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**ABSTRACT**

**Title: ORTHOKERATOLOGY AS AN ALTERNATIVE TO REFRACTIVE SURGERY FOR PILOTS**

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**Introduction:** Orthokeratology is the fitting of special design [gas permeable contact](#) lenses that, worn overnight, reshape the cornea correcting myopia. Interest in orthokeratology has increased in recent years due to advances in technology and as an option to unsuccessful refractive surgery.

**Objectives:** To determine whether orthokeratology can be an alternative treatment to refractive surgery in individuals that work as pilots.

**Methods:** Interventional case report

**Case Description:** A 46 year old pilot wearing orthokeratology lenses for 17 years for myopic astigmatism, presented in 2007 for refractive surgery. Although his vision was good, he had become increasingly intolerant to the lenses. Furthermore the long wearing regime required for the lenses, interfered with his flying pattern.

Refraction, corneal topography, aberrometry and contrast sensitivity were performed at day 1 post lens removal and at regular intervals until the day of surgery.

Refraction and topography stabilised at 6 months.

**Results:** The pilot underwent Photorefractive Keratectomy with the Schwind Amaris laser platform. During the 24 months post-operative follow up, Visual Acuity, Refraction and Corneal Topography have been stable.

His post-operative refraction is now OD: plano, OS -0.50 Sph (mild monovision was intended) and he is now emmetropic. The data regarding Contrast Sensitivity have improved from baseline and corneal aberrations affecting vision were reduced.

**Conclusions**

Orthokeratology can be an alternative to refractive surgery. However, since it is not providing a permanent correction, it increases high order aberrations, reduces contrast sensitivity and therefore the quality of vision, it is not the gold standard for correcting refractive errors of pilots.

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