Introduction

The Cornea Service of the Massachusetts Eye and Ear Infirmary was founded in 1958 by Dr. Claes H. Dohlman. Our goal, simply stated, is to train the future leaders of Cornea/External Disease and Corneal Surgery. Currently, numerous graduates of this fellowship are serving in positions of academic leadership throughout the world. At last count, over 60 Professors of Ophthalmology and Department Chairs are graduates of the MEEI Cornea Fellowship, an unparalleled history in training and mentoring the leaders of our field.

During the fellowship, fellows will care for a wide variety of patients with complex disorders of the anterior segment, which will enable them to develop advanced diagnostic and surgical skills for the entire spectrum of corneal and external disorders. Fellows participate in routine keratoplasties as well as cutting-edge surgeries, including ocular surface reconstruction, lamellar and selective endothelial transplantation, and keratoprotheses, to name a few. Fellows are exposed to the entire spectrum of refractive surgery technologies. The Refractive Surgery Service currently has 2 excimer lasers (Visx S4, Alcon Wavelight Allegretto) and an Intralase femtosecond laser. Additional procedures performed include Intacs and astigmatic keratotomy.

One-Year versus Two-Year Program

The ‘standard’ Cornea Fellowship is an intensive one-year program, during which approximately 85% of the time is spent doing clinical care; the remaining time is available for research. Most fellows will spend this time performing clinically-oriented research including reviews, case series, and book chapters. The Fellowship Match # for this 1-year program is 4253.

Fellows with a serious interest in research (basic or clinical) can elect to take an additional ‘customized’ year to dedicate primarily to their research and academic development for completion of our two-year Advanced Fellowship Program. The Fellowship Match # for this 2-year program is 4292. Prospective fellows wishing to pursue a research year are encouraged to contact Dr. Dana, Director of the Service, at their earliest convenience. Harvard offers unparalleled resources for corneal research, both basic and clinical, and fellows seriously interested in academic careers are strongly encouraged to consider the 2-year fellowship.

The fellow’s responsibilities include examining patients or research subjects in the Cornea Service, taking call, providing consults to Massachusetts General Hospital inpatients, responding to patient requests for information or assistance with medical needs, being available for emergency visits, participating in corneal and refractive surgery, and other tasks as required to provide comprehensive corneal care. The fellows are also required to attend lectures and prepare and deliver case presentations in Cornea Rounds or Department-wide Grand Rounds as needed.

All applicants must be eligible for a full medical license per the Massachusetts Board of Registration in Medicine. International medical graduates must also be eligible for an H1B visa (eligibility includes passing all 3 steps of the USMLE test, and reporting results to MEEI before the Match deadline). The requirements of full licensure can be viewed on the mass.gov website: http://www.mass.gov/eohhs/gov/departments/borim/physicians/licensing/licensing-fees-and-general-information.html
**Clinical Facilities and Organization**

**Facilities:** The Cornea and Refractive Surgery Services are located on the first floor of the Massachusetts Eye and Ear Infirmary. The current facility is fully equipped with examination lanes and state of the art laser vision diagnostic technologies, two in vivo confocal microscopes, an anterior segment OCT and a slit lamp video camera.

**Personnel:** One of the major strengths of our fellowship is the size and diversity of its faculty. Faculty members hold joint appointments at Harvard Medical School and the Massachusetts Eye and Ear Infirmary. The following faculty members participate in the corneal fellowship training:

James Chodosh, M.D., M.P.H. (Cornea Fellowship Director)
Joseph Ciolino, M.D.
Reza Dana, M.D., M.P.H., M.Sc. (Service Director)
Claes H. Dohlman, M.D., Ph.D.
Deborah Jacobs, M.D. (Part-Time Faculty)
Ula Jurkunas, M.D.
Samir Melki, M.D., Ph.D. (Part-Time Faculty)
Roberto Pineda, M.D.
Peter Veldman, M.D.

In addition to expertise in corneal transplantation and the medical management of corneal disorders, the faculty members, listed alphabetically, have subspecialty interests as described below:

**Full Time Faculty**

**James Chodosh, M.D., M.P.H.** is a clinician-scientist in the department who completed his ophthalmology residency training at the Baylor College of Medicine, a clinical fellowship in cornea and external diseases at the Bascom Palmer Eye Institute in Miami, and a postdoctoral research fellowship in virology and molecular biology at St. Jude Children’s Research Hospital in Memphis. He received his Master’s in Public Health (biostatistics) from the University of Oklahoma, where he was M.G. McCool Professor of Ophthalmology, prior to joining MEEI in July, 2008. He is now the David G. Cogan Professor of Ophthalmology in the Field of Cornea and External Disease at Harvard Medical School, Director of the Ocular Burn Service, and Director of the Cornea Fellowship and Medical Education in Cornea. His principal interests include ocular surface infections, keratoprosthesis surgery, and rehabilitation of seemingly hopeless cases of corneal blindness.

**Joseph B. Ciolino, M.D.** completed MEEI’s Advanced Fellowship Program in Cornea and Refractive Surgery in 2009. Following the fellowship, Dr. Ciolino joined the Cornea Service as part of the Harvard-Vision Clinical Scientist Development Program. Dr. Ciolino conducts his research in the laboratories of Dr. Daniel Kohane at Children’s Hospital Boston and Dr. Robert Langer at MIT. Dr. Ciolino’s research focuses on keratoprosthesis, contact lenses, and ocular drug delivery. He is an Assistant Professor of Ophthalmology at Harvard Medical School.

**Reza Dana, M.D., M.P.H., M.Sc.** holds the Claes Dohlman Chair in Ophthalmology and is Professor of Ophthalmology at Harvard Medical School, Vice Chairman of the Harvard Department of Ophthalmology and Associate Chief of Ophthalmology at Massachusetts Eye and Ear for Academic Programs, and Director of the Cornea, Refractive and External Disease Services at MEEI, and oversees the overall academic, operational, and administrative dimensions of the Service. He received his undergraduate, MPH and MD degrees from Johns...
Hopkins, and his MSc degree from Harvard. After residency training at the Illinois Eye and Ear Infirmary, he performed his Cornea and External Disease training at the Wills Eye Hospital, his Uveitis training at the Massachusetts Eye and Ear Infirmary, and his Ocular and Transplantation Immunology training at the Schepens Eye Research Institute, Harvard Medical School. Dr. Dana directs the Corneal Immunology Lab and is a Senior Scientist and Clement Stone Scholar at the Schepens Eye Research Institute. He also directs the NIH-supported K12 Harvard-Vision Clinical Scientist Development Program. His main areas of interest include corneal transplant immunology, corneal angiogenesis and ocular surface disease and reconstruction.

Claes H. Dohlman, M.D., Ph.D. is the founder of the MEEI Cornea Service and the Cornea Fellowship. His accomplishments are too numerous to list. He was Chair of the Department of Ophthalmology from 1974-89. Since 1989, he has focused on the Boston Keratoprosthesis, which offers hope for the many patients for whom a standard corneal transplant is not a viable option. He is Professor Emeritus of Ophthalmology at Harvard Medical School.

Ula Jurkunas, M.D. completed her MEEI Cornea fellowship in 2006, after which she joined the Cornea Service as part of the Harvard-Vision Clinical Scientist Development Program. Dr. Jurkunas conducts her research at the Schepens Eye Research Institute. She is an Assistant Professor of Ophthalmology at Harvard Medical School. Her clinical interests include ocular surface reconstruction, endothelial and epithelial stem cell biology, and refractive surgery.

Roberto Pineda II, M.D., former Chief Resident and Cornea Fellow at the Massachusetts Eye & Ear Infirmary, is the Director of the Refractive Surgery Service. His primary interest is in refractive surgery, anterior segment reconstruction, and complex cataract extractions. Dr. Pineda’s research centers on the delivery of complex cornea care in the non-industrialized world. He regularly participates in ORBIS International and has authored several ophthalmology textbooks. He is an Associate Professor of Ophthalmology at Harvard Medical School.

Peter Veldman, M.D. joined the Cornea Service in 2014 after serving as Chief Resident and Director of the Ocular Trauma Service at Mass. Eye and Ear in 2013 and completing a corneal fellowship at Devers Eye Institute. Dr. Veldman is the Associate Director of the Cornea Fellowship and Medical Education and specializes in lamellar corneal transplantation including DMEK, DSAEK, and DALK procedures. In addition to practicing at Mass. Eye and Ear's main Boston campus and Longwood locations, Dr. Veldman sees patients at the hospital's One Montvale Avenue, Stoneham office location.

Part-time Faculty

Deborah Jacobs, M.D., a former resident and fellow of the MEEI, is currently Medical Director of the Boston Foundation for Sight and Assistant Clinical Professor of Ophthalmology at Harvard Medical School. Dr. Jacobs’ main interest is management of complex cornea and external disease patients and applications of the Boston Scleral Lens.

Samir Melki, M.D., Ph.D. is an Assistant Clinical Professor of Ophthalmology at Harvard Medical School and a senior instructor with the American Society of Cataract and Refractive Surgery. He is currently an attending Physician at MEEI where he completed his two-year fellowship training in corneal diseases and laser vision correction after a residency in Ophthalmology at Georgetown University. He is an active refractive and anterior segment surgeon and has authored two textbooks on these subjects. Dr. Melki spends the crux of his time at his private practice in Brookline, serving as president and founder of the Boston Eye Group.
Fellow Responsibilities

Clinical Responsibilities: In the one-year fellowship, approximately 85% of the clinical fellow’s time is committed to direct patient care on the Cornea Service; the proportion is less and tailored to the individual fellow’s needs/interests in case of the advanced two-year fellowship. Clinical activities include the following:

OUTPATIENT CLINICS: The medical management of refractive, corneal, and external disorders, as well as the preoperative evaluation and postoperative care of surgical cases, are considered the cornerstones of the Cornea Fellowship training at MEEI. Accordingly, extensive exposure to the patients of the full-time staff is required of all fellows. Fellows will examine patients in the Cornea Service of the Massachusetts Eye & Ear Infirmary (MEEI), where he/she will perform the initial examination, form a tentative diagnosis and therapeutic plan, and then present the patient to the attending physician for discussion and final disposition.

CLINIC TIMES: Morning Clinics generally begin between 7:30 – 8:30am. Afternoon clinics begin at 1:00 pm. Fellows are expected to begin seeing patients at this time. If you are unable to arrive on time for clinic, advance notice must be given to the Chief Cornea Fellow and your Attending.

SURGERY: The surgical experience of the cornea fellow is derived from the large surgical volume of the Cornea Service faculty. Generally, fellows will operate on all major and minor corneal and complicated anterior segment procedures regularly performed by Cornea Service faculty. Assisting on routine cataract surgery is not a requirement of the fellowship, although there is ample opportunity to be involved in phaco/IOL surgery on select cases. Nurse assistants or residents are utilized for the majority of cataract surgical assisting.

Please refer to the section in this package with respect to the Fellow’s preoperative and postoperative surgical responsibilities.

REFRACTIVE SURGERY SERVICE: The cornea fellows actively participate in the refractive surgery service. Fellows are responsible for evaluating refractive candidates, and presenting their findings to the appropriate Attending. Fellows play an active role in the intraoperative and postoperative care of refractive patients. Refractive clinics may occasionally be held on Saturday AM (not more than 6x/year) and fellows (one per session) will participate in these.

EMERGENCY ROOM ATTENDING COVERAGE: Each fellow is required to provide 24 half-day sessions of coverage in the MEEI EW over the duration of their fellowship, during which they see patients and teach residents and medical students.

ON-CALL: One fellow is assigned to be “on-call” for the service each week. This fellow is responsible for all emergency medical and surgical admissions to the Cornea Service faculty during that week as well as cornea consults from the emergency room. An assigned attending will be on call with the fellow and is available for complicated cases, admissions, or surgical procedures. Any changes to the on-call schedule must be processed through the Chief Cornea Fellow and reported to the operator and updated on the Intelliweb. If the fellow is unable to provide on-call coverage on any given pre-assigned week, it is the fellow’s responsibility to find coverage amongst the other fellows and inform the Manager.

SHRINERS/BURN/SJS-TENS CONSULTS: The designated cornea BURN fellow (based on the rotation assignment) is responsible for providing consultation services to patients at the Shriners Burn Institute and Massachusetts General Hospital during the weekday, under the direct supervision of Dr. Chodosh. Billing forms and all applicable paperwork are available at the front desk and in the burn bag.
and must be completed and returned to the manager immediately after the consult. The following is the official policy regarding burn consults:

During business hours, consults are paged to the Burn Fellow on call who is listed in the online call schedule according to the rotation. When the burn fellow is on vacation the schedule should be updated so that the cornea fellow on call provides coverage for those consults. By communicating with the Burn Service at MGH or Shriners, the fellow will determine if a consult can wait until after 5 pm or when they are free from clinics and OR. If it is absolutely necessary to see the patient before 5 pm (urgent burn consult necessary to be seen immediately) and the fellow is in clinic or the EW should be notified.

Consults called after business hours and on weekends should be directed to the MEEI EW. They will be seen by the EW junior resident. Many of them can be seen for follow up during the week and these should be emailed or non-urgently communicated to the burn fellow who will follow them during the week. If there is a patient with a burn that needs to have cornea service involvement over the weekend or nights the junior resident should call the general CORNEA FELLOW ON CALL.

LONGWOOD CALL: There is an on call MEEI resident or Joslin fellow at all times. There is also a cornea attending at Longwood during the day for staffing consults. When there are off hours consults seen by the first call (MEEI or Joslin resident/fellow) and they require cornea involvement, the MEEI cornea fellow on call may be paged. The MEEI cornea fellow is expected to see any corneal consult on the day they receive the request. Frequent shuttle service between MGH and Longwood facilities is available. Reimbursement will be provided for cab fare to Longwood when shuttle service is not available, e.g. late at night, or under extenuating circumstances to be approved by the fellowship director.

CLINICAL RESEARCH: Fellows are expected to participate in all clinical research projects in the cornea service. Participation includes becoming familiar with the various active projects and protocols and performing study assessments as needed. All fellows will need to complete the Collaborative Institution Training Initiative for human subjects.

BOSTON FOUNDATION FOR SIGHT AND THE BOSTON OCULAR SURFACE PROTHESIS: Fellows will be assigned 1 week of clinic time at the Boston Foundation for Sight, in Needham, under the supervision of Deborah S. Jacobs, M.D. The week will be chosen in conjunction with Dr. Jacobs and the Chief Fellow to correspond to Cornea Clinic Faculty vacation and meeting time to minimize impact on other fellows and faculty. The goal of this week, in addition to the twice monthly Scleral Lens clinic at the Cornea Service, is to gain familiarity with the scleral lens fitting and other types of contact lenses for the rehabilitation of irregular astigmatism and ocular surface disease. There will be opportunity for clinical research for interested fellows.

Educational Responsibilities: In addition to clinical activities, the following educational activities are also included in the fellow’s curriculum

CONFERENCES: There are several cornea clubs held during the month. Some of these include a refractive club, imaging club and general cornea club. These are mostly informal sessions in which fellows and attendings meet to discuss interesting cases, and are held in the early evening with dinner provided. The attending assigned to lead each session typically picks a topic for discussion and the fellows prepare and present interesting cases during the session. The Cornea Service also hosts a visiting professor lecture series (typically 4-6 individuals are invited each year), for lectures and case presentations. Fellows prepare and present interesting cases within the visiting professors’ areas of expertise with live patient examinations. Finally, MEEI has extensive formal didactics including weekly
Grand Rounds, and numerous courses and conferences. A 60% attendance rate or higher must be
achieved at Grand Rounds as a condition of receiving a certificate.

SCHOLARSHIP: During the breadth of the fellowship, each fellow must participate at least once in the
Fellows’ Course. This “course” requires the fellow to participate in the preparation of a publishable
manuscript, which will be undertaken with faculty mentorship.

TEACHING ACTIVITIES: The cornea fellows are an important resource for the education of the
medical students and residents. They have direct interactions in Cornea Clinic, serve as attendings in the
EW, and for emergency cornea cases in the EW. The fellow may provide these services independently, or
in collaboration with a Cornea Service faculty member, depending upon the complexity of the case and
fellow’s level of expertise. Each fellow is expected to give one 30 minute Grand Rounds presentation
during the academic year.

**Fellow Funding and Benefits**

*Please note: Clinical fellows must meet the requirements for full (unlimited) licensure in Massachusetts.*

1. **SALARY:** Currently $53,000/1st year; $57,000/2nd year (for 2-year fellows)

2. **MALPRACTICE:** Malpractice premiums, through the Harvard CRICO program, are paid for by the
Cornea Service.

3. **HEALTH INSURANCE:** Family health insurance will be provided through the benefits program of
Massachusetts Eye and Ear Associates. The fellow will need to contribute to this benefit as well, according
to the guidelines of the Infirmary.

4. **VACATION AND SICK LEAVE:** Each fellow is allowed 3 weeks (15 work days) of combined
vacation/meeting time and (1) personal day per year (vacation does not accrue year to year). Requests for
time away from the Service must be submitted in written form 60 days in advance for pre-approval by the
Fellowship Director or the Service Director. Up to (5) additional days may be taken with the approval of
the Fellowship or Service Director for a major ophthalmology conference or academic meeting at which the
fellow is a first author presenting original research (i.e., the fellow has not presented the data before.) The
Infirmary’s calendar also includes 9 legal holidays per year. Vacation should only be requested one week at
a time and must not coincide with the vacation of another cornea fellow. The vacation cannot be taken
during June or July. The formal vacation policy will be given to incoming fellows during their orientation.

5. **PROFESSIONAL MEETINGS:** Attendance and participation at appropriate professional meetings is
encouraged. Travel expenses not exceeding $2,200 and up to five days per academic year may be taken
with the approval of the fellowship or service director for a major ophthalmology conference or academic
meeting at which the fellow is a first author presenting original research (i.e., the fellow has not presented
the data before.). If the fellow is not presenting original research, then vacation time may be used and travel
expenses up to $800 will be reimbursed per academic year.

**Miscellaneous**

**FELLOWS ROOM**
A room has been provided for you to secure your coat and belongings. A PC and printer are in the room. All
Cornea Clinic exam lanes are also equipped with networked computers, to be used for clinical and academic
purposes. The Ophthalmology Education office will provide you with a key to the Fellows’ room. Please remember that the Infirmary will not be responsible for personal items.

MAIL
An in-box for your mail and/or important messages has been placed directly behind the Cornea Service front desk. This is an important venue for staff members to send fellows important messages. Fellows are urged to check their mailbox frequently for patient telephone call messages, dictations and important mail and memos.

PAGING
You are supplied with a pager that you must wear during business hours and also at all times when on-call. Please respond to your pages promptly. If you change the status of your beeper for any reason (i.e. in surgery, not available), please make sure you promptly reverse the status on your return to clinical duty.

PAYCHECKS
The payroll department requires that all employees participate in direct deposit. You will receive an electronic paystub the last day of each month.

TRAVEL REIMBURSEMENT
Travel expenses not exceeding $2,200 and up to five days per academic year may be taken with the approval of the fellowship or service director for a major ophthalmology conference or academic meeting at which the fellow is a first author presenting original research (i.e., the fellow has not presented the data before.). If the fellow is not presenting original research, then vacation time may be used and travel expenses up to $800 will be reimbursed per academic year. On your return, please complete a “travel reimbursement form” and submit to the cornea manager with original receipts. Forms can be obtained from the cornea manager.

SURGERY
For all patients requiring surgery, it is the fellow’s responsibility on that particular attending’s rotation to ensure that all orders for lens implants, corneal or amniotic tissue, and other special requests, are submitted in a timely manner so that the surgical scheduler can forward all appropriate completed forms to MMF for preoperative review a minimum of 48 hours in advance of surgery. Please note that cases that do not meet this deadline are cancelled; therefore, if possible, all paperwork should be done one week prior to surgery and the cases discussed with the relevant attending to avoid any problems.

Consent forms are signed while the patient is in the clinic (forms are filed in the drawers of each exam room). While in the exam room, the patient should meet the appropriate surgical scheduler regarding preoperative medical clearance, consent signing, etc. All patients should have A’s and K’s performed for cataract surgery on the same day of their visit to the clinic unless other issues preclude this testing on that day (in which case the scheduler will have to coordinate another visit to the MEEI for this purpose).

The surgical scheduler will hold the chart(s) until all appropriate paperwork has been completed prior to forwarding to One Medical Passport. However, on the morning of surgery, it is the fellow’s responsibility to transport the charts to the operating room. Following surgery, fellows are also responsible for dictating operative notes immediately prior to leaving the operating room area and laser center, and for transporting the charts and billing forms back from the OR to the appropriate surgical scheduler.

Note: The fellowship program has no restrictive covenants.