# Eric Crouch, M.D.

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## **Education**

Fellowship, Pediatric Ophthalmology and Adult Strabismus Children's Hospital National Medical Center, Washington, DC Residency, Ophthalmology, Geisinger Medical Center, Danville, PA Internship, Greenville Hospital System, Greenville, SC M.D., Eastern Virginia Medical School, Norfolk, VA B.S., University of Richmond, Richmond, VA	07/2003 - 06/2004 07/2000 - 06/2003 07/1999 - 06/2000 08/1995 - 05/1999 08/1991 - 05/1995
Academic Appointments	
Professor Department of Ophthalmology Eastern Virginia Medical School, Norfolk, VA	2017 - present
Professor Department of Pediatrics Eastern Virginia Medical School, Norfolk, VA	2017 - present
Associate Professor Department of Ophthalmology Eastern Virginia Medical School, Norfolk, VA	2010 - 2017

Associate Professor	2010 - 2017
Department of Pediatrics	

Eastern Virginia Medical School, Norfolk, VA

Assistant Professor 2006 - 2010
Department of Pediatrics

Eastern Virginia Medical School, Norfolk, VA

Assistant Professor 2004 - 2010

Department of Ophthalmology Eastern Virginia Medical School, Norfolk, VA

## **Current Administrative Position**

Chief of Ophthalmology, Children's Hospital of the King's Daughters, Norfolk, VA 07/2013 - present

## **Professional Experience and Other Employment**

Subspecialty Group Practice, Virginia Pediatric Eye Center 08/2004 – present PEDIG Network Vice Chair 2014, 2015

## **Certification and Licensure**

Diplomate, American Board of Ophthalmology 2005, 2015 State Medical License: Virginia (active), South Carolina (inactive), Pennsylvania (inactive)

## **Honors and Awards**

SAS1 Protocol Chair, PEDIG/NIH/NEI (NCT02510040) 2015-2020

Pediatric Eye Disease Investigator Group (PEDIG), a collaborative network dedicated to facilitating multicenter clinical research in strabismus, amblyopia and other eye disorders that affect children. The network, which was formed in 1997, is funded by the National Eye Institute (NEI). The NEI is a part of the National Institutes of Health. There are currently over 100 participating sites (offices) with over 200 pediatric ophthalmologists and pediatric optometrists in the United States, Canada and the United Kingdom participating in the network.

Vice Chair PEDIG Service Award	2016
Site of the Month Award	07/2014
Nasolacrimal Duct Steering Committee Appreciation Award	2008
Recruitment Award	2009-2012
Site of the Month Award	2009
EVMS Ophthalmology Residency Program Attending Physician of the Year Award	2013
Best in Show Presentation Award, AAPOS	2008
Geisinger Medical Center Resident Day Research Award	2003
Sigma XI Outstanding Graduate Research Award	1998
EVMS Research Fellow	1996, 1997
EVMS Research Day Presentation Award	1995, 1996
Phi Beta Kappa, University of Richmond	1995
Presidential Academic Scholar, University of Richmond	1991-1995
Biology Research Honors Program, University of Richmond	1994, 1995
Beta Beta Biology Honors Society, University of Richmond	1992
Golden Key Honors Society, University of Richmond	1992
Dean's List (six semesters), University of Richmond	1992-1995

## **Professional Memberships**

## **Professional Service**

Nationa	l
PFDIG:	

Retinopathy of Prematurity (ROP3) Steering Committee	2016-present
Study of Adult Strabismus (SAS1) Protocol Chair	2015-present
Executive Committee ad hoc member	2016-2020
Strabismus Steering Committee (PEDIG)	2016-2020
Network Vice Chair	2014-2015
Operations Committee	2014-2015
Quality Control Committee	2014-2015
Executive Committee	2010-2012
Executive Committee	2014-2015
Amblyopia Treatment Study (ATS10) Writing Committee	2008
Nasolacrimal Duct Studies Writing Committee	2006-2007
Nasolacrimal Duct Studies Steering Committee	2006-2007

### **EVMS**

Ophthalmology Education Committee	2005-present
Ophthalmology Resident Review Committee	2005-present
Ophthalmology Residency Curriculum Committee	2005-present
Ophthalmology Residency Curriculum Coordinator	2005-2009
Chief of Pediatric Ophthalmology Section for EVMS Ophthalmology	2010-present

**CHKD** 

NICU Retinopathy of Prematurity Clinical Director
Chief of Ophthalmology
2013-present
Peri-Operative Services Committee
2014-present
Surgical Authorities Committee
2006-present
Performance Improvement Committee (PIC)
2017-present

**SNGH** 

Information Technology Committee2007-2008Medical Executive Committee2007-2008Chief of Ophthalmology2007-2008

## **Grants and Contract Awards**

Application: 2016-19991 Identifier: NCT01032603

Title: A Randomized Trial of Bilateral Lateral Rectus Recession versus Unilateral Lateral Rectus Recession with

Medial Rectus Resection for Intermittent Exotropia (IXT1)

Agency: PEDIG / NEI Role: Principal Investigator

Application: 2016-20218 Identifier: NCT02807350

Title: A Randomized Clinical Trial of Overminus Spectacle Therapy for Intermittent Exotropia (IXT5)

Agency: PEDIG / NEI

Role: PI

Application: 2016-20037 Identifier: NCT01515475

Title: Glasses versus observation for moderate hyperopia in young children (HTS1)

Agency: PEDIG / NEI

Role: PI

Application: 2016-19915 Identifier: NCT02510040

Title: A Prospective Observational Study of Adult Strabismus (SAS1)

Agency: PEDIG / NEI Role: Protocol Chair and PI

Application: 2016-20020

Title: A Randomized Clinical Trial of Observation vs Occlusion Therapy for Intermittent Exotropia (IXT2)

Agency: PEDIG Role: PI

Application: 2016-19951

Title: Study of Binocular Computer Activities for Treatment of Amblyopia (ATS18)

Agency: PEDIG / NEI IG

Role: PI

Application: 2015-18763

Title: Pediatric Cataract Surgery Outcomes Registry

Agency: PEDIG / NEI

Role: PI

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Application: 2015-18784

Title: Correction of Refractive Error for Amblyopia (XO1)

Agency: PEDIG / NEI

Role: PI

Application: 2016-20008

Title: A Pilot Randomized Clinical Trial of Overminus Spectacle Therapy for Intermittent Exotropia (IXT3)

Agency: PEDIG / NEI

Role: CI

Application: 2015-18060

Title: Effectiveness of Home-Based Therapy for Symptomatic Convergence Insufficiency (CITS)

Agency: PEDIG / NEI

Role: CI

Application: 2015-16778

Title: Esotropia Treatment with Botulinum Toxin-A Injection Data Collection (E02)

Agency: PEDIG / NEI

Role: PI

Application: 018CTXX15001 Identifier: NCT02638220

Title: Cerebrotendinous xanthamtosis (CTX) Prevalence Study

Agency: CTI / Retrophin

Role: PI

Application: 2U10EY011751 Identifier: NCT02390531

Title: Phase 1 Trial of Bevacizumab Treatment for Severe Retinopathy of Prematurity (ROP1)

Agency: PEDIG / NEI

Role: PI

#### **Publications**

#### Peer-Reviewed

- 1. Crouch, ER, Jr.; Crouch, ER, III.: Vision Screening. American Academy of Pediatrics and American Academy of Ophthalmology Guidelines, 1992.
- 2. Crouch, ER, Jr; Pressman, SH; **Crouch, ER, III**: Posterior Chamber Intraocular Lenses: Long-term Results in Pediatric Cataract Patients. J. Ped. Ophth. Strab. 32: 210, 1995.
- 3. Crouch, ER, Jr., Pressman, SH, **Crouch, ER, III**: Posterior Chamber Intraocular Lenses: Long-Term Results in Pediatric Cataract Patients. Proceedings of the Joint Congress International Strabismological Association and American Association for Pediatric Ophthalmology and Strabismus. In Lennerestrand, Gunner, Ed.: Update on Strabismus and Pediatric Ophthalmology; Ann Arbor, CRC Press, 515-518, 1995.
- 4. Crouch, ER, Jr, Williams, PB, **Crouch, ER, III**, Chames, M, and Gray, MK: Topical Aminocaproic Acid in the Treatment of Traumatic Hyphema. Archives of Ophthalmology. 1115:1106-1112, 1997.

- 5. **Crouch, ER, III**, Crouch, ER, Jr., Williams, PB: Aminocaproic Acid and Tranexamic Acid Increase the Rate of Acute Corneal Reepithelialization in Sprague Dawley Rats. Journal of Ocular Pharmacology and Therapeutics. 14:109-118, 1998.
- 6. Williams, PB, Crouch, ER, Jr, Crouch, ER, III, Mazaheri, M: Topical Aminocaproic Acid Facilitates Reepithelialization of Persistent Epithelial Defects. Current Eye Research. 18(2):150-157, 1999.
- 7. ER Crouch, Jr., **ER Crouch, III**: Management of Traumatic Hyphema: Therapeutic Options. Journal of Pediatric Ophthalmology and Strabismus. 36(5):238-250, 1999.
- 8. **ER Crouch, III**, ER Crouch, Jr., SH Pressman: Prospective Analysis of Pediatric Pseudophakia: Myopic Shift and Postoperative Outcomes. Journal of AAPOS. 2002, 6:277-282.
- 9. Crouch JR, Merriam JC, Crouch ER. Finite element model of cornea deformation. Med Image Comput Comput Assist Interv Int Conf Med Image. Comput Comput Assist Interv. 2005;8(Pt 2):591-8.
- 10. ER. Crouch. Use of botulinum in strabismus. Current Opinion in Ophthalmology. October 2006, 17(5): p435-440.
- 11. Mehryar Taban, Jonathan Sears, **Eric Crouch**, Andrew Schachat, Elias Traboulsi. Acute Idiopathic Frosted Branch Angititis. Journal of AAPOS. June, 11(3):286-287, 2007.
- 12. Pediatric Eye Disease Investigator Group, Writing Committee: M Repka, D Chandler, R Beck, **E Crouch**, S Donahue, J Holmes, et al. Primary Treatment of Nasolacrimal Duct Obstruction with Probing in Children Younger than 4 Years. Ophthalmology. 115:577-84, 2008.
- 13. Miller MM, Chang T, Keating R, **Crouch E**, Sable C. Blood flow velocities are reduced in the optic nerve of children with elevated intracranial pressure. J Child Neurol. 2009 Jan; 24(1):30-5.
- 14. Pediatric Eye Disease Investigator Group, Writing Committee: M Repka, G Quinn, R Beck, **E Crouch**, J Holmes, et al. A Randomized Trial of Full-time Bangerter Filters versus Part-time Daily Patching for the Treatment of Moderate Amblyopia in Children (Amblyopia Treatment Study 10). Ophthalmology 2010; 117(5):998-1004.
- 15. Pediatric Eye Disease Investigator Group, Writing Committee: Cotter SA, Foster NC, Holmes JM, Melia BM, Wallace DK, Repka MX, Tamkins SM,Kraker RT, Beck RW, Hoover DL, **Crouch ER III**, Miller AM, Morse CL, Suh DW. ATS13 Spectacles. Optical Treatment of Strabismic and Combined Strabismic-Anisometropic Amblyopia, Ophthalmology 2011;119(1):150-8. Epub Sep 29.
- 16. Pediatric Eye Disease Investigator Group, Writing Committee: Miller AM, Chandler DL, Repka MX, Hoover DL, Lee KA, Melia M, Rychwalski PJ, Silbert DI; , Beck RW, **Crouch ER III**, Donahue S, Holmes JM, Quinn GE, Sala NA, Schloff S, Wallace DK, Foster NC, Frick KD, Golden RP, Lambert SR, Tien DR, Weakley DR Jr. NLD3. Office probing for treatment of nasolacrimal duct obstruction in infants. J AAPOS. Feb 2014;18(1):26-30.
- 17. Pediatric Eye Disease Investigator Group, Writing Committee: DB Petersen, DL Chandler, MX Repka, RW Beck, **ER Crouch III**, KA Lee, M Melia, DG Morrison, FH Orge, BH Ticho. NLD3. Resolution of Congenital Nasolacrimal Duct Obstruction with Nonsurgical Management, Arch Ophthalmol. 2012;130(6):730-734
- 18. Pediatric Eye Disease Investigator Group, Writing Committee: Wallace DK, Lazar EL, **Crouch ER III**, Hoover DL, Kraker RT, Tamkins SM. ATS15, Time course and predictors of amblyopia improvement with 2 hours of daily patching, JAMA Ophthalmol. May 2015;133(5):606-609.
- 19. Pediatric Eye Disease Investigator Group, Writing Committee. Home-Based Therapy for Symptomatic Convergence Insufficiency in Children. Optom Vis Sci 2016;93(12):1457-65.
- 20. Pediatric Eye Disease Investigator Group, writing committee. Effect of a binocular iPad game versus part-time patching in children aged 5 to 12 with amblyopia: a randomized clinical trial. JAMA Ophthalmol 2016;134(12)
- 21. Wallace DK, Kraker RT, Freedman SF, **Crouch ER**, Hutchinson AK, Bhatt AR, Rogers DL. Yang MB, Haider KM, VanderVeen DK, Siatkowski RM, Dean TW, Beck RW, Repka MX, Smith LE, Good WV, Hartnett ME; Kong L, Holmes

- JM, for the Pediatric Eye Disease Investigator Group. Assessment of lower Doses of Intravitreous Bevacizumab for Retinopathy of Prematurity: A Phase 1 Dosing Study. JAMA Ophthalmol 2017;135(6):654-6
- 22. Nash, D. **Crouch, ER**, et al. Comparison of EX-PRESS shunt and trabeculectomy with mitomycin-C in congenital and juvenile glaucoma, Journal of Glaucoma, 26(2):e58-e63, February 2017.
- 23. Wallace DK, Lazar EL, **Crouch ER III**, Hoover DL, Tamkins SM, on behalf of Pediatric Eye Disease Investigator Group. Time course and predictors of amblyopia improvement with 2 hours of daily patching. JAMA Ophthalmol. May 2015;133(5):606-609.
- 24. **ER Crouch**, Kraker, Raymond, Wallace, David. Secondary 12-month Ocular Outcomes of A Phase 1 Dosing Study of Bevacizumab for Retinopathy of Prematurity. JAMA Ophthalmology November 2019.
- 25. Cotter SA, Mohney BG, Chandler DL, Homes JM, Wallace DK, Melia BM, Wu R, Kraker RT, Superstein R, Crouch ER, et al. Three-year Observation of Children 12 to 35 Months Old with Untreated Intermittent Exotropia. Ophthalmic and Physiologic Optics. March 2020.

## **Book Chapters**

- 1. ER Crouch, Jr., **ER Crouch, III**: Trauma: Ruptures and Bleeding. In: Tasman W. Jaeger EA, eds. Duane's Clinical Ophthalmology on CD-ROM, Rev Ed. Vol 4, Philadelphia, Pa: JP Lippincott; 2002: Chapter 61:1-20.
- 2. ER Crouch, Jr., **ER Crouch, III**, T Grant. Ophthalmology, Textbook of Family Practice (Rakel), 7th Edition, Chapter 41, 2006.
- 3. Earl Crouch, **Eric Crouch**. Hyphema (Chapter 47). Surgical & Medical Management of Pediatric Ophthalmology, Jaybee Bros, Volume: 1, 2007.
- 4. **ER Crouch**. Ocular Genetics in Pediatric Ophthalmology (Chapter 3). Surgical & Medical Management of Pediatric Ophthalmology, Jaybee Bros, Volume: 1, 2007.
- 5. **ER Crouch, III**, ER Crouch, Jr. Vision Screening (Chapter 5). Surgical & Medical Management of Pediatric Ophthalmology, Jaybee Bros, Volume: 1, 2007.
- 6. ER Crouch. Hyphema. Clinical Diagnosis and Management of Ocular Trauma. Jaybee Bros, Volume: 1, 2009.
- 7. A Garg, E Rosen, editors **ER Crouch**. Clinical Diagnosis in Ophthalmology: Strabismus. Jaypee Bros, Medical Publishers Ltd, 2009.
- 8. **Eric Crouch**. Strabismus Syndrome. Clinical Diagnosis in Ophthalmology: Strabismus. Jaypee Bros, Medical Publishers, 2009.
- 9. **Eric Crouch**. Cranial Nerve Palsies in Strabismus. Clinical Diagnosis in Ophthalmology: Strabismus. Jaypee Bros, Medical Publishers, 2009.
- 10. **Eric Crouch**. Botulinum Toxin in Strabismus. Clinical Diagnosis in Ophthalmology: Strabismus. Jaypee Bros, Medical Publishers, 2009.
- 11. **Eric Crouch**. Botulinum Toxin in Strabismus. Clinical Diagnosis in Ophthalmology: Pediatric Ophthalmology. Jaypee Bros, Medical Publishers Ltd, 2009.
- 12. ER Crouch, Jr., **ER Crouch, III**, T Grant. Ophthalmology, Textbook of Family Practice (Rakel), 8th Edition, Chapter 41, 2013.

#### **Educational Materials**

1. **ER Crouch, III**, A Garg et al, Video Atlas of Ophthalmic Surgery. Fornix based approach strabismus surgery. Section VIII, Jaybee Bros, Medical Publishers Ltd, 2008.

#### Non-Print Materials

- 1. JD Sheppard, **ER Crouch**, PW Williams, ER Crouch, et al. Hyphema Chapter. eMedicine, Volume: 1, Update November 2006, www.emedicine.com/oph/topic765.htm# section~bibliography.
- 2. JD Sheppard, ER Crouch, et al. Hyphema Chapter, eMedicine, Volume 1, Update December 2008.
- 3. ER Crouch, Jr., **ER Crouch, III**: Trauma: Ruptures and Bleeding. In: Tasman W. Jaeger EA, eds. Duane's Clinical Ophthalmology on CD-ROM, Rev Ed. Vol 5, Philadelphia, Pa: JP Lippincott; 2009: Chapter 61:1-20.
- 4. **Crouch III ER**, Dozier PM. Reading Learning Disorder. eMedicine from WebMD. Updated March 09, 2011. Available at: http://emedicine.medscape.com/article/1835801-overview.
- 5. Sheppard JD, **Crouch ER**. Hyphema. eMedicine from WebMD. Updated March 09, 2011. Available at: http://emedicine.medscape.com/article/1190165-overview.
- 6. **Crouch III ER**, Dozier PM. Reading Learning Disorder. eMedicine from WebMD. Updated August 2013. Available at: http://emedicine.medscape.com/article/1835801-overview.

#### **Published Abstracts**

- 1. **Crouch, ER, III**; Crouch, ER, Jr., Chames, MA, Williams, PB: Aminocaproic Acid and Tranexamic Acid Accelerates Corneal Reepithelialization in Sprague Dawley Rats. Invest. Ophthal. and Vis. Sci. 37(3):S862, 1996.
- 2. **Crouch, ER, III**, Breazeale, RI, Crouch, ER, Jr, Davidson, JC, Lattanzio, FA, Williams, PB: Corneal Wound Healing in a Diabetic Rabbit Model. Invest. Ophthal. And Vis. Sci. 38:S403, 1997.
- 3. Crouch, ER, Jr, Williams, PB, **Crouch, ER, III**, Chames, M, Gray, MK: Topical Aminocaproic Acid in the Treatment of Traumatic Hyphema. Invest. Ophthal. And Vis. Sci. 38:S60, 1997.
- 4. Williams, PB, Crouch, ER, Breazeale RI, Lattanzio, FA, **Crouch, ER, III**. Aminocaproic Acid Promotes Corneal Epithelial Wound Healing in Diabetic Rabbits. Invest. Ophthal. and Vis. Sci. 39:S85, 1998.
- 5. **ER Crouch, III**, DS Miller, ER Crouch, Jr., and SH Pressman: Intraocular Lens Implantation In Pediatric Patients: Bilateral Cataract Extraction versus Unilateral Cataract Extraction. Invest. Ophthal. and Vis. Sci. 40(4):S298, 1999.
- 6. Nash D, **Crouch ER**, McCole, S. The Potential Positives in Smartphone Photography using Negative Images, Invest. Ophthal. Vis. Sci., 2015 Jun; 56:4107.

#### Pediatric Eye Disease Investigator Group Publications

- 1. Pediatric Eye Disease Investigator Group. Factors Associated with Recurrence of Amblyopia on Cessation of Patching. Ophthalmology, May, 2006, 1427-1432.
- 2. Pediatric Eye Disease Investigator Group. Two-year follow-up of a 6-month randomized trial of atropine vs patching for treatment of moderate amblyopia in children. Arch Ophthalmol 2005;123(2):149-57.
- 3. Pediatric Eye Disease Investigator Group. Risk of amblyopia recurrence after cessation of treatment. J AAPOS 2004;8(5):420-8.
- 4. Pediatric Eye Disease Investigator Group. Treatment of bilateral refractive amblyopia in children three to less than 10 years of age. Am J Ophthalmol 2007;144(4):487-96.
- 5. Pediatric Eye Disease Investigator Group. A randomized pilot study of near activities versus non-near activities during patching therapy for amblyopia. J AAPOS 2005;9(2):129-36.
- 6. Pediatric Eye Disease Investigator Group. Interobserver Reliability of the Prism and Alternate Cover Test in Children With Esotropia. Arch Ophthalmol 2009;127(1):59-65.

- 7. Pediatric Eye Disease Investigator Group. A randomized trial to evaluate 2 hours of daily patching for strabismic and anisometropic amblyopia in children. Ophthalmology 2006;113(6):904-12.
- 8. Pediatric Eye Disease Investigator Group. Treatment of anisometropic amblyopia in children with refractive correction. Ophthalmology 2006;113(6):895-903.
- 9. Pediatric Eye Disease Investigator Group. Two-year follow-up of a 6-month randomized trial of atropine vs patching for treatment of moderate amblyopia in children. Arch Ophthalmol 2005;123(2):149-57.
- 10. Pediatric Eye Disease Investigator Group. Primary treatment of nasolacrimal duct obstruction with probing in children younger than 4 years. Ophthalmology 2008;115:577-84.
- 11. Pediatric Eye Disease Investigator Group. Primary treatment of nasolacrimal duct obstruction with balloon catheter dilation in children less than four years old. J AAPOS 2008;12:451-5.
- 12. Pediatric Eye Disease Investigator Group. Primary treatment of nasolacrimal duct obstruction with nasolacrimal duct intubation in children less than four years old. J AAPOS 2008;12:445-50.
- 13. Pediatric Eye Disease Investigator Group. Pharmacologic plus optical penalization treatment for amblyopia: results of a randomized trial. (ATS8) Arch Ophthalmol 2009;127(1):22-30.
- 14. Pediatric Eye Disease Investigator Group. Treatment of bilateral refractive amblyopia in children three to less than 10 years of age. (ATS7) Am J Ophthalmol 2007;144(4):487-96.
- 15. Pediatric Eye Disease Investigator Group. Patching vs atropine to treat amblyopia in children aged 7 to 12 years: a randomized trial.(ATS9) Arch Ophthalmol 2008:126:1634-42.
- 16. Pediatric Eye Disease Investigator Group. A randomized trial of atropine vs patching for treatment of moderate amblyopia: follow-up at age 10 years. (ATS1) Arch Ophthalmol 2008;126(8):1039-44.
- 17. Pediatric Eye Disease Investigator Group. Interobserver Reliability of the Prism and Alternate Cover Test in Children With Esotropia. (ETS1) Arch Ophthalmol 2009;127(1):59-65.
- 18. Pediatric Eye Disease Investigator Group. Primary treatment of nasolacrimal duct obstruction with nasolacrimal duct intubation in children younger than 4 years of age. J AAPOS 2008;12(5):445-50.
- 19. Pediatric Eye Disease Investigator Group. Primary treatment of nasolacrimal duct obstruction with balloon catheter dilation in children younger than 4 years of age. J AAPOS 2008;12(5):451-5.
- 20. Pediatric Eye Disease Investigator Group. Primary treatment of nasolacrimal duct obstruction with probing in children younger than 4 years. Ophthalmology 2008;115(3):577-84.
- 21. Pediatric Eye Disease Investigator Group. Repeat probing for treatment of persistent nasolacrimal duct obstruction. J AAPOS 2009;13(3):306-7..
- 22. Pediatric Eye Disease Investigator Group. Balloon catheter dilation and nasolacrimal duct intubation for treatment of nasolacrimal duct obstruction after failed probing. Arch Ophthalmol 2009;127(5):633-9.
- 23. Pediatric Eye Disease Investigator Group. The relationship between preoperative alignment stability and postoperative motor outcomes in children with esotropia. J AAPOS 2009;13(4):335-8.
- 24. Cost-effectiveness of 2 Approaches to Managing Nasolacrimal Duct Obstruction in Infants: The Importance of the Spontaneous Resolution Rate. Arch Ophthalmol. 2011; 129(5):603-9.
- 25. Pediatric Eye Disease Investigator Group. Effect of Age on Response to Amblyopia Treatment in Children. Arch Ophthalmol. 2011;129(11):1451-7. Epub 2011 Jul 11.
- 26. Pediatric Eye Disease Investigator Group. Stereoacuity in Children with Anisometropic Amblyopia. J AAPOS 2011;15(5):455-61.
- 27. Pediatric Eye Disease Investigator Group. Resolution of Congenital Nasolacrimal Duct Obstruction with Nonsurgical Management. Arch Ophthalmol. 2012;130(6):730-734

- 28. Pediatric Eye Disease Investigator Group. A Randomized Trial to Evaluate Combined Patching and Atropine for Residual Amblyopia. Arch Ophthalmol 2011;129(7):960-2
- 29. Pediatric Eye Disease Investigator Group. A randomized trial of increasing patching for amblyopia. Ophthalmology. 2013
- 30. Pediatric Eye Disease Investigator Group. Resolution of Congenital Nasolacrimal Duct Obstruction with Nonsurgical Management. Arch Ophthalmol. 2012;130(6):730-734
- 31. Pediatric Eye Disease Investigator Group. A Randomized Trial Comparing the Cost-Effectiveness of Two Approaches for Treating Unilateral Nasolacrimal Duct Obstruction. Arch Ophthalmol 2012;130(12):1525-33
- 32. NLD03 Nasolacrimal Duct Obstruction Study 3. A Comparison of Treatment Approaches for Bilateral Congenital Nasolacrimal Duct Obstruction. Lee KA, Chandler DL, Repka MX, Melia M, Beck RW, Summers CG, Frick KD, Foster NC, Kraker RT, Atkinson S, Avallone JM, on behalf of PEDIG. Am J Ophthalmol Nov 2013;156(5):1045-1050.
- 33. ATS15 Increasing Patching for Amblyopia Study. A randomized trial of increasing patching for amblyopia. Pediatric Eye Disease Investigator Group. Ophthalmology. 2013 Nov;120(11):2270-7. Epub 2013 Jun 4.
- 34. NLD03 Nasolacrimal Duct Obstruction Study 3. Office probing for treatment of nasolacrimal duct obstruction in infants. Miller AM, Chandler DL, Repka MX, Hoover DL, Lee KA, Melia M, Rychwalski PJ, Silbert DI, on behalf of Pediatric Eye Disease Investigator Group. J AAPOS. Feb 2014;18(1):26-30.
- 35. Pediatric Eye Disease Investigator Group. Atropine vs patching for treatment of moderate amblyopia: follow-up at 15 years of age of a randomized clinical trial. JAMA Ophthalmol. Jul 2014;132(7):799-805.
- 36. IXT2 Intermittent Exotropia Study 2. A randomized trial comparing part-time patching with observation for children 3-10 years old with intermittent exotropia. Pediatric Eye Disease Investigator Group. Ophthalmology. Dec 2014;121(12):2299-310.
- 37. ATS16 Augmenting Atropine Treatment for Amblyopia Study. A randomized trial of adding a plano lens to atropine for amblyopia. Pediatric Eye Disease Investigator Group. J AAPOS. Feb 2015;19(1):42-48.
- 38. IXT2 Intermittent Exotropia Study 2. Evaluation of the Intermittent Exotropia. Questionnaire using Rasch analysis. Leske DA, Holmes JM, Melia BM, on behalf of Pediatric Eye Disease Investigator Group. JAMA Ophthalmol. Apr 2015;133(4):461-5.
- 39. ATS15 Increasing Patching for Amblyopia Study. Time course and predictors of amblyopia improvement with 2 hours of daily patching. Wallace DK, Lazar EL, Crouch ER III, Hoover DL, Tamkins SM, on behalf of Pediatric Eye Disease Investigator Group. JAMA Ophthalmol. May 2015;133(5):606-609.
- 40. ATS17 A randomized trial of levodopa as treatment for residual amblyopia in older children. Pediatric Eye Disease Investigator Group. Ophthalmology. May 2015;122(5):874-881.
- 41. IXT2 A randomized trial comparing part-time patching with observation for intermittent exotropia in children 12 to 35 months of age. Pediatric Eye Disease Investigator Group. Ophthalmology. Aug 2015;122:1718-25.
- 42. CITS Home-Based Therapy for Symptomatic Convergence Insufficiency in Children. Optom Vis Sci, 2016;93(12):1457-65.
- 43. E02 Tonic pupil after botulinum toxin-A injection for treatment of esotropia in children. Pediatric Eye Disease Investigator Group. J AAPOS. Feb 2016;20(1):78-81.
- 44. ATS18 Effect of a binocular iPad game versus part-time patching in children aged 5 to 12 with amblyopia: a randomized clinical trial. Pediatric Eye Disease Investigator Group. JAMA Ophthalmol 2016;134(12)
- 45. HTS1 Clinical Factors Associated with Moderate Hyperopia in Preschool Children with Normal Stereopsis and Visual Acuity. Suh DW, Kulp MT, Dean TW, Wallace DK, Kraker RT, Manny RE, Erzurum, SA, Pang Y, Shea, CJ, Avallone JM, on behalf of the Pediatric Eye Disease Investigator Group. J AAPOS 2016;20(5):455-7.

- 46. PON1 Pediatric Optic Neuritis Prospective Outcomes Study. Pineles, SL, Liu, GT, Waldman, AT, Lazar, EL, Kupersmith, MJ Repka, MX for the Pediatric Eye Disease Investigator Group and the Neuro-Ophthalmology Research Disease Investigator Consortium. Neuroophthalmol: Jun 2016;36(2):115-117 Editorial
- 47. C02 Cataract Surgery in Children from Birth to Less than 13 Years of Age: Baseline Characteristics of the Cohort Repka, MX, Dean, TW,Lazar, EL,Yen, KG, Lenhart, PD, Freedman, SF, Hug, D, Rahmani, B, Wang, SX, Kraker, RT, Wallace, DK, for the Pediatric Eye Disease Investigator Group. Ophthalmology. 2016 Oct 18. pii: S0161-6420(16)31165-4
- 48. IXT3 A Randomized Trial Evaluating Short-term Effectiveness of Overminus Lenses in Children 3 to 6 Years of Age with Intermittent Exotropia. Ophthalmology. Oct 2016;123(10):2127-36
- 49. IXT2 Clinical Factors in Childhood Intermittent Exotropia. Superstein R, Dean TW, Holmes JM, Chandler DL, Cotter SA, Wallace DK, Melia M; Kraker RT, Weaver RG, Mohney BG, Donahue SP, Birch EE, on behalf of the Pediatric Eye Disease Investigator Group. J AAPOS 2017;21(4):268-273
- 50. ROP1 Assessment of lower Doses of Intravitreous Bevacizumab for Retinopathy of Prematurity: A Phase 1 Dosing Study. Wallace DK, Kraker RT, Freedman SF, Crouch ER, Hutchinson AK, Bhatt AR, Rogers DL. Yang MB, Haider KM, VanderVeen DK, Siatkowski RM, Dean TW, Beck RW, Repka MX, Smith LE, Good WV, Hartnett ME; Kong L, Holmes JM, for the Pediatric Eye Disease Investigator Group. JAMA Ophthalmol 2017;135(6):654-6
- 51. ATS18 A Randomized Trial Of A Binocular iPad Game Versus Part-Time Patching In Children 13 To 16 Years Of Age With Amblyopia. Manh VM, Holmes JM, Lazar EL, Kraker RT, Wallace DK, Kulp MT, Galvin JA, Shah BK, Davis PL; Pediatric Eye Disease Investigator Group. Am J Ophthalmol 2018;186:104-15.
- **52**. A Dosing Study of Bevacizumab for Retinopathy of Prematurity: Late Recurrences and Additional Treatments. Wallace DK, Dean TW, Hartnett ME, Kong L, Smith LE, Hubbard GB, McGregor ML, Jordan CO, Mantagos IS, Bell EF, Kraker RT; Pediatric Eye Disease Investigator Group. Ophthalmology. 2018 Dec;125(12):1961-1966. doi: 10.1016/j.ophtha.2018.05.001. Epub 2018 Jun 7.
- 53. A Randomized Trial Comparing Bilateral Lateral Rectus Recession versus Unilateral Recess and Resect for Basic-Type Intermittent Exotropia. Pediatric Eye Disease Investigator Group. Ophthalmology. 2019 Feb;126(2):305-317. doi: 10.1016/j.ophtha.2018.08.034. Epub 2018 Sep 3.
- 54. A Randomized Trial of Binocular Dig Rush Game Treatment for Amblyopia in Children Aged 7 to 12 Years. Pediatric Eye Disease Investigator Group. Ophthalmology. 2019 Mar;126(3):456-466. doi: 10.1016/j.ophtha.2018.10.032. Epub 2018 Oct 22.
- 55. A Randomized Clinical Trial of Immediate versus Delayed Glasses for Moderate Hyperopia in 1- and 2-Year-Olds. Pediatric Eye Disease Investigator Group. Ophthalmology. 2019 Jun;126(6):876-887. doi: 10.1016/j.ophtha.2018.12.049. Epub 2019 Jan 4.

## **Abstracts and Presentations**

### **Oral Presentations**

National/International Meetings

- 1. PEDIG Studies, American Association of Pediatric Ophthalmology and Strabismus, Webinar, Interactive International Symposium, Case Western University, August 23, 2014.
- 2. Genetic complexity in Senior-Loken syndrome, a ciliopathy: Report of a patient with nephronophthisis, pigmentary retinopathy, and metaphyseal dysplasia associated with multiple gene mutations and microarray homozygosity. E Chisholm, MS, CGC, B Helm, MS, E Crouch, MD, R Raafat, MD, V Proud, MD, National Society of Genetic Counselors, 2012.
- 3. **ER Crouch III**. Express shunt in Pediatric Glaucoma. American Association of Pediatric Ophthalmology and Strabismus, Orlando, FL, 2010.
- 4. ER Crouch, **ER Crouch III**, S Johnston. Innovative Technique for Transposition Procedure in Duane's Syndrome. American Assoc. of Pediatric Ophthalmology and Strabismus, 2008, Washington, DC.

- 5. **ER Crouch III.** Cranial Nerve III Palsy. Angeline Parks Lecture Series. Costenbader Annual Meeting. Washington, DC. 2004.
- 6. ER Crouch, Jr., **ER Crouch, III**: Pediatric Cataracts: From A to Z. Joint Commission on Allied Health Personnel in Ophthalmology 29th Annual Meeting, November 10, 2001, New Orleans, Louisiana.
- 7. **ER Crouch, III,** ER Crouch, Jr., SH Pressman: Prospective Analysis of Pediatric Pseudophakia: Myopic Shift and Postoperative Outcomes. with ER Crouch, Jr. and SH Pressman, American Assoc. of Pediatric Ophthalmology and Strabismus, May 22, 2001, Orlando, Florida.
- 8. **ER Crouch**. " Adherence of Corneal Epithelium is Improved by Administration of Aminocaproic Acid and Tranexamic Acid," with SG Caruthers, ER Crouch, Jr., D Barnes, M Chames, P Williams. National Medical Student Research Forum. April 6, 1995, Galveston, Texas.
- 9. Susan A. Cotter, OD., Nicole C. Foster, MS, Jonathan M. Holmes, BM, BCh, B. Michele Melia, ScM, David K. Wallace, MD, MPH, Michael X. Repka, MD, Susanna M. Tamkins, OD, Raymond T. Kraker, MSPH, Roy W. Beck, MD, PhD, Darren L. Hoover, MD, **Eric R. Crouch III**, MD, Aaron M. Miller, MD, Christie L. Morse, MD, Donny W. Suh, MD. Optical Treatment of Strabismic and Combined Strabismic–Anisometropic Amblyopia Presented at: the Association for Research in Vision and Ophthalmology Meeting, May 2011, Fort Lauderdale, Florida
- 10. Sue Cotter, Brian Mohney, Danielle Chandler, Jonathan Holmes, David Wallace, **Eric Crouch**, Raymond Kraker, Rosanne Superstein, Evelyn Paysse for Pediatric Eye Disease Investigator Group, writing committee. Development of Constant Exotropia Over 3-Years in Children 12 to 35 Months Old with Untreated Intermittent Exotropia, American Academy Optometry Annual Meeting, 2016.
- 11. **Eric R. Crouch**, MD; David K. Wallace, MD; Raymond T. Kraker, MSPH; Michael X. Repka, MD; Janine E. Collinge, MD; Michael E. Gray, MD; Paul G. Steinkuller, MD; Don L. Bremer, MD. A Phase 1 Dosing Study of Bevacizumab for ROP: 12-month Ocular Outcomes. presented at AAPOS Annual meeting, 2018.
- 12. **Eric R. Crouch**, MD. A Prospective Observational Study of Adult Divergence Insufficiency Esotropia, presented at AAPOS annual meeting, 2019.
- 13. Morales BM, **Crouch ER**, Martinson SM. Positive Predictive Value of Vision Screening Devices During Well-child Visits, presented at AOA Congress & AOSA annual conference, 2019.
- 14. **Eric R. Crouch** MD. Effectiveness of Very Low-Dose Intravitreous Bevacizumab for Retinopathy of Prematurity, presented at AAPOS annual meeting, 2020.

PEDIG Writing Committee Presentations During Tenure as Vice-Chair of PEDIG Network:

- 1. Wallace DK, Lazar EL, Suh DW, Roberts JT, Repka MX, Petersen DB, Lorenzana IJ, Kraker RT, Holmes JM, Cotter SA, Clarke MP, Chen AM, Beck RW, on behalf of PEDIG. A Randomized Trial of Increased Patching for Amblyopia. AAPOS Annual Meeting in Boston, MA. April 2013.
- 2. Chandler DL, Melia M, Leske DA, Holmes JM, Kraker RT, on behalf of PEDIG. Development of a Parent Informational Video to Aid Recruitment in a Pediatric Surgical Randomized Trial. Society of Clinical Trials Annual Meeting in Boston, MA. May 2013.
- 3. Wallace DK, Lazar EL, Hoover DL, Tamkins SM, on behalf of PEDIG. Time Course and Predictors of Amblyopia Improvement with 2 Hours of Daily Patching. ARVO Annual Meeting in Seattle, WA. May 2013.
- 4. Repka MX, on behalf of PEDIG. Amblyopia Treatment Study 1: Long-term Follow-up Results at 15 Years of Age. European Strabismus Association Annual Meeting in Marseille, France. September 2013.
- 5. Cotter SA, Mohney BG, Chandler DL, Holmes JM, on behalf of PEDIG. A Randomized Trial Comparing Part-time Patching with Observation for Children with Intermittent Exotropia. American Academy of Optometry Annual Meeting in Seattle, WA. October 2013.

- 6. Barnhardt CN, Repka MX, Kraker RT, on behalf of PEDIG. A Randomized Trial of Atropine versus Patching for Treatment of Moderate Amblyopia: Follow-up at 15 Years of Age. American Academy of Optometry Annual Meeting in Seattle, WA. October 2013.
- 7. Mohney BG, Cotter SA, Chandler DL, Holmes JM, on behalf of PEDIG. A Randomized Trial Comparing Part-time Patching with Observation for Children with Intermittent Exotropia. American Academy of Ophthalmology Annual Meeting in New Orleans, LA. November 2013.
- 8. Cotter SA, on behalf of PEDIG. Lessons Learned from the Amblyopia Treatment Studies. Optical Society of America Meeting in Houston. TX October 2013.
- 9. What a Research Network Teaches about Amblyopia Therapy. British Isles Pediatric Ophthalmology and Strabismus Association, October 2013.
- 10. Wallace DK, on behalf of PEDIG. A Randomized Trial of Increased Patching for Amblyopia. Annual Meeting of the American Association of Certified Orthoptists in New Orleans, LA. November 2013.

PEDIG Abstracts and Presentations List During Tenure as Vice-Chair of PEDIG Network:

- 1. Wallace DK, Lazar EL, Repka MX, Holmes JM, Kraker RT, Hoover DL, Waters AL, Rice ML, Peter RJ, on behalf of PEDIG. "A Randomized Trial of Adding a Plano Lens to Atropine for Treatment of Residual Amblyopia." American Association for Pediatric Ophthalmology and Strabismus Annual Meeting in Rancho Mirage, CA. April 2014
- 2. Mohney BG, Cotter SA, Chandler DL, Holmes JM, on behalf of PEDIG. "The Effect of Part-time Patching on Near Stereoacuity, Control, and Angle in Childhood Intermittent Exotropia." American Association for Pediatric Ophthalmology and Strabismus Annual Meeting in Rancho Mirage, CA. April 2014
- 3. Repka MX, Kraker RT, Holmes JM, Summers AI, Glaser SR, Barnhardt, Tien DR, on behalf of PEDIG. "A Randomized Trial of Atropine versus Patching for Treatment of Moderate Amblyopia: Follow-up at 15 Years of Age." American Association for Pediatric Ophthalmology and Strabismus Annual Meeting in Rancho Mirage, CA. April 2014
- 4. Repka MX, Dean TW, Lazar EL, Freedman SF, Hug D, Lenhart P, Rahmani B, Wang SX, Yen KG, Kraker RT, on behalf of PEDIG. "Pediatric Cataract Surgery: Baseline Characteristics of a North American Pediatric Eye Disease Registry." Association for Research in Vision and Ophthalmology Annual Meeting in Orlando, FL. May 2014
- 5. Holmes JM, Leske DA, Chandler DL, on behalf of PEDIG. "Effect of Patching Versus Observation on Intermittent Exotropia-Specific Health-Related Quality of Life in Children and their Parents." Association for Research in Vision and Ophthalmology Annual Meeting in Orlando, FL. May 2014
- 6. Wallace DK, Repka MX, Cotter SA, Lee KA, Crouch ER III, Holmes JM, on behalf of PEDIG. "PEDIG Studies." Interactive International Web Symposium hosted by American Association for Pediatric Ophthalmology and Strabismus. August 23, 2014.
- 7. Repka MX. "New Medical Treatment Modalities for Amblyopia." Academy of Ophthalmology Annual Meeting in Chicago, IL. October 2014 2015
- 8. Repka MX, Dean TW, Lazar EL, Freedman SF, Hug D, Lenhart P, Rahmani B, Wang SX, Yen KG, Kraker RT, on behalf of PEDIG. "Pediatric Cataract Surgery: Baseline Characteristics of a North American Pediatric Eye Disease Registry." American Association for Pediatric Ophthalmology and Strabismus Annual Meeting in New Orleans, LA. March 2015
- 9. Christiansen SP, Chandler DL, Lee KA, Superstein R, De Alba Campomanes AG, Bothun ED, Wallace DK, Kraker RT, on behalf of PEDIG. "Complications of Botulinum Toxin-A for Treatment of Esotropia in Children." Association of Research in Vision and Ophthalmology Annual Meeting in Denver, CO. May 2015
- 10. Suh DW, Kulp MT, Dean TW, Kraker RT, Erzurum SA, Wallace DK, Pang Y, Shea CJ, Avallone JM, on behalf of PEDIG. "The Clinical Profile of Moderate Hyperopia in Children Three to Five Years of Age." Association of Research in Vision and Ophthalmology Annual Meeting in Denver, CO. May 2015

11. **Eric R. Crouch**, MD; David K. Wallace, MD; Raymond T. Kraker, MSPH; Michael X. Repka, MD; Janine E. Collinge, MD; Michael E. Gray, MD; Paul G. Steinkuller, MD; Don L. Bremer, MD. A Phase 1 Dosing Study of Bevacizumab for ROP: 12-month Ocular Outcomes. presented at AAPOS Annual meeting, 2018.

#### Local/Regional Meetings

- 1. ER Crouch, III: "What's the Sed Rate?" at the Eye-to-Eye with Ophthalmology Conference, Geisinger Medical Center, April 12, 2001, Danville, PA.
- 2. ER Crouch. "Aminocaproic Acid and Tranexamic Acid Facilitates Corneal Reepithelialization in Sprague Dawley Rats," presented at Eastern Virginia Medical School, ER Crouch, III; PB Williams. October 20, 1995.
- 3. ER Crouch. "Adherence of Corneal Epithelium is Improved by Administration of Aminocaproic Acid and Tranexamic Acid," presented at Eastern Virginia Medical School, SG Caruthers; ER Crouch, III; D Barnes; M Chames; ER Crouch, Jr.; PB Williams. 1995.
- 4. PM Griffey; PB Williams; ER Crouch, III. "Does Aminocaproic Acid, Epidermal Growth Factor, and Basic Fibroblast Growth Factor Increase the Rate of Corneal Epithelialization in Rats?" at Eastern Virginia Medical School Research Day,; October 17, 1997.
- 5. ER Crouch. Pediatric Ophthalmology. Grand Rounds, Department of Ophthalmology, SNGH. 2005.
- 6. ER Crouch, III. Strabismus and Amblyopia. Chronic Illness Conference. 10th Annual Chronic Illness Conference, sponsored by Children's Hospital of Kings Daughters, Chesapeake, VA, Nov. 2005.
- 7. ER Crouch III. OKAP Lecture Review Series. Department of Ophthalmology, March 2005.
- 8. ER Crouch III. Ophthalmology and Otolaryngology Eyes and Ears, Syndromes Associated with Hearing and Vision Loss. Grand Rounds, Department of Otolaryngology. April, 2006.
- 9. ER Crouch. Pediatric Ophthalmology, Grand Rounds, Department of Ophthalmology, SNGH. 2005.
- 10. ER Crouch III. Leukocoria, Grand Rounds Presentation, Department of Pediatrics, CHKD, 2005.
- 11. ER Crouch III. OKAP Lecture Review Series. (9-hours) Department of Ophthalmology, March 2006.
- 12. ER Crouch III. Ocular Pathophysiology. Medical Student Lecture for Pathophysiology Course. E.V.M.S. April 2007.
- 13. ER Crouch III. OKAP Lecture Review Series. (9-hours) Department of Ophthalmology, 2007.
- 14. ER Crouch, Pediatric Retina Pathology. CME course series for Hampton Roads Optometrist Network, Downtown Virginia Beach, VA. Oct, 2008.
- 15. ER Crouch III. Ocular Pathophysiology. Medical Student Lecture for Pathophysiology Course. E.V.M.S. April 2009.
- 16. ER Crouch III. Ocular Pathophysiology Lab Direct Ophthalmoscopy, Tonometry, and Visual Fields. E.V.M.S. April 2009.
- 17. ER Crouch III. Pediatric Ophthalmology Review Course for Pediatric Residents, Part 1 and Part 2. E.V.M.S. April 2009.
- 18. ER Crouch III. Pediatric Ophthalmology Red Eye Lecture. E.V.M.S. July 2009.
- 19. ER Crouch III. Visual Development, Vision Screening, and Pediatric Ophthalmology Cases. Hampton School Nurses, Hampton Museum, August 2009.
- 20. ER Crouch III. Pediatric Ophthalmology Leukocoria Lecture, Retinoblastoma Patient Presentation. E.V.M.S. September 2009.

#### **Posters**

#### National/International Meetings

- 1. ER Crouch, Jr, S Johnston, ER Crouch III. Innovative Technique for Transposition Procedure in Duane's Syndrome. Association for Research in Vision and Ophthalmology, 2006, Florida.
- 2. ER Crouch. "Aminocaproic Acid, Epidermal Growth Factor, and Basic Fibroblast Growth Factor and Their Effects Upon Corneal Reepithelialization After Severe Alkali Burns," with FA Lattanzio, PM Griffey, V Sharma, E Hein, PB Williams. Association for Research in Vision and Ophthalmology, May 11, 1999, Ft. Lauderdale, Florida.
- 3. ER Crouch. "Intraocular Lens Implantation in Pediatric Patients: Bilateral Cataract Extraction versus Unilateral Cataract Extraction," with DS Miller, SH Pressman, ER Crouch, Jr. Association for Research in Vision and Ophthalmology, May 10, 1999, Ft. Lauderdale, Florida.
- 4. ER Crouch. "Aminocaproic Acid Promotes Wound Healing in Diabetic Rabbits," with PB Williams, E Crouch, R Breazeale, F Lattanzio. Association for Research in Vision and Ophthalmology. May 10, 1998. Ft. Lauderdale, Florida.
- 5. ER Crouch III. "Corneal Wound Healing in a Diabetic Rabbit Model" with E Crouch, R Breazeale, P Williams, F Lattanzio, J Davidson. Association for Research in Vision and Ophthalmology. May 12, 1997. Ft. Lauderdale, Florida.
- 6. ER Crouch. "Topical Aminocaproic Acid in the Treatment of Traumatic Hyphema," with PB Williams, M Chames, E Crouch, K Gray. Association for Research in Vision and Ophthalmology, May 12, 1997. Ft. Lauderdale, Florida.
- 7. ER Crouch. "Aminocaproic Acid and Tranexamic Acid Accelerate Corneal Reepithelialization in Sprague Dawley Rats," with PB Williams. Association for Research in Vision and Ophthalmology. April 24, 1996. Ft. Lauderdale, Florida.
- 8. ER Crouch. "Aminocaproic Acid and Tranexamic Acid Facilitate Corneal Reepithelialization in Sprague Dawley Rats," with PB Williams, E Crouch, Jr. Association for Research in Vision and Ophthalmology. May 14, 1995. Ft. Lauderdale, Florida

## **Professional Development**

CITI Human Research and Biomedical Responsible Conduct of Research Curriculum, September, 2016 46th Costenbader Society annual meeting, October 17-18, 2015

EVMS 13th Annual Advances in Ophthalmology: Ophthalmic Ultrasound Workshop, April 24, 2015 IPMA Phase 2 Clinical Documentation of ICD-10 by Specialty: Principles and Practice, March 19, 2015 IPMA Clinical Documentation for ICD-10 by Specialty: Principles and Practice, June 24, 2014

American Academy of Ophthalmology annual meeting, November 16-19, 2013

Virginia Society of Eye Physicians and Surgeons annual meeting, June 14, 2013

EVMS John Dickerson Pathology Series, May 3, 2013

Costenbader Society annual meeting, October 1, 2012

American Academy of Ophthalmology annual meeting, October 22-25, 2011

Virginia Society of Ophthalmology annual meeting, June 3, 2011

American Association of Pediatric Ophthalmology and Strabismus annual meeting, April 14, 2010

Costenbader Society annual meeting, September 1, 2009

Virginia Society of Ophthalmology annual meeting, July 11, 2009

American Academy of Ophthalmology annual meeting, November 9-11, 2008

EVMS John Dickerson Pathology Series, March 1, 2008

American Academy of Ophthalmology annual meeting, November 8-13, 2007

EVMS John Dickerson Pathology Series, May 5, 2007

Virginia Society of Ophthalmology annual meeting, June 24, 2006

American Association of Pediatric Ophthalmology and Strabismus annual meeting, March 19, 2006