

## CURRICULUM VITAE

### **Michael Erlanger, M.D.**

Associate Professor

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**Appointments: (303) 399-8020**

### **EDUCATION:**

Pre-medical: Middlebury College, Middlebury, VT (1989-1993)

Medical: New York Medical College Valhalla, NY (1996-1998)

University of Pittsburgh School of Medicine, Pittsburgh, PA (1996-2000)

### **POSTDOCTORAL TRAINING:**

Internship: University of Pittsburgh, Shadyside, Pittsburgh, PA (2000-2001)

Ophthalmology Residency: Nassau University, East Meadow, NY (2001-2004)

Cornea and External Disease Fellowship: University of Colorado, Denver, CO (2004-2005)

## **MEDICAL SCHOOL APPOINTMENTS:**

- 2004-2005 Instructor of Ophthalmology, University of Colorado Department of Ophthalmology, Denver, CO
- 2005-2013 Assistant Professor of Ophthalmology, University of Colorado Department of Ophthalmology, Denver, CO
- 2013-present Associate Professor of Ophthalmology, University of Colorado Department of Ophthalmology, Denver, CO

## **HOSPITAL STAFF MEMBERSHIPS:**

- 2004-present University of Colorado Hospital. Denver CO
- 2004-present Children's Hospital Colorado, Denver CO
- 2004-present Veteran's Affairs Eastern Colorado Health Care System, Denver, CO
- 2004-present Denver Health Medical Center, Denver, CO

## **HONORS:**

- Secondary School All-American Lacrosse 1989
- Dean's List Middlebury College 1989-1993
- Graduated cum laude, Middlebury College 1993
- New York Medical School: Anatomy, Physiology, Pathophysiology, Histology
- New York Medical College Trustee Loan and Scholarship (awarded based on merit) 1997
- University of Pittsburgh School of Medicine: Ophthalmology
- Marquis Who's Who in America: 2008-present
- Strathmore's Who's Who: 2008-present
- American Society of Cataract and Refractive Surgery: Best in Session Scientific Paper Co-Author 2011 San Diego, CA
- American Society of Retinal Surgeons: Best in Session Film 2011, Boston, MA
- American Academy of Ophthalmology: Best in Session Scientific Paper 2011, Orlando, FL
- American Society of Cataract and Refractive Surgery: Innovator Session: 2012, Chicago IL
- Top Doctors, US News and World Report, 2012

Castle Connolly Top Doctors 2013

Rhett Buckler Award, American Society of Retinal Surgeons: Best in Session Film, Vienna, Austria, 2015

**PROFESSIONAL SOCIETIES:**

- 2000-present American Academy of Ophthalmology
- 2004-present American Society of Cataract and Refractive Surgery
- 2010-present The Association of Vision and Research in Ophthalmology
- 2010-present Association of Veterans Affairs Ophthalmologists
- 2011-present Colorado Society of Eye Physician and Surgeons

**ADMINISTRATIVE APPOINTMENTS/DEPARTMENT OF OPHTHALMOLOGY:**

- 2005-2008 University of Colorado Faculty Senator Representing Department of Ophthalmology
- 2005-present Resident Selection Committee Reviewer, Interviewer and Member
- 2007-present Director Resident Basic Science Lectures, Cornea Section
- 2008-2010 Clinical Director, Denver VA Eastern Colorado Health Care System
- 2010-present Resident Education Committee Member
- 2010-present Eye Department Vision Statement/Strategic Planning Committee Member
- 2010-present Foundations of Doctoring Mentor

**ADMINISTRATIVE APPOINTMENTS/VA EASTERN COLORADO HEALTH CARE SYSTEM:**

- 2005-2009 Laser Safety Officer VA Eastern Colorado Health Care System
- 2005-2009 Laser Safety Committee Chairman VA Eastern Colorado Health Care System
- 2005-2008 Ophthalmology Quality Assurance Committee Member
- 2008-2010 Clinical Director Denver VA Eastern Colorado Health Care System
- 2008-present Ophthalmology Quality Assurance Committee Chair
- 2009-present Chairman, Project Eagle Ophthalmology Clinic Design Committee
- 2009-present Section Chief, Ophthalmology, Denver VA Eastern Colorado Health Care System

## **SPECIALTY BOARD CERTIFICATION:**

2006-present Diplomate, American Board of Ophthalmology

## **LICENSES:**

2004-present Colorado Medical License

## **REVIEWER:**

2007-present Ophthalmic Surgery and Lasers and Imaging

2010-present Cornea

## **PUBLICATIONS: (peer reviewed):**

1. Ian R Sanderson, Robert M Ezzell, Michele Kedding, **Michael Erlanger**, Zhi-Xhi Xu, Eric Pringault, Sylvie Leon-Robine, Daniel Louvard, W Allen Walker Human fetal enterocytes *in vitro*: Modulation of the phenotype by extracellular matrix. Proceedings of the National Academy of Science USA Vol.93, pp. 7717-7722 July 1996
2. Davidson,RS, **Erlanger M**, Taravella M, Gregory DG, Durairaj VD, Tarsconjunctival Pedicle flap for the management of severe scleral melt. Cornea. 2007 Feb; 26(2);235-7
3. Michael J. Taravella, Richard Davidson, **Michael Erlanger**, Gretchen Guiton, Darren Gregory Characterizing the learning curve in phacoemulsification, Journal of Cataract & Refractive Surgery June 2011(Vol. 37, Issue 6,Pages 1069-1075)
4. Olson,JL, Montoya,RV, **Erlanger,M**, Ocular Biocompatibility of Nitinol Clips, Investigative Ophthalmology & Visual Science 2012 Jan 25;53(1):354-60
5. Development of a Minimally Invasive, Injectable, Shape Memory Suture and Delivery System. Olson JL, Shandas R, **Erlanger M**. Ann Biomed Eng. 2012 July;40(7):1520-9.
6. Use of an injectable, 25-gauge shape-memory clip to fixate an encircling silicone band: a laboratory model. Acta Ophthalmologica, March, 2012 Jeffrey L. Olson and **Michael Erlanger**
7. Intraocular Lens Fixation with a 30-gauge injectable shape-memory alloy clip in a porcine eye. Jeffrey L. Olson MD, Leslie A Wei, MD, **Michael Erlanger, MD**, Journal of Cataract and Refractive Surgery, June 2012 (Volume 38, Number 6, Pages 1105-1106)

8. Closed Chamber Pupilloplasty with an Injectable Shape Memory Alloy Clip in Eucleated Porcine Eyes in the Laboratory Setting. **Michael Erlanger**, Jeffrey Olson, Ophthalmic Surgery, Lasers and Imaging, 2012 Sep 1;43(5):432-4.
9. Ocular Argyrosis Secondary to Long-Term Ingestion of Silver Nitrate Salts. Ksenia Stafeeva, **Michael Erlanger**, Raul Velez-Montoya, Jeffrey L Olson, Clinical Ophthalmology 2012: 6 2033-2036
10. Management of a Dislocated Intraocular Lens with a Suction-Based Grasping Tool. Olson, JL, Velez-Montoya R, **Erlanger, M**, Mackenzie D. Journal of Cataract and Refractive Surgery. 2013 Feb;39(2):154-7
11. Suction-Based Grasping Tool for Removal of Regular and Irregular Shaped Intraocular Foreign Bodies. **Erlanger, MS**, Velez-Montoya R, Mackenzie D, Olson JL, Ophthalmic Surgery, Lasers & Imaging. 2013 sep-Oct;44(5):487-9
12. Fixation of External Drainage Device With Injectable Shape-memory Alloy Clips. Jeffrey L Olson, **Michael Erlanger**, Journal of Glaucoma, 2013 Sept;22(7):569-71
13. Time and Cost of Teaching Cataract Sugery. Taravella, MJ, Davidson, R, **Erlanger, M**, Guiton, G, Gregory, D, Journal of Catatarct and Refractive Surgery, Feb 2014; 40(2):212-6
14. Difference in Ocular surface Temperature by Infrared Thermography in Phakic and Pseudophakic Patients. Sniegowski, M, Erlanger,M, Velez-Montoya, R, Olson JL, Clinical Ophthalmology March 2015; 2015(9):461-466
15. A New Multifunctional Expandable Memory Loop Device. Smith, JM, Hwang, RY, **Erlanger, M**, Olson, JL. Retina 2015 OCT;35(10);2154-7

#### **ARTICLES (interviewed)**

Nitinol Sutures: Injectable shape-memory clip is stronger, faster than manual filament knots, Howard Larkin, Eurotimes, Volume 17 Issue 9 pg 60

#### **PRESENTATIONS (scientific papers/ competitive)**

1. Predictability of Disc Diameter and Thickness Using the Moria ALTK System, **Michael Erlanger MD**, Richard Davidson MD, Michael Taravella MD, presented at the

American Society of Cataract and Refractive Surgery, Washington DC. 2005.

2. Characterizing the learning curve in phacoemulsification: Michael J. Taravella, Richard Davidson, Michael Erlanger, Gretchen Guiton, Darren Gregory, presented at the American Society of Cataract and Refractive Surgery, San Francisco, California, USA, April 2010.
3. Surgical Technique and Instrumentation : Intraocular Lens Fixation with 30-Gauge Injectable Shape Memory Alloy Clip in a Porcine Eye. Jeffrey Olson, **Michael Erlanger** presented at the American Society of Cataract and Refractive Surgery, San Diego, California, USA, March 26 2011 (co-author). **Winner, best paper in session**
4. A Closed Chamber Pupilloplasty with a 30 Gauge Injectable Shape Memory Alloy Clip in a Porcine Eye, **Michael Erlanger**, Jeffrey Olson presented at the American Society of Cataract and Refractive Surgery, San Diego, California, USA, March 27 2011
5. New Innovations Lecture: Surgical Technique and Instrumentation: Intraocular Lens Fixation with 30-Gauge Injectable Shape Memory Alloy Clip in a Porcine Eye, Jeffrey Olson, **Michael Erlanger** presented at the American Academy of Ophthalmology, Orlando, Florida, USA, October 21 2011 (co-author)
6. Novel Technique: Surgical Time for a Closed Chamber Pupilloplasty Utilizing an Injectable Nitinol Suture vs. Prolene Suture, **Michael Erlanger**, Jeffrey Olson presented at the American Academy of Ophthalmology, Orlando, Florida, USA, October 25 2011. **Winner, best paper in session**
7. **2012 Innovators Lecture:** Expanding Ophthalmic Surgical Applications for an Injectable Shape Memory Nitinol Suture, **Michael Erlanger**, Jeffrey Olson presented at the American Society of Cataract and Refractive Surgery, Chicago, Illinois, USA, April 23, 2012.
8. Time and Cost of Teaching Cataract Surgery: Michael J. Taravella, Richard Davidson, Michael Erlanger, Gretchen Guiton, Darren Gregory, presented at the American Society of Cataract and Refractive Surgery, Chicago, Illinois, USA, April 24, 2012
9. Ocular Surface Temperature Differences between Phakic and Pseudophakic Patients. Mathew Sniegowski MD, **Michael Erlanger MD**, Jeffrey Olson MD. Poster ARVO Annual Meeting, Fort Lauderdale, Florida, USA, May 7 2012

10. Poster, Expanding Ophthalmic Surgical Applications for an Injectable Shape Memory Nitinol Suture, **Michael Erlanger**, Jeffrey Olson, American Academy of Ophthalmology, Chicago, Illinois, USA, November 11<sup>th</sup>, 2012. **Winner, best poster in session**
11. Injectable Suture for Scleral Fixation of an IOL, **Michael Erlanger**, Jeffrey Olson presented at the American Society of Cataract and Refractive Surgery, San Diego, California, USA, April 20, 2015
12. Film: Posterior Migration of a Malyugin Ring During Phacoemulsification and Subsequent Retrieval Through the Pars Plana, **Michael Erlanger**, Jeffrey Olson presented at the American Society of Cataract and Refractive Surgery, San Diego, California, USA, April 17-21, 2015
13. Panelist: 4-G ASCRS Paper Session Section Cataract Subsection Fluidics **Michael Erlanger**, American Society of Cataract and Refractive Surgery, San Diego, California, USA, April 21, 2015
14. Film: Removal of an intact Malyugin Ring from the Vitreous Cavity, **Michael Erlanger**, Jeffrey Olson presented at the American Society of Retina Surgeons, Vienna, Austria, July 11 -14, 2015. **Winner, Rhett Buckler Award**

#### **PRESENTATIONS (invited)**

Pseudoectasia of the Cornea, Department of Ophthalmology Grand Rounds, University of Colorado, Denver, Colorado 2005

Predictability of Disc Diameter and Thickness Using the Moria ALTK System, 9<sup>th</sup> Annual Ophthalmology Symposium, University of Colorado, Denver, Colorado; September 23-24, 2005

Deep Lamellar Keratoplasty: Anwar's Big Bubble Technique, 10<sup>th</sup> Annual Ophthalmology Symposium, University of Colorado, Denver, Colorado; September 22-23, 2006

Ectodermal Dysplasia: A Cataract Extraction challenge, Department of Ophthalmology Grand Rounds, University of Colorado January 6 2006

Anterior Capsular Staining, techniques for Success, The 11<sup>th</sup> Annual Ophthalmology Symposium, University of Colorado Department of Ophthalmology, Denver, Colorado October 19-20, 2007

Techniques in Pupilloplasty, 14<sup>th</sup> Annual Ophthalmology Symposium, University of Colorado, Denver Colorado; October 1-2, 2010

Management of the Dislocated Lens: The View from the Vitreous. (co-author), 14<sup>th</sup> Annual Ophthalmology Symposium, University of Colorado, Denver, Colorado; October 1-2, 2010

Lipid Keratopathy Case Report, Department of Ophthalmology, University of Colorado Morning Report, Denver, Colorado; October 6 2010 Leslie Wei (preceptor)

Graft Rejection Case Report, Department of Ophthalmology, University of Colorado Morning Report, Denver, Colorado; June 1 2011 Nathaniel Gebhard (preceptor)

Techniques in Pupilloplasty: New Innovations, Nassau University Grand Rounds, East Meadow, New York, July 5, 2011

Techniques in Pupilloplasty: New Innovations, Joint Grand Rounds State University of New York; Stony Brook; and Northport Veterans Medical Center; Stony Brook, New York, July 7 2011

Expanding Ophthalmic Surgical Applications for an Injectable Shape Memory Nitinol Suture, 15<sup>th</sup> Annual Ophthalmology Symposium, University of Colorado, Denver, Colorado; October 14-15 2011

Syphilitic Uveitis, Department of Ophthalmology, University of Colorado Morning Report October 19 2011 Robert Glazier (preceptor)

Grand Rounds, Department of Ophthalmology Grand Rounds, University of Colorado, Denver, Colorado, November 18 2011 Robert Glazier (preceptor)

CN IV,V,VI,VII palsy with Corneal Melting, Department of Ophthalmology, University of Colorado, Denver, Colorado, December 7, 2011 Robert Glazier (preceptor)

Spontaneous Iris Bleeding during Cataract Surgery Secondary to Thrombocytopenia, University of Colorado Video Conference, Denver, Colorado, February 8, 2012

Sarcoid associated Peripheral Ulcerative Keratitis, University of Colorado, Denver Colorado, March 7, 2012 (preceptor)

Ocular Surface Temperature Differences Between Phakic and Pseudophakic Patients, University of Colorado Resident Research Day, Denver, Colorado, June 16 2012 Mathew Sniegowski (preceptor)

Bilateral Optic Nerve Pits, , Department of Ophthalmology, University of Colorado, Denver, Colorado, August 22, 2012 Ashley Laing (preceptor)

New Innovations in Vitreoretinal Surgery, Nassau University Grand Rounds, East Meadow, New York, September 5, 2012



Expanding Ophthalmic Surgical applications for an Injectable Shape memory Nitinol Suture. CU Symposium on Medical Research for Educators, Aurora, Colorado, September 27, 2012

Spontaneous Iris Bleeding During Phacoemulsification in a Patient with Thrombocytopenia, University of Colorado, Grand Rounds, Denver, Colorado, October 5, 2012, Jeffrey Kennedy (preceptor)

Surgical Techniques for Posterior Polar Cataracts, University of Colorado Grand Rounds, Denver, Colorado, October 5, 2012

Surgical Techniques for Treating Presbyopia, 16<sup>th</sup> Annual Ophthalmology Symposium, University of Colorado, Denver, Colorado; October 12-13 2012

Bilateral HSV Keratitis in an Immunocompromised Patient, Department of Ophthalmology, Morning Report, Denver, Colorado January 30, 2013, Jeffrey Kennedy (preceptor)

Management of a Single Anterior Radial Tear in the Capsulorhexis, Department of Ophthalmology, Morning Report Video Conference, Denver, Colorado February 13, 2013, Jeffrey SooHoo (preceptor)

Management of Recurrent Corneal and Conjunctival CIN, Department of Ophthalmology, Morning Report Video Conference, Denver, Colorado February 13, 2013, Ashley Laing (preceptor)

Posterior Subluxation of Maylugin Ring: Department of Ophthalmology, Morning Report Video Conference, Denver, Colorado April 9, 2014, Jennifer Jung (preceptor)

Acute Hydrops in Keratoconus. , Department of Ophthalmology, Morning Report, Denver, Colorado July 30, 2014, Erin Sieck MS IV (preceptor)

Posterior Capsular Tear Management, Department of Ophthalmology, Video Conference Morning Report, Denver, Colorado August 13, 2014, Anjum Koreishi (preceptor)

Cataract removal in RK, Scleral Tunnel Approach, Department of Ophthalmology, Video Conference Morning Report, Denver, Colorado August 13, 2014, Anjum Koreishi (preceptor)

Terrien's Marginal Degeneration, Department of Ophthalmology, Morning Report, Denver, Colorado January 28, 2015, Avni Shah (preceptor)

### **PRESENTATIONS (Basic Science Courses)**

Monday, November 7, 2005 Cornea Section, Michael Erlanger, MD

## Allergy/Immunology of the External Eye

Monday, November 21, 2005 Cornea Section, Michael Erlanger, MD

### The Ocular Surface and Dry Eye

Monday, March 2, 2009 Cornea Section, Michael Erlanger, MD

Chapter 1 – Structure and Function of the External Eye and Cornea

Chapter 2 – Examination Techniques for the External Eye and Cornea

Chapter 3 – Normal Physiology of the Ocular Surface

Chapter 4 – Diagnostic Approach to Ocular Surface Disease

Chapter 5 – Dry Eye Syndrome

Chapter 6 – Infectious Diseases of the External Eye: Basic Concepts

Chapter 9 – Clinical Approach to Immune-Related Disorders of the External Eye

Chapter 10 – Tumor Cell Biology and Diagnostic Approaches to Ocular Surface Neoplasia

Preoperative Cataract Surgical Planning, University of Colorado Basic and Clinical Science Course, Denver Colorado, October 5, 2012

Resident Experience and Outcomes with Toric IOL, University of Colorado Basic and Clinical Science Course, Denver, Colorado, October 5, 2012

Preoperative Cataract Surgical Planning, University of Colorado Basic and Clinical Science Course, Denver Colorado, August 1, 2014

Resident Experience and Outcomes with Toric IOL, University of Colorado Basic and Clinical Science Course, Denver, Colorado, August 1, 2014

Preoperative Cataract Surgical Planning, University of Colorado Basic and Clinical Science Course, Denver Colorado, July 17, 2015

Resident Experience and Outcomes with Toric IOL, University of Colorado Basic and Clinical Science Course, Denver, Colorado, July 17, 2015

## **INVENTIONS, INTELLECTUAL PROPERTY, PATENTS**

Soft Tissue Coapter and Device for Deploying Same: Pending