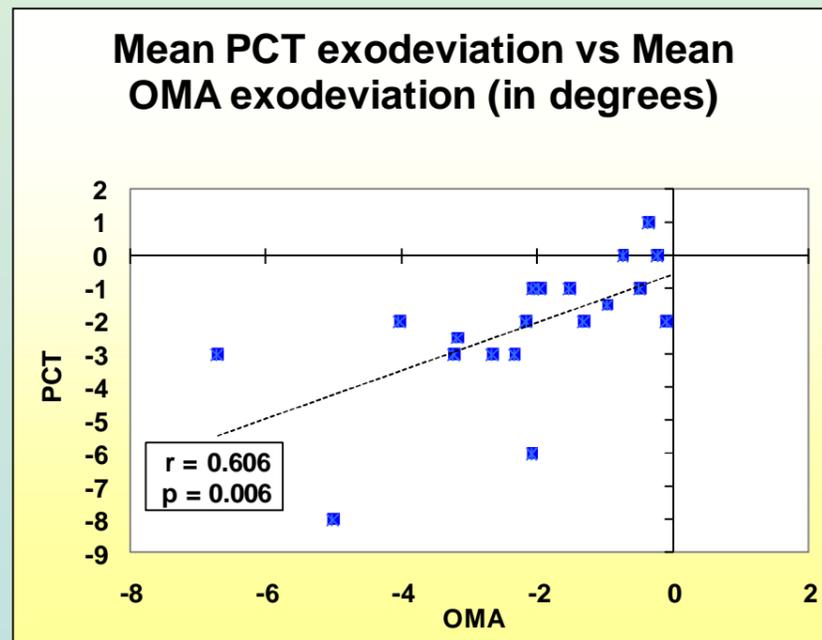
¥ Degrees displacement from target demand for all points within 20° of horizontal was calculated

¥ Results were analysed using repeated measures and between groups ANOVA

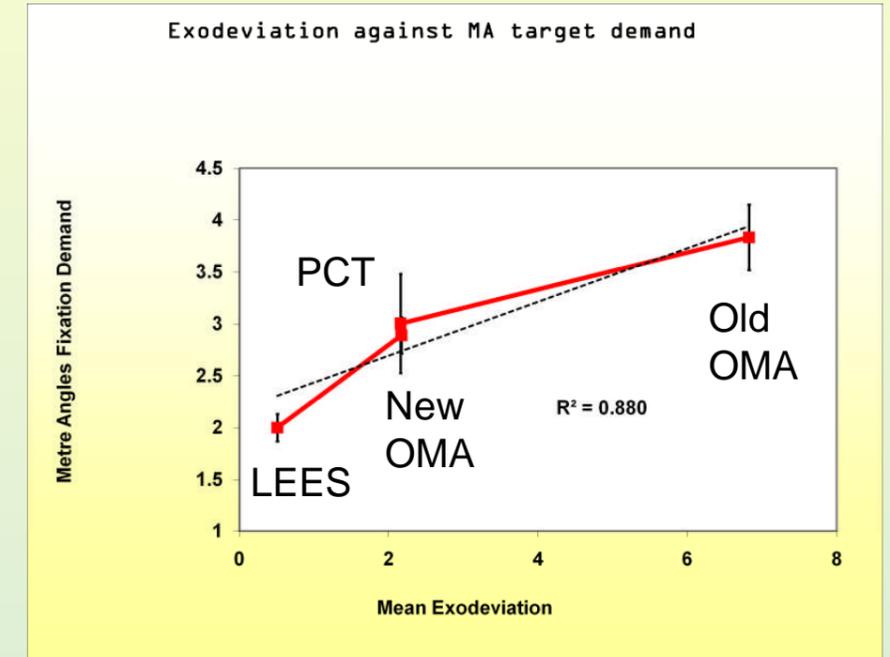
Results



The adapted OMA produces significantly less exo error than the original version



Exo error correlates significantly with near exophoria



Near exodeviation correlates with target demand measured in metre angles

Conclusions

1. The new adaptation to the OMA has reduced exo-error to acceptable levels.
2. The new OMA still produces more exodeviation than the Lees screen
3. There is a significant correlation between exodeviation with the OMA and near exophoria
4. The Lees screen appears to underestimate near exodeviation while the adapted OMA reflects near exophoria
5. Recorded exodeviation is related to testing distance