

**Harvard Medical School/Harvard School of Dental Medicine  
Format for the Curriculum Vitae**

<b>Date Prepared:</b>	<b>November 1, 2011</b>
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**Education**

<b>Year</b>	<b>Degree</b>	<b>Field of Study</b>	<b>Institution</b>
1986	BA, <i>cum laude</i>	English	Tufts University College of Liberal Arts
1986	BSME, <i>cum laude</i>	Mechanical Engineering	Tufts University College of Engineering
1993	MD		Columbia University College of Physicians & Surgeons

**Postdoctoral Training**

<b>Year</b>	<b>Title</b>	<b>Specialty</b>	<b>Institution</b>
7/03-6/94	Intern	Medicine and Surgery	Columbia University Overlook Hospital, Summit, NJ
7/94-6/97	Resident physician	Ophthalmology	Edward S. Harkness Eye Institute, Columbia University
7/97-6/98	Clinical Fellow	Ophthalmic Pathology	Massachusetts General Hospital, Harvard Medical School
7/97-6/99	Clinical Fellow	Ophthalmic Plastic & Reconstructive Surgery	Massachusetts Eye & Ear Infirmary, Harvard Medical School

**Faculty Academic Appointments**

<b>Year</b>	<b>Academic Title</b>	<b>Department</b>	<b>Academic Institution</b>
7/99-2005	Instructor	Ophthalmology	Harvard Medical School
2005-6	Assistant Clinical Professor (Part-time)	Ophthalmology	Harvard Medical School
2007-present	Assistant Professor (Full-time)	Ophthalmology	Harvard Medical School
2010-present	Adjunct clinical faculty	Ophthalmology	New England School of Optometry

**Appointments at Hospitals/Affiliated Institutions**

<b>Year</b>	<b>Position Title</b>	<b>Department/Division</b>	<b>Institution</b>
7/97-6/99	Associate Staff	Ophthalmology	Massachusetts Eye & Ear Infirmary
7/98-6/01	Staff	Surgery/Ophthalmology	Brigham & Women's Hospital
2002-present	Associate surgeon	Surgery/Ophthalmology	Brigham & Women's Hospital
7/99-2005	Assistant in Ophthalmology	Ophthalmology/Ophthalmic Plastic & Reconstructive Surgery	Massachusetts Eye & Ear Infirmary
4/05-present	Clinical Associate	Surgery/Ophthalmology	Massachusetts General Hospital
2006-present	Assistant Surgeon	Ophthalmology/Ophthalmic Plastic & Reconstructive Surgery	Massachusetts Eye & Ear Infirmary
6/2006-present	Assistant Surgeon	Surgery/Ophthalmology	Beth Israel Hospital
11/04-present	Adjunct Attending	Surgery/Ophthalmology	Vascular Birthmark Institute of New York, St. Luke's/Roosevelt Hospital Center

**Other Professional Positions**

**Major Administrative Leadership Positions (local, regional, national and international)**

<b>Year</b>	<b>Position Title</b>	<b>Institution</b>
2000	Co-director, Orbital and Ophthalmic Plastic Surgery Dissection Course	Massachusetts Eye & Ear Infirmary
2002	Co-director, Orbital and Ophthalmic Plastic Surgery Dissection Course	Massachusetts Eye & Ear Infirmary
2006-present	Director, Ophthalmic Plastic & Reconstructive Surgery International Fellowship	Massachusetts Eye & Ear Infirmary
2006-2009	Director, Ophthalmic Plastic & Reconstructive Surgery Fellowship	Massachusetts Eye & Ear Infirmary
2006-2011	Director, Ophthalmic Plastic & Reconstructive Surgery Service	Massachusetts Eye & Ear Infirmary
2006-2011	Director, Ophthalmic Plastic and Reconstructive Surgery lecture series	Massachusetts Eye & Ear Infirmary
2009-2010	Director, ASOPRS-accredited fellowship in Ophthalmic Plastic & Reconstructive Surgery	Massachusetts Eye & Ear Infirmary
2010-present	Director, ASOPRS-accredited, ACGME-accredited fellowship in Ophthalmic Plastic & Reconstructive Surgery	Massachusetts Eye & Ear Infirmary
2009-present	Director, Martin C. Mihm, Jr. Vascular Birthmark Clinic	Massachusetts General Hospital/Massachusetts Eye & Ear Infirmary

**Committee Service (local, regional, national and international)**

**Local**

2006-present	Department of Ophthalmology Fellowship Committee	Massachusetts Eye & Ear Infirmary
2008-11	Department of Ophthalmology Practice Advisory Council	Massachusetts Eye & Ear Infirmary

**Professional Societies**

<b>Year(s) of membership</b>	<b>Society Name</b>	

	<b>Date of Role(s)</b>	<b>Title of Role(s)</b>
1994-2000	Association for Research in Vision and Ophthalmology	
1994-present	American Academy of Ophthalmology	
2005-present	American Society of Ophthalmic Plastic and Reconstructive Surgery	
	2009-present	Administrator <a href="http://www.ASOPRSForum.org">www.ASOPRSForum.org</a> (national society internet forum)
	2009-present	Education committee
	2010-present	ACGME Fellowship and curriculum committees
	2011	Oral Boards Examiner
	2011-present	Information Technology and Website Design Committee
	2011-present	Oral Boards Exam Formulation Committee
2000-present	New England Oculoplastics Society	
	2000-2006	Program Committee
	2006-present	Treasurer
	2007-2009	Acting President
2002-present	Massachusetts Society of Eye Physicians & Surgeons	
2012-present	The Orbit Society	

### **Grant Review Activities**

Year of Membership	Name of Committee	Organization
	Date(s) of Role(s)	Title of Role(s)
2012-present	Harvard Catalyst Advanced Imaging Pilot Research Grants Program	Harvard Clinical and Translational Science Center
	2012-present	Ad hoc member

### **Editorial Activities**

<b>Ad Hoc Reviewer</b>
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Ophthalmology
Archives of Ophthalmology
Ophthalmic Plastic & Reconstructive Surgery
Journal of Dermatology
Indian Journal of Ophthalmology
European Journal of Dermatology
Mideast Journal of Ophthalmology
Lasers in Medicine and Surgery

### Other Editorial Roles

Year	Role	Journal Name
1992-4	Founding Editor	P&S Medical Review

### Honors and Prizes

1993	Phi Lambda Kappa Alvin Behrens Memorial Award	Columbia University	Outstanding medical student research in ophthalmology
2006	Physician of the Year	Vascular Birthmark Foundation	Outstanding research and treatment of vascular birthmarks
2007	Eleanor and Miles Shore Scholars in Medicine Award	Harvard Medical School	Junior faculty award for research in ophthalmic plastic and reconstructive surgery

## Report of Funded and Unfunded Projects

### Funding Information

#### Past

#### Current

2008- present	Site PI/Long term results of retinoblastoma patients treated with proton radiation
	NIH/NCI Federal share of program income earned by Massachusetts General Hospital on C06 CA059267 (Hospital Protocol 10-04-030)
	Site PI
	The major goal of this study is to determine efficacy and adverse effects of proton irradiation on the orbit in patients with retinoblastoma.
2010- present	Efficacy of bimatoprost to enhance eyelash growth in children with chemotherapy-induced alopecia
	Phase 3B drug trial, industry grant # (Allergan)
	Principal Investigator (\$_____)
	The major goal of this study is to determine the efficacy and safety of bimatoprost in

	pediatric patients.
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### Current Unfunded Projects

2005-present	PI/Orbital development in Native Americans
	The purpose of this project is to determine the rate of infantile orbital development and to determine the age of orbital maturity as it pertains to periocular vascular anomalies.
2008-present	PI/Encapsulated venous malformations and infantile hemangiomas of the orbit
	The purpose of this project is to classify definitively the glut 1-negative, venous lesion mislabeled in ophthalmic literature as “cavernous hemangioma.”
2010-present	Mentor/Idiopathic sclerosing orbital inflammation
	The purpose of this project is to determine optimal diagnostic and therapeutic protocols and develop a consensus among leading experts in the field.
2010-present	PI/Gravitational bleomycin orbital sclerosis
	The purpose of this project is to develop the optimal protocol for sclerosing orbital lymphatic and venous malformations.
2008-present	PI/Ultra-high speed videography in normal patients and patients with paralytic lagophthalmos
	The purpose of this study is to demonstrate the feasibility of ultra-high speed videography to evaluate eyelid movement and velocity.
2008-present	PI/Levine palpebral spring procedure
	The purpose of this project is to advance the development of the Levine palpebral spring and to develop third- and fourth-generation eyelid implants.
2010-present	PI/Clinical implications and treatment algorithms in patients with periocular infantile hemangiomas
	The purpose of this study is to review 450 cases of children with infantile hemangioma, determine the frequency and degree of vision-threatening conditions, and summarize the indications and effects of early intervention
2010-present	PI/Recommendations for surgical extirpation of periocular infantile hemangiomas
	The purpose of this study is to delineate previously unrecognized findings in cases of orbital and eyelid hemangiomas, and to recommend approaches to surgical treatment in cases in which surgery is indicated.
2009-present	Co-PI/Highly selective facial neurectomy in patients with intractable blepharospasm
	The purpose of this study is to develop protocols to treat disabling blepharospasm in cases refractory to standard methods
2009-present	Mentor/High-speed debrider in orbital decompression
	The purpose of this study is to introduce a useful tool into orbital surgery.
2009-present	PI/The role of prophylactic antibiotics in oculoplastic surgery
	The purpose of this study is to determine whether patients undergoing routine oculoplastic

	surgery should be given prophylactic, postoperative antibiotics
2010-present	PI/Investigational surgical device
	The purpose of this study is to develop an electronically assisted device to improve tear duct surgery

## **Report of Local Teaching and Training**

### **Teaching of Students in Courses**

1994-7	Ophthalmology Major Clinical Year	Columbia University College of Physicians & Surgeons
	150 3 <sup>rd</sup> year medical students	1 hour lecture/yr
1994-7	Science Basic to the Practice of Medicine and Dentistry	Columbia University College of Physicians & Surgeons
	150 1 <sup>st</sup> year medical students	Dissection instructor 5 1-hour sessions/yr

### **Formal Teaching of Residents, Clinical Fellows and Research Fellows (post-docs)**

1999	Orbital Anatomy and Emergency Oculoplastic Surgery for Otolaryngologists	Massachusetts Eye & Ear Infirmary
	10 otorhinolaryngology residents	2 hour lecture
1997-2006	Ophthalmic Plastic & Reconstructive Surgery lecture series	Massachusetts Eye & Ear Infirmary
	ophthalmology residents and fellows	2-3 1-hour lectures/yr
2006-present	Oculoplastics Journal Club (Facilitator 2006-2012)	Massachusetts Eye & Ear Infirmary
	Oculoplastics fellows and ophthalmology residents	Bi-monthly
2005-present	Emergency Room Chart Review	Twice per year
	Ophthalmology residents	2-3 30-minute review sessions per year

### **Clinical Supervisory and Training Responsibilities**

1999-2006	Associate preceptor, Ophthalmic Plastic & Reconstructive Surgery Fellowship/Harvard Medical School, Massachusetts Eye & Ear Infirmary	2.5 days/week instruct and supervise clinical fellow
1999-present	Clinical instructor for 1 <sup>st</sup> and 2 <sup>nd</sup> year ophthalmology residents rotating through oculoplastic surgery service	2.5 days/week instruct and supervise residents
2002-2010	Preceptor, visiting medical students, 1-month individual clinical rotations in ophthalmology/Harvard Medical School, Massachusetts Eye & Ear Infirmary	Daily supervision of an individual student for one-two months per year
2005-present	Co-Preceptor, Harvard Medical Students, 1-month clinical rotations in	2.5 days/week mentorship of a single HMS medical student for one month at a time

	ophthalmology/Harvard Medical School, Massachusetts Eye & Ear Infirmary	
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### Laboratory and Other Research Supervisory and Training Responsibilities

2006-present	Supervision of post-doctoral research fellow	Daily mentorship for 12-month program
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### Formally Supervised Trainees

2005-7	Calliope Allen, MD/Commander, US Navy, Division Head US Naval Hospital, San Diego
2006-2007	Youngjae Lee, MD/ Associate Professor (Ophthalmic Plastic Surgery), Seoul, Korea
2007-9	John Nguyen, MD/ Assistant Professor of Ophthalmology, West Virginia University
	Published twelve manuscripts including one in the Journal of Pediatrics and one in the American Journal of Ophthalmology
2007-9	Kristine Lo, MD/ Resident in Ophthalmology, Mass Eye and Ear
2007-9	Manisha Mehta, MD/ Resident in Pathology, Brigham & Women's Hospital
2009-10	John Pemberton, DO/ Assistant Professor of Ophthalmology, Director of Ophthalmic Plastic Surgery, University of Arkansas
	Authored one textbook, Developed one new surgical device, published one major review article, and conducted one major clinical trial
2010-2011	Yvette Santiago, MD/ Assistant Professor of Ophthalmic Plastic Surgery, University of Philippines, Manila
2011-present	Dawn De Castro, MD/ Clinical Fellow in Ophthalmic Plastic & Reconstructive Surgery, Mass Eye & Ear
2011-present	Tammy Osaki, MD/ Research Fellow in Ophthalmic Plastic & Reconstructive Surgery, Mass Eye & Ear
2012-present	Prashant Yadav, MD/ Clinical Fellow in Ophthalmic Plastic & Reconstructive Surgery, Mass Eye & Ear

### Local Invited Presentations

No presentations below were sponsored by outside entities.

Year(s)	Title of presentation/Type of presentation
	Department and institution where presented
2003	Ophthalmic considerations in the management of pediatric vascular malformations/Grand Rounds
	Department of Dermatology, Brigham & Women's Hospital
2007	Oculocentric approach to orbital surgery/Grand Rounds
	Department of Oral and Maxillofacial Surgery, Massachusetts General Hospital
2008	Helping Children Face the World/Keynote speaker
	Annual Spring Meeting, Massachusetts Eye & Ear Infirmary
2010	Vascular Anomalies Science: Clinico-Pathologic Collaboration/Grand Rounds
	Department of Dermatology, Massachusetts General Hospital
2011	Ocular and Periocular Trauma/Grand Rounds
	Department of Oral/Maxillofacial Surgery, Massachusetts General Hospital
2011	Lasers in Oculoplastic Surgery/Invited lecture



	Laser Update in Facial Plastic Surgery (course), Boston, MA
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## **Report of Regional, National and International Invited Teaching and Presentations**

No presentations below were sponsored by outside entities.

### **Invited Presentations and Courses**

#### **Regional**

<b>Year</b>	<b>Title of presentation or name of course/Type of presentation/role</b>
	<b>Location</b>
2007	Concepts and Management of Periocular Hemangiomas/Keynote speaker
	Harvard Medical School Update on Ophthalmology, Massachusetts Eye & Ear Infirmary
2009	Beyond Blepharoplasty: Eyelid Evaluation and Management/Annual Meeting/Keynote speaker
	Massachusetts Society of Optometrists

#### **National**

2002	Contemporary management of hemangiomas and vascular malformations of the head and neck: orbital and periorbital lesions/Plenary Talk
	American Academy of Pediatrics Section on Bronchoscopy and Otolaryngoscopy
2005	Ophthalmic considerations of port wine stains/Plenary talk
	Port wine stain conference, Beckman Laser Institute, University of California Irvine
2006	Ophthalmic Concerns in Vascular Anomaly Patients/Invited speaker
	Biennial Conference, Vascular Birthmark Foundation, Boston
2008	Hemangiomas and Vascular Anomalies/Grand Rounds
	State University of New York Upstate Medical Center Department of Ophthalmology
2008	Periocular Hemangiomas in Children/Grand Rounds
	State University of New York Upstate Medical Center Department of Pediatrics
2008	Periocular Vascular Anomalies/Grand Rounds
	State University of New York Upstate Medical Center Department of Otolaryngology-Head and Neck Surgery
2008	Orbital Vascular Anomalies/Invited speaker
	Biennial Conference, Vascular Birthmark Foundation, New York
2009	Treatment of Facial Paralysis- Acute and Chronic/Invited section talk
	Triological Society Easter Section Meeting
2009	Periocular Vascular Anomalies/Invited section talk
	Association of Ophthalmic Operating Room Nurses Annual Meeting
2011	Infantile Hemangiomas/Visiting Professor
	Albany Ophthalmology Update, Albany Medical Center, Albany, New York
2011	Periocular Vascular Malformations/Visiting Professor
	Albany Ophthalmology Update, Albany Medical Center, Albany, New York
2011	Eyelid Reanimation: The Levine Palpebral Spring/Visiting Professor
	Albany Ophthalmology Update, Albany Medical Center, Albany, New York
2011	Eyelid Malpositions: Entropion, ectropion, and the ptoses/Invited speaker
	Osler Institute, Natick, Massachusetts
2011	The Lacrimal Drainage System/Invited speaker

	Osler Insitute, Natick, Massachusetts
2011	Orbital Trauma/Invited speaker
	Osler Institute, Natick, Massachusetts
2012	Eyelid Anatomy and Malpositions: Entropion, Ectropion, and the Ptosos/Invited Speaker
	Osler Institute, Tampa, Florida
2012	The Lacrimal Drainage System/Invited speaker
	Osler Institute, Tampa, Florida
2012	Orbital Anatomy and Trauma/Invited speaker
	Osler Institute, Tampa, Florida
2012	Eyelid Anatomy and Malpositions: Entropion, Ectropion, and the Ptosos/Invited Speaker
	Osler Oral Board Review Course, San Francisco
2012	The Lacrimal Drainage System/Invited speaker
	Osler Oral Board Review Course, San Francisco
2012	Orbital Anatomy and Trauma/Invited speaker
	Osler Oral Board Review Course, San Francisco
2012	Eyelid Malpositions/ Invited Speaker
	Ophthalmology Board Review Course, San Francisco
2012	Lacrimal System Review/ Invited Speaker
	Ophthalmology Board Review Course, San Francisco
2012	Orbital Trauma/ Invited Speaker
	Ophthalmology Board Review Course, San Francisco

#### International

1997	Phacoemulsification (Small incision cataract surgery)/Invited speaker
	Seva Foundation, Madurai, India
2001	Surgical treatment of eyelid and lacrimal disorders/Invited speaker
	Orbis International, Urumqi City Hospital, Xian province, China
2003	Introduction to oculoplastic surgery/invited speaker
	Queen Elizabeth Hospital, Bridgetown, Barbados
2004	Oculoplastic Manifestations of Orbital and Periorbital Vascular Tumors/Plenary session/Keynote speaker
	Indian Medical Society, Dahod Branch, Gujarat, India
2004	Introduction to oculoplastic and lacrimal surgery/Grand Rounds
	Drashti Natralaya Eye Hospital, Dahod, Gujarat, India
2009	Periocular Hemangiomas and Vascular Malformations/Plenary talk
	Conference on Vascular Birthmarks, St. Joseph Krankenhaus, Berlin
2010	Periocular Hemangiomas: The Past Decade/Plenary talk
	Oculoplastics Today 2010, Israeli Ophthalmologic Society, Tel Aviv, Israel
2010	Diagnosis and Treatment of Periocular Vascular Anomalies/Invited speaker
	Pediatric Oncology Symposium, Wroclaw, Poland
2011	Infantile Hemangiomas: diagnosis and treatment/Invited speaker
	34 <sup>th</sup> SIMASP, Sao Paolo, Brazil
2011	Gravitational Bleomycin Orbital Sclerosis in the management of vascular malformations/Invited speaker

	34 <sup>th</sup> SIMASP, Sao Paolo, Brazil
2011	Shanghai ENT Hospital, Fudong University, Shanghai/Visiting Professor A Brief History of Periocular Infantile Hemangioma Treatment
2011	Henan Eye Institute, Zhengzhou, Henan, China/Visiting Professor Eyelid Reanimation: The Levine Procedure
2011	Henan Eye Institute, Zhengzhou, Henan, China/Visiting Professor (小儿血管性病变) A Brief History of Hemangioma Treatment
2011	Infantil Hemangiomas uma década de cada vez /Invited speaker XXXVI Congresso Brasileiro Oftalmologia, Porto Alegre, Brazil
2011	Fracturas Orbitales/Invited speaker XXXVI Congresso Brasileiro Oftalmologia, Porto Alegre, Brazil
2011	Reanimação Palpebral Procedimento de Levine/Invited speaker XXXVI Congresso Brasileiro Oftalmologia, Porto Alegre, Brazil
2011	Eyelid Reanimation: The Levine Procedure/Invited speaker Oculoplastics Subspecialty Day Brazilian Ophthalmology Congress/Invited speaker
2011	Wenn eine Operation in Periokuläre Hämangiom? Deutsch Netzwerk von Anomalien Vaskularen, Inaugural Meeting, Berlin/Invited speaker
2012	Decision 2012: If, When, and How to Treat Infantile Hemangiomas/Invited speaker 35 <sup>th</sup> SIMASP, Sao Paolo, Brazil
2012	Facial Paralysis: Levine Palpebral Spring Update/ Invited speaker 35 <sup>th</sup> SIMASP, Sao Paolo, Brazil
2012	Antibiotics in Orbital Surgery/Invited Speaker 35 <sup>th</sup> SIMASP, Sao Paolo, Brazil
2012	Medical and Surgical Management of Orbital Vascular Disease/Invited Speaker Royal Society of Ophthalmology, Liverpool, England
2012	The Propranolol Paradox/Invited Speaker Royal Society of Ophthalmology, Liverpool, England
2012	Management of Orbital Vascular Malformations/Invited Speaker Italian Society of Pediatric Surgery, Milano

## **Report of Clinical Activities and Innovations**

### **Current Licensure and Certification**

1993	New York Medical License
1997	Massachusetts Medical License

### **Practice Activities**

<b>Year</b>	<b>Type of activity</b>	<b>Name and location of practice</b>	<b>Level of activity</b>
1999-2006	Ambulatory Care	Ophthalmic Plastic & Reconstructive Surgery, Massachusetts Eye & Ear Infirmary	1 full day per week (12 hours)
1999-2006	Surgery	Ophthalmic Plastic & Reconstructive Surgery, Massachusetts Eye & Ear	1 full day per week (12 hours)

		Infirmery	
1999-present	Surgery	Massachusetts General Hospital	1 day per month (combined surgical cases)
1999-2010	Ambulatory Care	Hemangioma and Vascular Malformation Clinic, Massachusetts General Hospital	1 Saturday per month (multidisciplinary clinic)
2006-present	Ambulatory Care	Ophthalmic Plastic & Reconstructive Surgery, Massachusetts Eye & Ear Infirmery	3 days per week (25 hours)
2006-present	Surgery	Ophthalmic Plastic & Reconstructive Surgery, Massachusetts Eye & Ear Infirmery	3 days per week (35 hours)
2010-present	Ambulatory Care	Martin C. Mihm, Jr. Vascular Birthmark Clinic, Massachusetts Eye & Ear Infirmery	1 Saturday per month (multidisciplinary clinic)

### Clinical Innovations

<b>Name/location of clinical innovation (dates if applicable)</b>	<b>Describe the influence or potential influence of the innovation on clinical care or practice management</b>
Ophthalmic Plastic Surgery Continuity clinic (2007-present)	Upon taking direction of the oculoplastics clinic, I expanded ambulatory services to 5 days/week from the one day/week model that had existed. Attending level care is now available every day.
Ophthalmic Plastic Surgery Fellows Clinic (dissolved 2007)	Ambulatory clinics in oculoplastics are no longer staffed by oculoplastics trainees, but by attending surgeons.
Electronic submission of surgical bills (2010)	This modification of our practice billing pattern allows for immediate submission of surgical bills sent directly from our electronic surgical database. It improves reliability and tracking and eliminates lag and loss of surgical bills.
Fellowship certification by the American Society of Ophthalmic Plastic and Reconstructive Surgery (2009)	Our fellowship in oculoplastic surgery had been an independent apprenticeship since 1990. I restructured the fellowship in accordance with the ASOPRS bylaws and obtained ASOPRS accreditation for the fellowship.
Web-based video-conference fellowship interviews (2009)	In 2009 we received 45 applications for our 2011 ASOPRS fellowship. I was able to interview more than 30 candidates for 1 hour using Skype video teleconference. Several ASOPRS program directors heard about my method and asked me to help them do the same. It is expected that a majority of fellowship

	programs will use this form of screening to save time and money for fellowship applicants and programs.
Ophthalmic Plastic Surgery Cosmetic Suite (2010)	In 2008 the American Society of Ophthalmic Plastic and Reconstructive Surgery adopted the term “oculo-facial surgery” to describe the range of conditions we treat. In accordance, I conceived a plan to develop a cosmetic suite at our institution similar to facilities at the leading oculoplastics institutes in the country. This facility (opening 3/2011) is expected to expand services and enhance fellowship and residency training.
Electronic Health Records (2010)	Working with my colleagues in Plastic Surgery at Massachusetts General Hospital, we developed an electronic scanning system to eliminate entirely permanent paper charts. This is expected to eliminate chart loss and improve patient care continuity and decrease patient complaints related to chart misplacement.
Martin C. Mihm, Jr. Vascular Birthmark Clinic (2010)	By working with the other founding members of the clinic and the department of ophthalmology, we have given the clinic a permanent home on the MGH/MEE campus. Patients will now have access to comprehensive, multidisciplinary care and protocols.

## Report of Technological and Other Scientific Innovations

Anterior capsule staining to improve cataract surgery (1995)	Association for Research in Vision and Ophthalmology 1995 Annual Meeting Abstract Catalogue
	I conceived of anterior capsule staining and performed animal studies using 3 common stains: fluorescein, indocyanine green, and methyl blue to demonstrate the utility of anterior capsule staining to facilitate anterior capsulotomy, allowing advanced cataracts to be safely treated with phacoemulsification. This procedure is now performed thousands of times each year, worldwide.
Web-based international subspecialty exchange (2009-present)	<a href="http://www.AOPRSForum.org">www.AOPRSForum.org</a>
	Using existing software for operating system development, I developed a Forum for members of the American Society of Ophthalmic Plastic and Reconstructive Surgery. My fellow and I used open access phpBB software to develop the Forum, which has become the national standard for case exchange, billing and practice management discussions, employment advertisement, and meeting announcements.
Lacrimal surgery stent	Patent Pending

	I developed a technique and implantable device to treat intractable dacryocystitis in patients with inflammatory mucous membrane disease such as sarcoidosis and Wegener's granulomatosis.
Lacrimal probe enhancer	Patent number
	I developed a device to facilitate tear duct probe procedures and to aid in teaching this type of surgery. It is expected that this device will become a standard operating room tool for training programs and for smaller hospitals where this surgery is performed less frequently.
Orbital fracture implant	Patent pending
	I developed an improved porous implant for use in orbital reconstruction. It is expected that this material will replace the standard implant in a majority of orbit (and perhaps other facial) reconstruction cases.
Chinese Delegation	Coordinated 10-member Team of Leading Chinese Oculoplastic Surgeons on an academic visit and tour to USA including University of Michigan and Mass Eye and Ear/Harvard University

## **Report of Education of Patients and Service to the Community**

### **Activities**

1999-2004	Brookline Public Schools 4 <sup>th</sup> Grade sheep eye dissection course/Director-instructor
	Gave annual ½-day lecture and dissection course to 4 <sup>th</sup> grade classes.
2005	Scholastic ScienceWorld
	Consultant to national elementary school magazine on lacrimal drainage system
2006	Orbis International, Kingston Public Hospital, Kingston, Jamaica
	Instructed resident ophthalmologists in basic oculoplastic surgery
2006	Scholastic ScienceWorld
	Medical consultant to national elementary school magazine on thyroid eye disease
2006-present	African Fellowship Initiative/Director and Founder
	Created and obtained funding for one-year international fellowship in ophthalmic plastic & reconstructive surgery to be awarded preferentially to candidates from underserved regions of the world with emphasis on sub-Saharan Africa
2007-present	Community-based faculty lecture series
	Created 10-part lecture series in ophthalmic plastic & reconstructive surgery with integrated faculty from full-time staff and MEEI-based community ophthalmic plastic surgeons
2008	Graves Disease Foundation Patient Support Group/Director and facilitator
	Developed a support group for patients with thyroid eye disease, invited faculty speakers, and forged a collaboration with our local group and the national foundation
2008	Orbis International, Kingston Public Hospital, Kingston, Jamaica
	Instructed resident ophthalmologists in basic oculoplastic surgery
2008-present	Massachusetts Board of Registration in Medicine/Expert Physician
	Review individual case reports of physician malfeasance for the state board
2009-present	New York Board of Medicine/Expert Physician
	Review individual case reports of physician malfeasance for the state board

2009-present	College of Physicians and Surgeons of Nova Scotia/Expert Physician
	Review individual case reports of physician malfeasance for the state
2010	Benign Essential Blepharospasm Foundation Patient Support Group/Invited speaker
	Lecture on etiology, treatment alternatives, and current research on spastic eyelid disorders.
2010	International medical equipment exchange/Founder
	We developed and completed a pilot exchange program with IMEC International to distribute surplus MEEI hospital supplies to needy hospitals around the world. Ultimately, we hope to grow this into a Boston-wide program that will decrease waste and landfill, and support outpatient and inpatient services internationally.
2011	Chai Medical Division Senior Mentor
	Help board of directors establish a CME course in medical ethics for Boston area house officers
2012	Brookline Public Schools sheep eye dissection course/Director-instructor
	½-day lecture and dissection course to 5 <sup>th</sup> grade classes
2012	Benign Essential Blepharospasm Foundation Patient Support Group/Invited speaker
	Lecture on dry eye and secondary blepharospasm, and recent innovations in the treatment of benign essential blepharospasm

### Educational Material for Patients and the Lay Community

No educational materials listed below were sponsored by outside entities.

#### **Books, monographs, articles and presentations in other media**

None			
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#### **Educational material or curricula developed for non-professional students**

2005	Scholastic News, Eye Popping	Expert consultant on orbital anatomy	Scholastic News
2007	Scholastic News, Eye Squirting	Expert consultant on tear duct function	Scholastic News

#### **Patient educational material**

2003	Tear Duct Surgery	Author	Patient education pamphlet, Massachusetts Eye & Ear Infirmary
2005	Thyroid Eye Disease	Author	Patient education pamphlet, Massachusetts Eye & Ear Infirmary

### Recognition

None		
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## Report of Scholarship

## Publications

### Peer reviewed publications in print or other media

#### Research Investigations

1. **Fay AM**, Trokel SL, Myers JA. Pupil Diameter and the Principal Ray. *J Cataract and Refractive Surgery* 1992;4:348-351.
2. Rubin PAD, **Fay AM**, Remulla HD, Maus M. Ophthalmic Plastic Applications of Acellular Dermal Allografts. *Ophthalmology* 1999;106:2091-7.
3. Rubin PAD, **Fay AM**, Remulla HD. Primary Placement of Motility Coupling Post in Porous Polyethylene Orbital Implants. *Archives of Ophthalmology* 2000;118:826-32.
4. **Fay AM**, Pieroth L, Rubin PAD. An Animal Model of Lower Eyelid Spacer Grafting with Acellular Dermis. *Ophthalmic Plastic and Reconstructive Surgery* 2001;17:270-5.
5. Thakker M, **Fay AM**, Pieroth L, Rubin PAD. Fibrovascular ingrowth into hydroxyapatite and porous polyethylene orbital implants wrapped with acellular dermis. *Ophthalmic Plastic and Reconstructive Surgery* 2004;20(5):368-73.
6. Hong J, Hatton M, Leib ML, **Fay AM**. Endocanalicular Laser Dacryocystorhinostomy: A Review of 118 Consecutive Surgeries. *Ophthalmology* 2005;112:1629-33.
7. Mehta M, Salas AH, **Fay A**. Trigeminal dermatome distribution in patients with glaucoma and facial port wine stain. *Dermatology* 2009;219(3):219-24.
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### Clinical Guidelines and Reports

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## Thesis

None

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**Narrative Report (limit to 500 words)**

For 14 years I have worked as an academic and community-based oculoplastic surgeon, and have developed subspecialty expertise in vascular anomalies. For eight years my effort was divided between clinical practice (50%), research (25%), and teaching (25%). For 5 years I directed the plastic surgery service in the department of ophthalmology at Mass Eye & Ear where we expanded the service from a single attending to 4.5 full time surgeons.

My clinical practice has always been extremely busy. Initially, I covered several satellite practices in greater Boston, while maintaining an academic clinical practice at MEEI. My patients comprise mundane and exceedingly complex cases; several have been highlighted in the mainstream media. I curtailed much of the satellite and took on the role of service director. During fellowship I joined the fledgling Vascular Birthmark Clinic at MGH, an association that led to my research and clinical expertise in periocular vascular anomalies. I have been invited to speak on the topic in several countries, and receive numerous national and international referrals for these patients. I have developed several operations to treat periocular vascular anomalies, written medical protocols, and published extensively on the natural history and treatment of these lesions.

Over the past twelve years, I have innovated in three distinct areas: minimally invasive tear duct surgery, vascular anomalies, and paralytic eyelid reconstruction. I was the first in New England and one of the first in the country to perform endocanalicular laser surgery, and published the largest series to date on that topic. In addition to basic research in orbit development, I am currently preparing three manuscripts of the world's largest series of periocular vascular anomalies. I am also working closely with Dr. Robert Levine, the world's foremost authority on paralytic eyelid restoration, on third generation dynamic eyelid implantation, and hope to make this the cornerstone of my next decade of research.

I have been teaching students grammar school through fellowship since my own fellowship. For many years I have taught a fourth grade sheep eye dissection course. I have mentored high school and college students for several summers. I have volunteered to teach medical students for one week or one month electives. For the first eight years of practice, I worked very closely with ophthalmology residents and at one point published with 7 consecutive residents. Since becoming service and fellowship director, I have done more teaching at the fellow level. I have played a substantial role in mentoring more than 15 fellows.

During five years as service director, we expanded from one weekly clinic to a full-time service in which subspecialty clinic is conducted 5 full days per week. Outside the clinical practice, I serve as treasurer and interim president of the New England Oculoplastics Society, organizing two meetings per year. I developed and administer the international internet discussion group for the American Society of Ophthalmic Plastic and Reconstructive Surgery, and sit on a committee for that organization in ACGME accreditation. I actively participate in Orbis international training programs.

In summary, mine is a complex academic practice in general and subspecialty ophthalmic plastic surgery with a top fellowship program and active clinical research.