Uncovering Contact Lens Discoveries
Joe Barr, OD, MS, FAAO
Dr. Donald R. Korb Award for Excellence Lecture
June 30, 2016

Key findings of Donald Korb, OD and the presenter’s and colleague’s work that he inspired

Collaborations and Mentoring

Observe - Document – Publish - Teach

Central Corneal Clouding – ’68
Related to percent corneal swelling
My M.S. Thesis that it inspired. AAO Meeting ’79

![Graph 1](image1.png)

![Graph 2](image2.png)
Safety and efficacy of loteprednol etabonate for treatment of papillae in contact lens-associated giant papillary conjunctivitis. Bartlett JD1, Howes JF, Ghormley NR, Amos JF, Laibovitz R, Horwitz B.

Abstract

Loteprednol etabonate (LE) is a new corticosteroid based on the "soft drug" concept. Contact lens-associated giant papillary conjunctivitis (GPC) was studied as a model for the anti-inflammatory effect of LE. Patients with bilateral GPC were enrolled in a multicenter, randomized, double-masked, placebo-controlled, parallel group comparison of loteprednol etabonate 0.5% ophthalmic suspension and the LE vehicle (placebo). Patients were instructed to instill 1 drop of the test medication into each eye 4 times daily for 4 weeks, and follow-up examinations occurred on Days 2 or 3, 7, 14, 21, and 28 of masked therapy. Of 113 patients enrolled, 110 patients (LE = 55; placebo = 55) completed the study as planned. Patients receiving LE demonstrated significant reduction in the primary ocular signs of GPC (papillae, p < 0.001) and were rated better in the Investigator's Global Assessment (p = 0.017). LE did not elevate intraocular pressure during the study, and ratings for bulbar conjunctival injection and the Patient Opinion Assessment demonstrated statistical trends that favored treatment with LE. LE was well tolerated and was clinically effective for the treatment of GPC.

With Yvonne Johnson, OD, MS

Photographs from Carla Mack, O.D.

GPC - And collaborations across disciplines - GPC, SLK investigations with microbiologists and analytical chemists

ECF

Corneal Verticillata – ’73 Edematous Corneal Formations

And Orthokeratology - Rings in the cornea

Donald R. Korb, O.D. Copyright 1973, Volume 44, Number 3, March 1973

Digging deeper into controversy - Ortho k continued

Can we objectively evaluate orthok?
October 19, 1999 IDE Document Mail Center (HFZ-401)

Center for Devices and Radiological Health Food and Drug Administration

9200 Corporate Blvd Rockville, MD 20850

To whom it may concern:

RE: IDE# G990205

We have added to our exclusion criteria subjects with known sensitivities to any of the contact lens solutions used in the proposed care regimens, medications that may alter corneal curvature and ability to tolerate contact lens wear, as well as contact lens related dry eye.

We have enclosed the quality of life questionnaire and copies of all proposed clinical forms to be used in the investigation.

Additionally, we have enclosed the modified package insert and a copy of the package labeling used in the investigation.

incereoly, Joseph T. Barr, O.D., M.S. b

CC: Karen Warburton, Drs. Jeandervin, Bennett, Marsden

OVERNIGHT ORTHOKERATOLOGY

Jason Nichols, Matthew Marsich, Myhanh Nguyen with Bullimore and Barr

It’s so easy Optometry Students Can Do It!

A frequently cited peer reviewed case series - The central cornea also showed significant thinning. All visual, refractive, and topographic outcomes were sustained over the course of an 8-h day.

Conclusions: Overnight orthokeratology is an effective means of temporarily reducing myopia. The possible mechanism of corneal remodeling through central corneal thinning is discussed.

Overnight orthokeratology: preliminary results of the Lenses and Overnight Orthokeratology (LOOK) study. OVS Sept 2002 79(9):598-605 Rah Jackson Jones Marsden Bailey Barr

The Lenses and Overnight Orthokeratology (LOOK) study. Data are presented for the first 3 months. Sixty subjects were enrolled in this multicenter pilot study to evaluate the success and safety of treatment with overnight orthokeratology contact lenses. Refractive error, corneal topography, and biomicroscopic data were collected to determine the amount of refractive error change achieved, corneal changes, and a safety profile of overnight wear of reverse geometry rigid gas permeable lenses for orthokeratology. RESULTS: 46 completed the 1-month visit, and 31 completed the 3-month visit. The mean change in spherical equivalent manifest refraction from baseline to the morning 3-month visit was 2.08 +/- 1.11 D in the right eye and 2.16 +/- 1.05 D in the left eye. At the 3-month morning visit, 74% of right eyes and 61% of left eyes had 20/20 unaided visual acuity. No corneal infiltrates or ulcers were noted in any subjects. Observations of fluorescein staining of the cornea, imprinting, and microcysts were noted in some patients at the 3-month visit. CONCLUSIONS: The preliminary results of the LOOK study indicate that improvement in unaided visual acuity can be attained for at least 6 h after lens removal. The short-term safety and efficacy of the procedure appear to be favorable

Corneal Staining

3/9:00 staining – cell size

3/9:00 Staining

**Sequential staining** and how it applied to teaching

**Contact Lens Design, Lens Movement and Blinking**

9.5 Polycon - Silsoft for Aphakia and Continuous Wear

**Innovation - Membrane Contact Lenses - CSI**

  Developing further contact lenses and a zeal for innovation
Corneal staining and Keratoconus

Flat and steep fitting GP contact lenses in keratoconus see staining

Inspired to collaborate on the first multicenter study in Optometry sponsored by NEI

Keratoconus - Corneal scarring – Don Korb inspired the first NEI sponsored MCCT in Optometry
MGD –
Lack of full closure Warm compresses Lipid containing eye drops Blinking
Mark’s line – LWE MGD – My story in Don and Joan’s office.
Debridement and LipiFlow

Image from Ewen King-Smith instrument