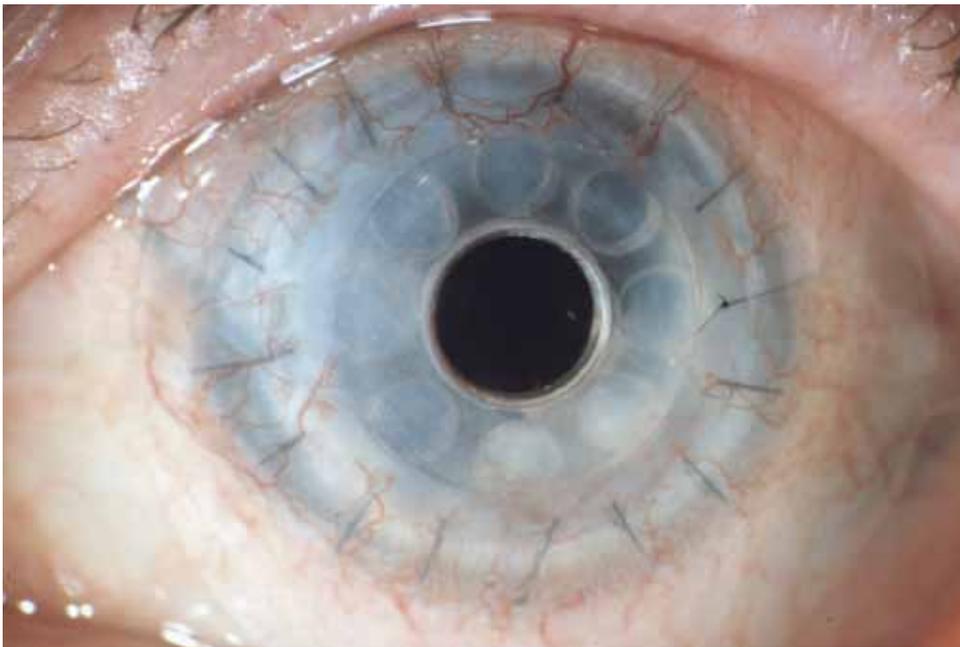


Antimicrobial prophylaxis for life: as important as ever



Data drawn from thousands of keratoprosthesis cases is showing that the judicious use of daily antibiotics can successfully lower postoperative infection rates. In the past, postoperative bacterial endophthalmitis frequently occurred after any type of keratoprosthesis, which contributed to the poor reputation of the procedure. Gram-positive bacteria, by far, have been

the most common culprit. Infections rarely occur during the first few months postoperatively, but may surface later, and are often related to obvious tissue melt and leak. Autoimmune diseases (Stevens-Johnson syndrome, ocular pemphigoid, graft vs. host disease, atopy, etc.) have been the most vulnerable to infection. The events have, in the most cases, resulted in rapid destruction of the eye.

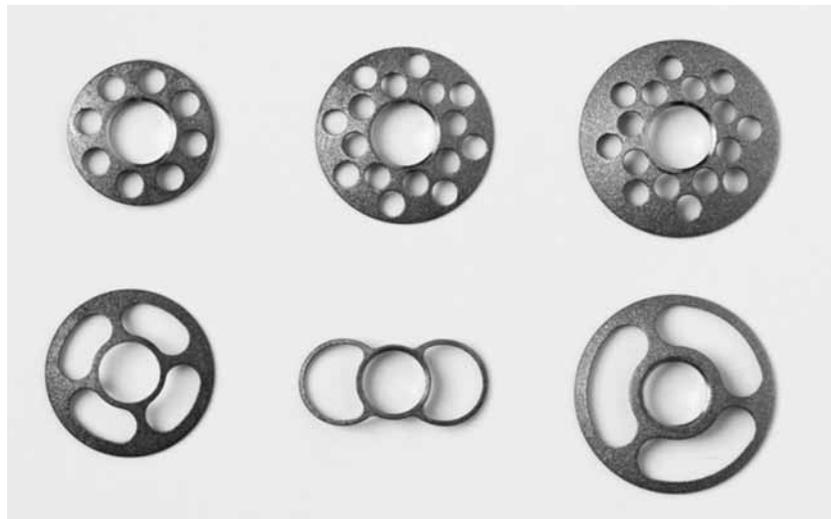
However, it has become increasingly clear that very small amounts of antibiotics applied topically every day to the operated eye can be very effective in preventing bacterial infections. While this seems counterintuitive, our experience gained from thousands of KPro cases indicates that daily application of a light prophylaxis can be effective for many years without complications; it is also clear that, without any prophylactic antibiotics, the risk of infection is still very high. On the other hand, an excess of antibiotics can make the eye susceptible to fungal infections. Therefore, choosing the right antibiotic in the right concentration is very important for the long-term success of keratoprostheses. While many surgeons recommend different regimens, the procedures we follow in Boston have been very effective and are summarized here (Infectious Disease specialists Marlene Durand, MD and Irmgard Behlau, MD have been consulted):

1. For the standard patient receiving a Boston Keratoprosthesis Type I after multiple graft failures, we usually give a fourth-generation fluoroquinolone

continues on page 3

Titanium back plates await FDA approval

Titanium is a material that has widespread application in medical bioengineering. For example, it is used in joint replacement, tooth implants, pacemakers, brain shunts, and artificial limbs; moreover, it has the reputation of being very inert and tissue friendly. Because of its versatility and strength, the Boston KPro team tested titanium as a potential material for making the back plate of the Boston KPro. As a first step, tissue culture experiments with epithelial cells showed titanium to be better tolerated than polymethyl methacrylate (PMMA).¹ Subsequent studies in rabbits and, since 2005, in patients have demonstrated that titanium is clearly superior in several respects: it can be machined to a very thin, yet strong and unbreakable plate; appears to cause less postoperative inflammation in the anterior chamber than PMMA; and demonstrates statistically lower rates of the frequency and severity of retroprosthetic membranes.^{2,3} Another advantage is that titanium is non-magnetic and, thus, compatible with MRI testing.



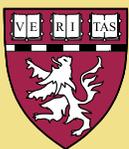
Titanium back plates of various dimensions and designs. Upper row: 7.0 mm, 8.5 mm and 9.5 mm diameter.

Since the titanium back plate is a new material, FDA approval is required before we can market and distribute this type of KPro in the United States. Several stringent FDA measures must be met before approval is granted. For example, the FDA has deemed the ethylene oxide sterilizers in local Boston area hospitals insufficient for “industrial” use; this requires that we send all packaged KPros to a South Carolina facility where long-term feasibility testing is underway. We anticipate that these measures, coupled with the FDA processing cycle, will result in a six to 12 month timeframe before we receive FDA marketing approval. Clearly, our KPro manufacturing has entered a new, more complex phase.

1. Ament JD, Spurr-Michaud S, Dohlman CH, Gipson IK. The Boston Keratoprosthesis: comparing corneal cell compatibility with titanium and PMMA back plates. *Cornea* 2009; 28:808-811.
2. Dohlman CH, Todani A, Ament JD, Chodosh J, Ciolino JB, Colby KA, Pineda R, Belin MW, Aquavella JV, Graney J. Titanium vs. PMMA back plates for Boston Keratoprosthesis: Incidence of retroprosthetic membrane. *Invest Ophthalmol Vis Sci*, 2009; ARVO poster # 1505.
3. Todani A, Ciolino JB, Ament JD, Colby KA, Pineda R, Belin MW, Aquavella JV, Chodosh J, Dohlman CH. Titanium back plate for a PMMA keratoprosthesis: clinical outcomes. *Graefes Arch Clin Exp Ophthalmol* 2011; in press.

In this issue:

Antimicrobial prophylaxis for life: as important as ever.....	1
Titanium back plates await FDA approval	2
CE Mark will make KPro available in Europe	3
Profiles of distinguished KPro surgeons.....	4
The Boston KPro Team.....	6
Full-Time KPro Clinical & Research Fellows	7
Boston KPro Literature	8
Poster Presentations	10
American Academy of Ophthalmology Meeting.....	11
KPro Events 2011-12	11



The Boston KPro newsletter is published once annually.

Co-Editors:

Rhonda Walcott-Harris

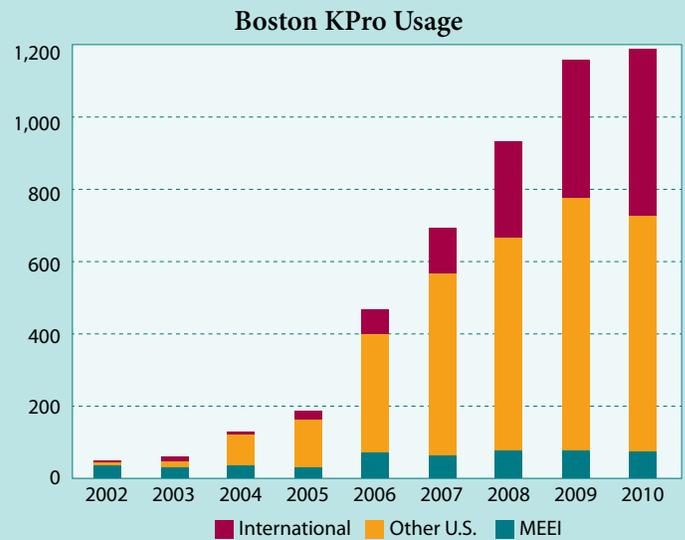
James Chodosh, MD, MPH

Claes Dohlman, MD, PhD

CE Mark will make KPro available in Europe

In order to distribute the Boston keratoprosthesis throughout Europe, which includes 27 countries with a population of approximately 500 million, we recently began the process to obtain CE Marking. CE Marking is a mandatory conformity mark for medical products marketed in the European Union (EU), along with Iceland, Liechtenstein, and Norway. The term, CE stands for “European Conformity” and is considered a quality mark similar to FDA device approval in the U.S. CE Marking indicates compliance with EU legislation regarding health, safety and environmental concerns related to the design and manufacturing of a medical device. CE Marking indicates to any government official that the product can be marketed, and ensures the free movement of the product within the EU.

Fully meeting the rigorous EU standards necessitates changing where and how we sterilize our devices, and upgrading many of our internal procedures. Once all of these changes are in place, we expect to receive approval within a year from now.



Since 2002, about 6,000 KPro devices have been implanted worldwide.

continued from page 1

starting at 2-4 times daily and tapered over 1-2 months, followed by once-daily polymyxin B/trimethoprim (generic form of Polytrim™) for life. The latter drug is broad spectrum with sufficient gram-positive coverage; it is also inexpensive.

2. In autoimmune patients, chemical burns, and only eyes, we initially give vancomycin (14 mg/ml with 0.005% benzalkonium) once daily plus a fluoroquinolone initially 2-4 times daily, tapered to once or twice daily (for both) for life. Inclusion of vancomycin is important even though it has to be specially made up. Eventually, fluoroquinolone can be substituted by the much cheaper polymyxin B/trimethoprim as the second agent, for life.

Under any circumstances, compliance with daily medication for life is extremely important and must be emphasized repeatedly.

Corticosteroids are usually given topically as prednisolone acetate 1.0% with the same regimens as following penetrating keratoplasty. Treatment is often started with 4 times daily, gradually tapered to once daily over 2-3 months and, in many cases, eventually stopped. Caution is urged regarding long-term steroids in autoimmune diseases where they can contribute to tissue melt.

We do not routinely give antifungal prophylaxis in Boston. In hot, humid areas, brief periodic bursts of antifungals may be necessary (e.g. Amphotericin B 0.15% twice daily for 1 or 2 weeks every 3 months). If fungal colonization of the soft contact lens is identified, lens exchange plus a period of Amphotericin is advisable. In fungal keratitis (white sheen around the KPro stem) or outright endophthalmitis, the addition of systemic antifungals is necessary. Prognosis is usually good as long as the infection is identified early.

With the above listed prophylactic medication, the rate of infections can be kept very low. Our present rate of destructive endophthalmitis within five years postoperatively is 2% (mostly due to non-compliance). This includes a high percentage of autoimmune cases. However, lack of compliance with daily medication, which is especially challenging in developing countries for many reasons (e.g. cost of medical supplies or scarcity of medical personnel) is still very troubling. A significant research effort is currently underway to make the Boston KPro simpler, less expensive and — most of all — safer in the long run. We hope to have some good news in this respect in the near future.

Visit us!

www.meei.harvard.edu/shared/optho/cornea2.php

Profiles of distinguished KPro



Virender Singh Sangwan, MD

Dr. Virender Singh Sangwan completed his basic medical education and ophthalmology training at Maharshi Dayanand University, Rohtak, Haryana, and a cornea fellowship at LV Prasad Eye Institute (LVPEI) in Hyderabad. He went on to complete an immunology and uveitis fellowship at Harvard Medical School in 1998. He is currently Associate Director and Head of the Cornea and Anterior Segment, Ocular Immunology & Uveitis Services at LVPEI.

Dr. Sangwan is noted for his spirit of innovation and ability to translate basic science discoveries into clinical applications. Among his accomplishments, Dr. Sangwan perfected the method of limbal stem cell culturing to produce transparent, stitchable epithelium, and successfully transplant them to patients. His work represents the largest successful human trial of stem cell technology in the world, and has enabled him to restore vision to over 600 patients blinded by burns and damage to the ocular outer surface; his work has been published in the journal *Nature*. Additionally, he devised a method to co-culture conjunctival and limbal stem cells and to use the resulting tissue to restore vision in extreme cases of ocular surface damage. For these contributions, Dr. Sangwan was awarded the Shanti Swarup Bhatnagar Prize in Medical Sciences in 2006, and

the National Technology Prize by the Department of Biotechnology in 2007.

Dr. Sangwan has served as Field Medical Director of Orbis International, Inc., NY and has lectured extensively. He is the recipient of numerous awards and serves on several editorial boards. Dr. Sangwan is presently the Coordinator for Collaborative Research Projects between LVPEI and VisionCRC, a cooperative research center initiative of the Australian government. He is also an Adjunct Associate Professor at the University School of Medicine & Dentistry, University of Rochester, New York, USA. Dr. Sangwan also has been deeply involved in the eye banking movement in India.

Dr. Sangwan is married to Vandana, a dentist, and they have two children — daughter, Twinkle and son, Sahil.

Dr. Jimmy K. Lee is the Director of Cornea and Refractive Surgery at the Yale Eye Center. He specializes in laser vision correction surgery, including LASIK, LASEK, PRK and PTK. His surgical expertise also includes complex cataract surgery and artificial cornea surgery. Dr. Lee is an experienced Boston KPro surgeon.

Dr. Lee's research interests include new technologies in refractive surgery and improving surgical techniques for DSEK (Descemet's



Jimmy K. Lee, MD

surgeons

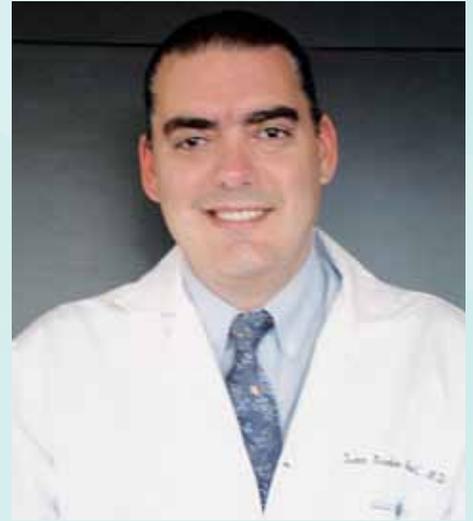
Stripping Endothelial Keratoplasty). A member of the American Academy of Ophthalmology and American Society of Cataract and Refractive Surgery, he has published many peer-reviewed articles and is a scientific reviewer for numerous ophthalmology journals. In addition, he frequently lectures on refractive surgery and corneal transplantation at national and international scientific meetings.

Dr. Lee graduated Phi Beta Kappa from Johns Hopkins University and obtained his medical degree from Cornell University Medical College. Following his residency at Albert Einstein Montefiore Hospital, he completed a fellowship in Cornea, External Diseases, and Refractive Surgery at the Wilmer Eye Institute of The Johns Hopkins Hospital. He is a Diplomate of the American Board of Ophthalmology.

Dr. Juan Carlos Abad received his medical degree from the Institute of Health Sciences CES in Medellin, Columbia and completed his ophthalmology residency at Georgetown University Medical Center, DC. As a cornea fellow at Mass. Eye and Ear ('95-'97), Dr. Abad worked on the KPro to develop an animal model that could be tested for different device retention strategies; he also studied the histology of explanted KPros to better understand

the factors that contribute to corneal melts (epithelial invasion vs. stromal necrosis), and contributed to the article "Keratoprosthesis: preoperative prognostic categories," published in the journal *Cornea* in 2001, an article which remains current today. During the latter part of his fellowship, he assisted with implementing the KPro program in the Dominican Republic.

After completing his fellowship, Dr. Abad returned to his native Colombia in 1997, where he pioneered the introduction of the Boston KPro. Since then, he has performed surgery on 47 patients (43 with the new model since 2004), helping to restore sight to long-standing blind patients. In 2010, Dr. Abad presented at the World Cornea Conference V1 (Boston) on improving KPro retention through the use of medroxyprogesterone, doxycycline, and by avoiding MMP activating antibiotics and glaucoma agents. He frequently lectures and gives courses on the topic throughout Latin America. He is currently advocating an aphakic approach with a complete pars plana vitrectomy (in most cases) to decrease inflammation, interdevice membranes, facilitate glaucoma shunt insertion and long-term success (no vitreous blockage), and to facilitate KPro re-dos when needed. Dr. Abad runs a private practice in Medellin, Colombia.



Juan Carlos Abad, MD

THE BOSTON KPro TEAM



Claes Dohlman, MD, PhD
Translational Research
Mass. Eye and Ear



James Chodosh, MD, MPH
Surgery, Translational Research
Mass. Eye and Ear



Kathryn Colby, MD, PhD
Surgery, Clinical Research
Mass. Eye and Ear



Roberto Pineda II, MD
Surgery, Clinical Research
Mass. Eye and Ear



Samir Melki, MD, PhD
Surgery, IOP Transducers
Mass. Eye and Ear



Daniel Kohane, MD, PhD
Bioengineering
MIT/Children's Hospital Boston



Ilene Gipson, PhD
Enzymology
Schepens Eye Research Institute



Eli Peli, MSc, OD
Optics
Schepens Eye Research Institute



Lucy Shen, MD
Glaucoma
Mass. Eye and Ear



Jill Beyer, OD
Contact Lens
Mass. Eye and Ear



Lucy Young, MD, PhD
Retina
Mass. Eye and Ear



Kyung Jae Jeong, PhD
Biointegration
MIT



Michinao Hashimoto, PhD
Glaucoma Shunt
MIT/Children's Hospital Boston



Irmgard Behlau, MD
Antimicrobial Coating and
Infection Prevention
Mass. Eye and Ear



Fabiano Cade, MD
Chemical Burns
Mass. Eye and Ear



Borja Salvador, MD
Surgical Innovations
Mass. Eye and Ear



Samer Arafat, MD
Metalloproteinase Inhibitors
Mass. Eye and Ear



Rony Sayegh, MD
Optics
Mass. Eye and Ear



Eleftherios Paschalis, PhD
Bioengineering
Mass. Eye and Ear



Andrea Cruzat, MD
Surgical Innovations
Mass. Eye and Ear



Anita Nathan Shukla, MD
Surgical Innovations
Mass. Eye and Ear

Sayegh RR, Avena Diaz L, Vargas-Martin F, Webb RH, Dohlman CH, Peli E. Optical functional properties of the Boston Keratoprosthesis. *Invest Ophthalmol Vis Sci* 2010; 51:857-863.

Dohlman CH, Grosskreutz CL, Chen TC, Pasquale LR, Rubin PAD, Kim EC, Durand M. Shunt to divert aqueous humor to distant epithelialized cavities after Keratoprosthesis surgery. Risk of infection. *Glaucoma* 2010; 19:111-115.

Dunlap K, Chak G, Aquavella JV, Myrowitz E, Utine CA, Akpek E. Short-term visual outcomes of Boston Type I Keratoprosthesis implantation. *Ophthalmology* 2010; 117:687-692.

Garcia JP, Jr., Ritterband DC, Buxton DF, de la Cruz J. Evaluation of the stability of Boston Type I Keratoprosthesis-Donor cornea interface using anterior segment optical coherence tomography. *Cornea* 2010; 29:1031-1035.

Tay E, Utine CA, Akpek EK. Crescentic amniotic membrane grafting in Keratoprosthesis-associated cornea melt. *Arch Ophthalmol* 2010; 128:779-782.

Yildiz E, Saad C, Eagle R, Ayers B, Cohen E. The Boston Keratoprosthesis in 2 patients with autoimmune polyendocrinopathy. *Cornea* 2010; 29:354-356.

Harissi-Dagher M, Khan BF, Dohlman CH. The Boston Keratoprosthesis. In: *Corneal Transplantation*. Rasik B Vajpayee, ed, Namrata Sharma, Geoffrey C Tabin and Hugh R Taylor, co-eds. Vajpayee Brothers Medical Publishers. New Delhi, 2010.

Ament JD, Stryjewski TP, Ciolino JB, Todani A, Chodosh J, Dohlman CH. Cost-effectiveness of the Boston Keratoprosthesis. *Am J Ophthalmol* 2010; 149: 221-228.

Ament JD, Todani A, Pineda II R, Shen TT, Aldave AJ, Dohlman CH, Chodosh J. Global corneal blindness and the Boston Keratoprosthesis Type I (Editorial). *Am J Ophthalmol* 2010; 149: 537-539.

Ament JD, Tilahun Y, Mudawi E, Pineda R. Role for ipsilateral autologous corneas as a carrier for the Boston Keratoprosthesis: The

African Experience. *Arch Ophthalmol* 2010;128:795-797.

Tsui I, Uslan DZ, Hubschman JP, Deng SX. *Nocardia farcinica* Infection of a Baerveldt implant and endophthalmitis in a patient with a Boston Type I Keratoprosthesis. *Glaucoma* 2010; 19:339-340.

Vajaranant TS, Blair MP, McMahon T, Wilensky JT, de la Cruz J. Special considerations for pars plana tube-shunt placement in Boston Type I Keratoprosthesis. *Arch Ophthalmol* 2010; 128:1480-1482.

Garrick C, Aquavella JV. A safe Nd:YAG retroprosthetic membrane removal technique for keratoprosthesis. *Cornea* 2010;29:1169-1172.

Utine CA, Gehlbach PL, Zimer-Galler I, Akpek EK. Permanent keratoprosthesis combined with pars plana vitrectomy and silicone oil injection for visual rehabilitation of chronic hypotony and corneal opacity. *Cornea* 2010; 29:1401-1405.

Ciralsky J, Papaliodis GN, Dohlman CH, Chodosh J. Keratoprosthesis in autoimmune disease. *Ocular Immunology and Inflammation* 2010; 18:275-280.

Pineles SL, Ela-Dalman N, Rosenbaum AL, Aldave AJ, Velez FG. Binocular visual function in patients with Boston Type I Keratoprosthesis. *Cornea* 2010;29:1397-1400.

Klufas MA, Colby KA. The Boston keratoprosthesis. *Int Ophthalmol Clin* 2010;50: 161-175.

Georgalas I, Kanelopoulos AJ, Petrou P, Ladas I, Gotzaridis E. Presumed endophthalmitis following Boston Keratoprosthesis treated with 25 gauge vitrectomy: a report of three cases. *Graefes Arch Clin Exp Ophthalmol* 2010; 248:447-450.

Basu S. Two unusual indications of the Boston Keratoprosthesis: Limbal stem cell deficiency in end stage vernal keratoconjunctivitis and Mooren's ulcer. Webmedcentral: Article ID:WMC00813.2010:1-5.

Khalifa YM, Davis D, Mamalis N, Moshirfar. Epithelial growth over the optic surface of the type I Boston Keratoprosthesis: histopathology and implications for biointegration. *Clin Ophthalmol* 2010; 4:1069-1071.

Nallasamy S, Colby K. Keratoprosthesis: Procedure of Choice for Corneal Opacities in Children? *Semin Ophthalmol* 2010; 25(5-6):244-248.

Stacy RC, Jakobiec FA, Michaud NA, Dohlman CH, Colby KA. Characterization of retro-keratoprosthetic membranes in the Boston Type I keratoprosthesis. *Arch Ophthalmol* 2011; 129:310-316.

Ament JD, Stryjewski TP, Pujari S, Siddique S, Papaliodis GN, Chodosh J, Dohlman CH. Cost effectiveness of the Type II Boston Keratoprosthesis. *Eye* 2011; 25:342-349.

Chodosh J, Dohlman CH. Indications for keratoprosthesis. In: Krachmer J, Mannis M, Holland E, eds. *Cornea* 3rd ed., St. Louis; Mosby-Year Book, Inc, 2011 Vol. II:1689-1691.

Oliveira L, Cade F, Dohlman CH. Keratoprosthesis in the fight against corneal blindness in developing countries. (Editorial) *Arq Bras Oftalmol* 2011; 74:5-6.

Dohlman CH, Cade F, Pfister RR. Chemical burns to the eye: Paradigm shifts in treatment (Editorial) *Cornea* 2011; 30:613-614.

Dohlman CH, Gelfand L, Walcott-Harris R, Moar ML. *The Boston Keratoprosthesis — Users Manual*. Massachusetts Eye and Ear Infirmary, 2011.

Greiner MA, Li JY, Mannis MJ. Longer-Term Vision Outcomes and Complications with the Boston Type I Keratoprosthesis at the University of California, Davis. *Ophthalmology* 2011; 118:1543-1550.

Basu S, Taneja M, Sangwan VS. Boston Type I Keratoprosthesis for severe blinding vernal keratoconjunctivitis and Mooren's ulcer. *Int Ophthalmol* 2011; 31:219-222.

Banitt M. Evaluation and management of glaucoma after keratoprosthesis. Review. *Curr Opin Ophthalmol* 2011; 22:133-136.

Colby KA, Koo EB. Expanding indications for the Boston Keratoprosthesis. *Curr Opin Ophthalmol* 2011; 22:267-273.

Li JY, Greiner MA, Brandt JD, Lim MC, Mannis MJ. Long-term complications associated with glaucoma drainage devices and Boston Keratoprosthesis. *Am J Ophthalmol* 2011; 152:209-218.

Robert MC, Harissi-Dagher M. Boston Type 1 keratoprosthesis: the CHUM experience. *Can J Ophthalmol* 2011; 46:164-168.

Nascimento HM, Oliveira LA, Höfling-Lima AL. Infectious keratitis in patients undergoing Boston Type 1 keratoprosthesis (Boston KPro) procedure: case series. *Arq Bras Ophthalmol* 2011; 74:127-129.

Moshirfar M, Neuffer MC, Kinard K, Lependu MT, Sikder S. Femtosecond-assisted preparation of donor tissue for Boston Type 1 Keratoprosthesis. *Clin Ophthalmol* 2011; 5:1017-1020.

Utine CA, Tzu J, Dunlap K, Akpek EK. Visual and clinical outcomes of explantation versus preservation of the intraocular lens during keratoprosthesis implantation. *J Cataract Refract Surg* 2011; 37:1615-1622.34

Iyer G, Srinivasan B, Gupta J, Rishi P, Sen PR, Bhende P, Gopal L, Padmanabhan P. Boston Keratoprosthesis for keratopathy in eyes with retained silicone oil — A new indication. *Cornea*, in press.

Kammerdiener LL, Aquavella JV, Harissi-Dagher M, Lynch ML, Dohlman CH, Chodosh J, Ciolino J. Soft contact lens retention after Boston Keratoprosthesis: The importance of preoperative diagnosis. *Am J Ophthalmol*, in press.

Cade F, Grosskreutz CL, Tauber A, Dohlman CH. The role of glaucoma after Boston Keratoprosthesis in severe chemical burns. *Cornea*, in press.

Todani A, Ciolino JB, Ament JD, Colby KA, Pineda R, Belin MW, Aquavella JV, Graney JM, Chodosh J, Dohlman CH. Titanium back plate for a PMMA keratoprosthesis: Clinical outcomes. *Graefes Arch Clin Exp Ophthalmol*, in press.

Pujari S, Siddique S, Dohlman CH, Chodosh J. Boston Keratoprosthesis Type II: The Massachusetts Eye and Ear Infirmary experience. *Cornea*, in press.

Wang L, Chodosh J, Huang Y, Dohlman CH. Boston Keratoprosthesis in China (in Chinese) *J Chin Ophthalmol*, in press.

Jun JJ, Siracuse-Lee DE, Daly MK, Dohlman CH. Keratoprosthesis. In: *Cornea and External Eye Diseases*, 2nd ed. Krigelstein GK, Weinreb RN, eds. Springer Verlag, Berlin, in press.

Haddadin R, Dohlman CH. Keratoprosthesis in congenital hereditary endothelial dystrophy. *Digital Journal Ophthalmology*, in press.

Chan CC, Holland EJ. Endophthalmitis after Boston Type I Keratoprosthesis implantation. *Cornea*, in press.

Chan CC, Holland EJ, Sawyer WI, Neff KD, Peterson MR, Riemann CD. Boston Type 1 keratoprosthesis with silicone oil for treatment of hypotony in prephthisical eyes. *Cornea*, in press.

Keating A, Pineda R II. Trichosporon asahii keratitis in a patient with a Type 1 Boston Keratoprosthesis and contact lens. *Eye Contact Lens*, in press.

Sejpal K, Yu F, Aldave AJ. The Boston Keratoprosthesis in the management of corneal limbal stem cell deficiency. *Cornea*, in press.

Wang L, Jeong KJ, Chiang HH, Zurakowski D, Behlau I, Chodosh J, Dohlman CH, Langer RS, Kohane DS. Hydroxyapatite for keratoprosthesis biointegration. *Invest Ophthalmol Vis Sci*, in press.

Todani A, Behlau I, Fava M, Cade F, Cherfan D, Zakka FR, Jakobiec FA, Gao Y, Dohlman CH, Melki S. Intraocular pressure measurement by radiowave telemetry. *Invest Ophthalmol Clin Sci*, in press.

Jeong KJ, Wang L, Stefanescu CF, Lawlor M, Polat J, Dohlman CH, Langer RS, Kohane DS. Polydopamine coatings for biointegration. *Soft Matter*, in press.

Beyer J, Todani A, Dohlman CH. Visually debilitating deposits on soft contact lenses in keratoprosthesis patients. *Cornea*, in press.

Kumar R, Dohlman CH, Chodosh J. Oral acetazolamide after keratoprosthesis in Stevens-Johnson Syndrome. Submitted to *J Glaucoma*.

Jardeleza MSR, Rheaume MA, Chodosh J, Dohlman CH, Young L. Retinal detachment after Boston Keratoprosthesis: incidence, predisposing factors and visual outcomes. Submitted to *Ophthalmology*.

Behlau I, Mukjerjee K, Todani A, Tisdale AS, Wang L, Cade F, Leonard E, Zakka F, Gilmore MS, Jakobiec FA, Zakka FR, Dohlman CH, Klibanov AM. Biocompatibility and biofilm inhibition of N,N-hexyl, methyl-polyethylenimine bonded to Boston Keratoprosthesis artificial cornea. *Biomaterials*, in press.

Rudnisky CJ, Belin MW, Todani A, Zerbe BJ, Ciolino JB. Risk factors for the development of retroprosthetic membranes with Boston Keratoprosthesis type 1: multicenter study results. *Ophthalmology*, in press.

Soledad Cortina M, Porter IW, Sugar J, de la Cruz J. Boston Type I keratoprosthesis for visual rehabilitation in a patient with gelatinous drop-like corneal dystrophy. Submitted to *Cornea*.

Iyer G, Gupta N, Srinivasan B, Padmanabhan. Boston Type I Keratoprosthesis — The Indian experience. Submitted to *Cornea*.

We apologize for inadvertent omissions.

Poster Presentations

American Academy of Ophthalmology (2010)

Deepak Sobti, Brendan M. McCleary, William G. Gensheimer, Garrick Chak, Matthew D. Gearinger, Mina Chung, James Aquavella. Pediatric keratoprosthesis: Outcomes and quality of life. Poster # 58.

Javaneh Abbasian. Ultrasound biomicroscopy used preoperatively for surgical planning in patients undergoing Boston KPro Type 1. Poster # 353.

Amar P. Patel, Joseph T. Nezgoda, Syril Dorairaj, Tiago S. Prata, John A. Seedor, David C. Ritterband. Surgical outcomes of the Boston Keratoprosthesis. Poster # 359.

The Association for Research in Vision and Ophthalmology (2011)

Joshua H. Hou, Jose De la Cruz, Ali R. Djalilian. Predictors of keratoplasty failure after keratolimbal allograft transplantation and long-term outcomes of Boston Keratoprosthesis implantation as subsequent salvage therapy in ocular surface disease. Poster # D847

Pejman Bakhtiari, Jeffrey Welder, Clara Chan, Jose De la Cruz, Edward J. Holland, Ali R. Djalilian. Surgical and visual outcomes of the Type 1 Boston Keratoprosthesis for the management of aniridic fibrosis syndrome in congenital aniridia. Poster # D848

Danli L. Xing, Christine Chiou, Mark Mannis, John Keltner. Glaucoma detection in Boston Keratoprosthesis patients. Poster # D852

Ofelya Gevorgyan, Anna Hovakimyan, Anthony J. Aldave. Complications and outcomes of Boston Type 1 Keratoprosthesis surgery in Armenia. Poster # D853

Ashley Dahl, Kristen M. Hawthorne, Bradford Mitchell, Gerald McGwin, John S. Parker. Early sight restoration and high retention after Boston Keratoprosthesis in non-autoimmune patients. Poster # D854

Sahar Kohanim, Tulay Cakiner-Egilmez, Robert W. Dunphy, Mary K. Daly. RTVue CAM anterior segment OCT imaging of epithelial lip overriding front plate of Boston Type I Keratoprosthesis. Poster # D855

Travis C. Rumery, Shahzad I. Mian, Fernando Heitor de Paula. Outcomes of endocyclophotocoagulation in Boston Type 1 Keratoprosthesis. Poster # D856

Joann J. Kang, Maria S. Cortina, Jose De la Cruz. Visual outcomes of Boston Keratoprosthesis implantation as the primary penetrating corneal procedure. Poster # D857

Mark Krakauer, Shivani Gupta, Asim V. Farooq, Jose De la Cruz, Maria S. Cortina, Peter Setabutr. Oculoplastic considerations in keratoprosthesis surgery. Poster # D858

Joseph Panarelli, Anne Ko, Julian P. Garcia, Paul A. Sidoti, Michael R. Banitt. Angle closure by anterior segment optical coherence tomography after Boston Keratoprosthesis. Poster # D859

Lee Kiang, Mark I. Rosenblatt, Rachel Sartaj, Donald J. D'Amico, Kimberly C. Sippel. Surface Epithelialization of the Type I Boston Keratoprosthesis Front Plate. Poster # D860

Jose De la Cruz, Maria S. Cortina, Jin-Hong Chang, Dimitri T. Azar. Scanning electron microscopy analysis of explanted keratoprostheses. Poster # D861

Trucian A. Ostheimer, Jose de la Cruz, Maria S. Cortina. Corneal graft thinning in Boston Type 1 Keratoprosthesis patients. Poster # D862

Fernanda P. Magalhaes, Heloisa M. Nascimento, Ana L. Hofling-Lima, Lauro A. Oliveira. Post-operative regimen of Boston Type I Keratoprosthesis with topical 0.5% moxifloxacin and 5% povidone-iodine. Poster # D863

Alex W. Cohen, Michael D. Wagoner, Anna Kitzman, Kenneth M. Goins. Outcomes of corneal transplantation with the Boston Type I Keratoprosthesis. Poster # D864

Julia C. Talajic, Sebastien Gagne, Younes Agoumi, Mona Harissi-Dagher. Long-term results regarding the impact of glaucoma on vision following Boston Keratoprosthesis Type I surgery. Poster # 1635

Yvonne I. Chu, Christopher C. Shen, Michael D. Straiko, Crawford Downs, Neda Shamie, Stuart K. Gardiner, Steven L. Mansberger. Assessment of intraocular pressure in eyes with keratoprosthesis. Poster # A612

Jennifer S. Huang, Simon K. Law, Fei Yu, Joann A. Giaconi, Anne L. Coleman, Joseph Caprioli, Anthony Aldave. Glaucoma management in patients undergoing Boston Type I Keratoprosthesis implantation. Poster # A68

Basu S, Senthil S, Sangwan VS. Correlation of anterior chamber angle morphology with progression of glaucoma in eyes with Boston Type I Keratoprosthesis. Poster # 85

Mines MJ, Ryan DS, Sia RK, Weber E, Pasternak J, Stutzman RD, Wroblewski KJ, Bower KS. On the case: Deconstructing a keratoprosthesis. Poster # 67

You're invited. Please join us!

American Academy of Ophthalmology Meeting

October 22-25, 2011 | Orlando, FL

Schedule of Events

Friday, October 21

■ **8:30 a.m. – 4:30 p.m.**

Cornea Society/EBAA Fall Educational Conference
Rosen Centre Hotel

Sunday, October 23

■ **11:37 – 11:57 a.m.**

Whitney G. Sampson Lecture: "Artificial Corneas and Contact Lenses"
Claes H. Dohlman, MD, PhD
Orange County Convention Center, Room W311

■ **10:15 a.m. – 12:30 p.m.**

Instruction Course: "Corneal Surgical Tips for 2011"
Senior Instructor: David G. Huang, MD
Orange County Convention Center, Room W203c

■ **3:15 – 5:30 p.m.**

Instruction Course: "Surgery for Severe Corneal and Ocular Surface Disease"
Senior Instructor: Gunther Grabner, MD
Orange County Convention Center, Room W104a

Monday, October 24

■ **7:00 – 8:30 a.m.**

Boston KPro Users Breakfast: James Chodosh, MD, MPH, moderator
Hilton Orlando, Lake Lucerne Room
For further information contact mlmoar@verizon.net

■ **7:00 – 8:30 a.m.**

Pediatric Keratoplasty Association, Breakfast at AAO
Kathryn Colby, MD, PhD: "Pediatric Keratoprosthesis: Promise and Perils,"
The Peabody Orlando, Room Bayhill 18

■ **9:00 – 11:15 a.m.**

Boston KPro Course: "The Boston Keratoprosthesis: Essentials for the Beginning and Experienced Surgeon"
Senior Instructor: Anthony J. Aldave, MD
Orange County Convention Center, Room W309a

Tuesday, October 25

■ **7:30 – 8:30 a.m.**

Breakfast with the Experts: Moderator: Peter Zloty, MD
Orange County Convention Center, Room Hall A1

■ **2:00 – 4:15 p.m.**

Instruction Course: "Extreme Cornea: Diagnostic and Management Dilemmas in Your Practice"
Senior Instructor: Ula Jurkunas, MD
Orange County Convention Center, Room W204c

■ **10:15 a.m. – 12:30 p.m.**

Instruction Course: "Interdisciplinary Approach to Keratoprosthesis Surgery and Management from the Subspecialist's Perspective"
Senior Instructor: Jose de la Cruz, MD
Orange County Convention Center, Room W207c

KPro Events 2011-12

2nd EuCornea Congress

September 16-17, 2011
Reed Messe Wien GmbH,
Messeplatz 1, PF 277, A-1021
Vienna, Austria

27th Biennial Cornea Conference

September 30-October 1, 2011
Starr Center for Scientific
Communications
185 Cambridge Street, Boston, MA

European Association for Vision and Eye Research 2011 Congress

October 5-8, 2011
Creta Maris Convention Center
Crete, Greece

World Ophthalmology Congress 2012

February 16-20, 2012
Abu Dhabi National Exhibitions
Centre
Abu Dhabi, United Arab Emirates

Cornea Day

Friday, April 20, 2012
McCormick Place West
Chicago, Illinois

The American Society of Cataract and Refractive Surgery

April 20-24, 2012
Chicago, Illinois
Applications for KPro course
submitted, Senior Instructor:
José de la Cruz



**Massachusetts
Eye and Ear
Infirmary**

243 CHARLES STREET, BOSTON, MA 02114

BOSTON KPro *e-news*

*Please let us know
if you would like to
receive the e-mail
version of Boston KPro
News or if your mailing
address has changed.*

E-mail your contact information to: **rhonda_walcott-harris@meei.harvard.edu**
or send via fax to: **617-573-4369** or **617-573-4324**

NAME

STREET ADDRESS

CITY, STATE, ZIP CODE

E-MAIL ADDRESS

PHONE NUMBER

FAX NUMBER