

CURRICULUM VITAE
The Johns Hopkins University School of Medicine

Earl Randy Craven, MD, FACS

6/11/17

DEMOGRAPHIC AND PERSONAL INFORMATION

Current Appointments

University

2017 Associate Professor—Johns Hopkins University School of Medicine

Hospital

2017 Active Staff, Full-time, Johns Hopkins Hospital

Personal Data

Address	Ophthalmology Glaucoma Center of Excellence Wilmer 233 600 North Wolfe Street Baltimore, MD 21287
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E-mail	ecraven1@jhmi.edu

Education and Training

Undergraduate

1979 B.S. Regis College, Dual Major—Biology and Chemistry, Denver, CO; summa cum laude

Doctoral/graduate

1983 M.D. University of Colorado School of Medicine, Denver, CO

Postdoctoral

1983-84 Intern, Rotating--Presbyterian Hospital, Denver, CO

1984-87 Resident, Ophthalmology, University Texas Health Sciences Center at Dallas, TX

1987-88 Fellowship, Glaucoma, Wills Eye Hospital, Philadelphia, PA

Professional Experience

1988-89 Clinical Assistant Professor--Department of Ophthalmology, Milton Hershey School of Medicine, PA

1988-89 Clinical Instructor--Veterans Administration Hospital, Lebanon, PA

1988-89 Employee--Lehigh Valley Ophthalmic Associates, Allentown, PA

1989-96 Employee—Glaucoma Associates, Denver, CO

1989-2010 Clinical Instructor--Denver General Hospital, Denver, CO

1990-96 Vice President-- Glaucoma Associates, Denver, CO

1990-2000 Assistant Clinical Professor--Department of Ophthalmology, University of Colorado SOM, Denver

1991-96 Clinical Instructor--Fitzsimmons Army Medical Center, Denver, CO

1996-2013 President--Glaucoma Consultants of Colorado, Parker, CO

2000-2013 Associate Clinical Professor—Ophthalmology, University of Colorado School of Medicine, Aurora, CO

2005-2010 Attending Surgeon—Veterans Administration, Denver, CO

2009-2013 President—Specialty Eye Care, Parker, CO

2009-2013 Associate Clinical Professor—Rocky Vista University, Parker, CO

2013- 2016 Senior Consultant, King Khaled Eye Specialist Hospital, Riyadh, Saudi Arabia

2013- 2016 Director, Fellowship Program, Glaucoma, King Khaled Eye Specialist Hospital, Riyadh, Saudi Arabia

2013- 2016 Chief of Service, Glaucoma, King Khaled Eye Specialist Hospital, Riyadh, Saudi Arabia

2016 Senior Academic Consultant, King Khaled Eye Specialist Hospital, Riyadh, Saudi Arabia
2013- 2016 Associate Professor, Ophthalmology, Johns Hopkins University School of Medicine, Baltimore, MD (PAR)
2017- Vice Chair of Wilmer Network (After finalization with Dr. McDonnell later in 2017)

PUBLICATIONS:

Original Research [OR]

1. **Craven ER***, Butler SL, McCulley JP, Luby JP: Applanation Tonometer Tip Sterilization for Adenovirus Type 8. *Ophthalmol.* 1987; 94:1538-1540. *corresponding author.
2. **Craven, ER:** Risk Management Issues in Glaucoma. *Surv Ophthalmol.* 1996; 40:459-462.
3. Bettman JW*, Demorest BH, **Craven ER:** Risk Management Issues in the New Managed Care Environment. *Surv Ophthalmol.* 1996; 41:268-270.
4. Stone EM, Fingert JH, Alward WLM, Nguyen TD, Ploansky JR, Sunden SLF, Nishimura D, Abbott FC, Nystuen A, Nichols BE, Mackey DA, Ritch R, Kalenak JW, **Craven, ER,** and Sheffield VC: Identification of a Gene that Causes Primary Open Angle Glaucoma. *Science.* 1997; 275:668-670.
5. Schuman JS, Horwitz B, Choplin NT, David R, Albracht D, Chen K. A 1-year study of brimonidine twice daily in glaucoma and ocular hypertension. A controlled, randomized, multicenter clinical trial. (**Craven, ER** part of Chronic Brimonidine Study Group. *Archives of ophthalmology.* 1997;115(7):847-52
6. **Craven ER,** Walters TR, Williams R, Chou C, Cheetham JK, and Schiffman R: Brimonidine and Timolol Fixed-Combination Therapy versus Monotherapy: A 3-Month Randomized Trial in Patients with Glaucoma or Ocular Hypertension. *J Ocular Pharm Ther.* 2005; 21: 337-47.
7. Hughes BA, Bacharach J, **Craven ER,** Kaback MD, Mallick S, Landry TA, and Bergamini MW: A Three-Month, Multicenter, Double-Masked Study of the Safety and Efficacy of Travoprost 0.004%/Timolol 0.5% Ophthalmic Solution compared to Travoprost 0.004% Ophthalmic Solution and Timolol 0.5% Dosed Concomitantly in Subjects with Open Angle Glaucoma or Ocular Hypertension. *J Glaucoma.* 2005; 14:392-399.
8. Sherwood M B, **Craven ER,** Chou C, DuBiner HB, Batoosingh AL, Schiffman RM, Whitcup SM: A 12-Month Randomized Trial Comparing Twice-Daily Brimonidine 0.2%/Timolol 0.5% Fixed Combination Therapy to Monotherapy with Timolol or Brimonidine in Patients with Glaucoma or Ocular Hypertension. *Arch Ophthalmol.* 2006; 124: 1230-38.
9. Frenkel R, Noecker R, **Craven ER:** Evaluation of Circadian Control of Intraocular Pressure after a Single Drop of Bimatoprost 0.03% or Travoprost 0.004%. *Curr Med Res Opin.* 2008; 24:919-23.
10. Katz LJ, Simmons ST, **Craven ER:** Efficacy and Safety of Brimonidine and Dorzolamide for Intraocular Pressure Lowering in Glaucoma and Ocular Hypertension. *Curr Med Res Opin.* 2007; 23:2971-83.
11. Lewis RA, Gross RL, Sall KN, Schiffman RM, Liu CC, Batoosingh AL, **et al (Craven, ER** part of Ganfort group). The safety and efficacy of bimatoprost/timolol fixed combination: a 1-year double-masked, randomized parallel comparison to its individual components in patients with glaucoma or ocular hypertension. *Journal of glaucoma.* 2010;19(6):424-6. *Investigator.*
12. Faulkner R, Sharif NA, Orr S, Sall K, Dubiner H, Whitson J, Moster M, **Craven ER,** Curtis M, Pailliotet C, Martens K, Dahlin D: Aqueous Humor Concentrations of Bimatoprost Free Acid, Bimatoprost and Travoprost Free Acid in Cataract Surgical Patients Administered Multiple Topical Ocular Doses of Lumigan or Travatan. *J Ocular Pharm Ther.* 2010; 20:1-10.

13. Katz G, Springs C, **Craven ER**, Montecchi-Palmer, M: Ocular Surface Disease in Patients with Glaucoma or Ocular Hypertension Treated with Either BAK-preserved Latanoprost or BAK-free Travoprost. *Clinical Ophthalmol.* 2010; 4:1253–1261.
14. **Craven ER***, Liu C-C, Batoosingh A, Schiffman RA, Whitcup SA: A Randomized, Controlled Comparison of Conjunctival Hyperemia in Patients Treated with Bimatoprost 0.01% or Vehicle Who Were Previously Controlled on Latanoprost. *Clinical Ophthalmol.* 2010; 4:1433–1440. *corresponding author; *I analyzed data, re-wrote and edited final edition*
15. Silverstein SM, Cable MG, Sadri E, Peace JH, Fong R, Chandler SP, **et al (Craven, ER as part of bromfenac study group)**. Once daily dosing of bromfenac ophthalmic solution 0.09% for postoperative ocular inflammation and pain. *Current medical research and opinion.* 2011;27(9):1693-703. *Investigator.*
16. **Craven ER**, Katz LJ, Wells JM, Giamporcaro JE*: Cataract Surgery with Trabecular Micro-bypass Stent Implantation in Patients with Mild-to-Moderate Open-angle Glaucoma and Cataract: Two-year Follow-up. *J Cataract Refract Surg.* 2012; 38:1339–1345. *corresponding author
17. Al-Zobidi M, Khandekar R, **Craven ER**, Hanafi S, Edward DP*. Periocular skin hyperpigmentation in children treated with prostaglandin analogues. *Journal of AAPOS: the official publication of the American Association for Pediatric Ophthalmology and Strabismus / American Association for Pediatric Ophthalmology and Strabismus.* 2015;19(1):49-53. *corresponding author; *I analyzed data, re-wrote and edited final edition*
18. Khor CC, Do T, Jia H, Nakano M, George R, Abu-Amero K, Duvesh R, Chen LJ, Li Z, Nongpiur ME, Perera SA, Qiao C, Wong HT, Sakai H, Barbosa de Melo M, Lee MC, Chan AS, Azhany Y, Dao TL, Ikeda Y, Perez-Grossmann RA, Zarnowski T, Day AC, Jonas JB, Tam PO, Tran TA, Ayub H, Akhtar F, Micheal S, Chew PT, Aljasim LA, Dada T, Luu TT, Awadalla MS, Kitnarong N, Wanichwecharungruang B, Aung YY, Mohamed-Noor J, Vijayan S, Sarangapani S, Husain R, Jap A, Baskaran M, Goh D, Su DH, Wang H, Yong VK, Yip LW, Trinh TB, Makornwattana M, Nguyen TT, Leuenberger EU, Park KH, Wiyogo WA, Kumar RS, Tello C, Kurimoto Y, Thapa SS, Pathanapitoon K, Salmon JF, Sohn Y H, Fea A, Ozaki M, Lai JS, Tantisevi V, Khaing CC, Mizoguchi T, Nakano S, Kim CY, Tang G, Fan S, Wu R, Meng H, Nguyen TT, Tran TD, Ueno M, Martinez JM, Ramli N, Aung Y M, Reyes RD, Vernon SA, Fang SK, Xie Z, Chen XY, Foo JN, Sim KS, Wong TT, Quek DT, Venkatesh R, Kavitha S, Krishnadas SR, Soumittra N, Shantha B, Lim BA, Ogle J, de Vasconcellos JP, Costa VP, Abe RY, de Souza BB, Sng CC, Aquino MC, Kosior-Jarecka E, Fong GB, Tamanaja VC, Fujita R, Jiang Y, Waseem N, Low S, Pham HN, Al-Shahwan S, **Craven E R**, Khan MI, Dada R, Mohanty K, Faiq MA, Hewitt AW, Burdon KP, Gan EH, Prutthipongsit A, Patthanathamrongkasem T, Catacutan MA, Felarca IR, Liao CS, Rusmayani E, Istiantoro VW, Consolandi G, Pignata G, Lavia C, Rojanapongpun P, Mangkornkanokpong L, Chansangpetch S, Chan JC, Choy BN, Shum JW, Than HM, Oo KT, Han AT, Yong V H, Ng X Y, Goh SR, Chong YF, Hibberd ML, Seielstad M, Png E, Dunstan SJ, Chau NV, Bei J, Zeng YX, Karkey A, Basnyat B, Pasutto F, Paoli D, Frezzotti P, Wang J J, Mitchell P, Fingert JH, Allingham RR, Hauser MA, Lim ST, Chew SH, Ebstein RP, Sakuntabhai A, Park KH, Ahn J, Boland G, Snippe H, Stead R, Quino R, Zaw SN, Lukasik U, Shetty R, Zahari M, Bae HW, Oo NL, Kubota T, Manassakorn A, Ho WL, Dallorto L, Hwang YH, Kiire CA, Kuroda M, Djamal ZE, Peregrino JI, Ghosh A, Jeoung JW, Hoan TS, Srisamran N, Sandragasu T, Set SH, Doan VH, Bhattacharya SS, Ho CL, Tan DT, Sihota R, Loon SC, Mori K, Kinoshita S, Hollander AI, Qamar R, Wang YX, Teo YY, Tai ES, Hartleben-Matkin C, Lozano-Giral D, Saw SM, Cheng CY, Zenteno JC, Pang CP, Bui HT, Hee O, Craig JE, Edward DP, Yonahara M, Neto JM, Guevara-Fujita ML, Xu L, Ritch R, Liza-Sharmini AT, Wong TY, Al-Obeidan S, Do NH, Sundaesan P, Tham CC, Foster PJ, Vijaya L, Tashiro K, Vithana EN, Wang N, and Aung T: Genome-wide association study identifies five new susceptibility loci for primary angle closure glaucoma. *Nature genetics.* 2016;48(5):556-62. *Contributed patients*
19. Galindo-Ferreiro A, Akaishi P, Cruz A, Khandekar R, AlDosairi S, Dufaileej M, Saleh A, Galvez-Ruiz A, **Craven ER***: Retrobulbar Injections for Blind Painful Eyes: A Comparative Study of Retrobulbar Alcohol Versus Chlorpromazine. *Journal of glaucoma.* 2016;25(11):886-90 *corresponding author; *I designed study, analyzed data, wrote and edited final edition.*

20. Vold S, Ahmed IIK, **Craven ER**, Mattox C, Stamper R, Packer M, Brown R, Ianchulev T, and CyPass Study Group: Minimally invasive surgical treatment for glaucoma: 2-year pivotal RCT result of supraciliary microstenting. *Ophthalmology*. 2016;123(10):2103-12. Doi: 10.1016/j.opht.2016.06.032. *Authored much of the FDA study proposal. Reviewed safety and contributed to writing and patients for trial.*
21. Alzuhairy S, Albahlal A, Aljadaan I, Owaidhah O, Al Shahwan S, **Craven ER**, Mousa A, Edward DP: Intraocular Pressure Outcomes Following Transscleral Diode Cyclophotocoagulation Using Long and Short Duration Burns. *Journal of glaucoma*. 2016;25(9): e782-6. *I analyzed data, re-wrote and edited final edition*
22. Al-Jummain N, Malik R, Khandekar R, Al-Humaidan A, Al-Madany R, Al-Qahtani R, Altowairqi A, Al-Theeb A, Zaman B, Al-Djasim L, **Craven ER**, Edward DP: Bottle Characteristics of Topical International Glaucoma Medications versus Local Brands in Saudi Arabia. *Middle East African journal of ophthalmology*. 2016;23(4):296-301. *I helped with study design, analyzed data, wrote and edited final edition*
23. Lewis RA, Christie WA, Day DG, **Craven ER**, Walters TA, Bejanian M, Lee SS, Goodkin ML, Zhang J, Whitcup SM, Robinson MR for the Bimatoprost SR Study Group: Bimatoprost Sustained-Release Implants for Glaucoma Therapy: 6-Month Results from a Phase I/II Clinical Trial. *American Journal of Ophthal*. 2017;175:137-47. *I helped with study design and FDA protocol, did pilot work and analyzed data, re-wrote and edited final edition*
24. **Craven ER**. January consultation #2. *Journal of Cataract & Refractive Surgery*. 2017;43(1):141-3.

Review Articles [RA]

1. Pirouzian A, * **Craven ER**. Critical appraisal of loteprednol ointment, gel, and suspension in the treatment of postoperative inflammation and pain following ocular and corneal transplant surgery. *Clinical Ophthalmology (Auckland, NZ)*. 2014; 8:379-87. *corresponding author; *co-authored*
2. **Craven ER***, Alzuhairy SA. Bimatoprost: a unique compound that in its non-hydrolyzed form is a prostamide and hydrolyzed form has prostaglandin receptor activity, for glaucoma and cosmetic Indications. *Expert Review of Ophthalmology*. 2014;9(3):159-73. *corresponding author
3. **Craven ER**: Trabecular micro-bypass Shunt (iStent®: Basic science, clinical, and future). *Middle East Afr J Ophthalmol* 2015; 22:30-7.

Book Chapters

1. **Craven ER**: “Risk Management Issues in Glaucoma Diagnosis and Treatment.” “In-Office Lasers: You Could Get Burned.” “General Consent for Glaucoma Surgery.” “Addendum to General Consent Form for Glaucoma Surgery Ciliary Body Glaucoma Treatments.” “Addendum to General Consent for Glaucoma Surgery Argon Laser Trabeculoplasty.” “Glaucoma Flow Chart.” *Ophthalmic Risk Management and Claims Desk Reference*. Ophthalmic Mutual Insurance Company, Summer, 1994.
2. **Craven ER**: “Risk Management Issues in Glaucoma Diagnosis and Treatment.” “In-Office Lasers: You Could Get Burned.” “Medicolegal Implications of Using Off-Label Drugs and Devices” “Iris Trauma During Intraocular Surgery May Trigger Lawsuit” “Risks of Using --and Not Using—Antimetabolites” “Risk Management Issues in the New Managed Care Environment” “General Consent for Glaucoma Surgery.” “Addendum to General Consent Form for Glaucoma Surgery Ciliary Body Glaucoma Treatments.” “Addendum to General Consent for Glaucoma Surgery Argon Laser Trabeculoplasty.” “Glaucoma Flow Chart.” *Ophthalmic Risk Management and Claims Desk Reference*. Ophthalmic Mutual Insurance Company, Summer, 1997.
3. **Craven ER**: “Raised Episcleral Venous Pressure:” *Ophthalmology*, Yanoff and Duker eds. Mosby, 1998; section 12:19 pp 1-2.
4. **Craven ER**: “What are the most frequent causes of glaucoma-related medical malpractice suits? What can I do to minimize my risk?” *Curbside Consultation in Glaucoma*. Heuer D and Gedde S eds. Slack, 2008; 2. pp 11-13.

5. Choplin NT, **Craven ER**, Meyers TT Reus N J, Lemij HG: "Retinal Nerve Fiber Layer (RNFL) Photography and Computer Analysis." *Glaucoma*. Sherwood, Shaarawy et al. eds. Elsevier, 2008; 7. pp 1-12.
6. **Craven ER**: "Raised Episcleral Venous Pressure." *Ophthalmology* 3rd ed. Yanoff and Duker eds. Mosby, 2008; section 3: 10.18. P 98-99.
7. **Craven ER**: "Complications Common to Nonpenetrating Surgeries" *Surgical Complications of Glaucoma* Feldman R ed. Oxford Press. 2012; 52. P 399-401.
8. **Craven ER**: "Adopting New Surgical Methods: How I do it and How I choose: Gong with the Flow" in *Surgical Innovations in Glaucoma*. Samples JR and Ahmed, IK eds. (New York: Springer. 2014) pp. 277-286.
9. **Craven ER**: "Glaucoma and Raised Episcleral Venous Pressure" in *Ophthalmology*. 4th ed. Yanoff MF and Duker J eds. (London: Elsevier. 2014) pp. 1090-1091.
10. Choplin NT, **Craven ER**: "Retinal Nerve Fiber Layer Photography and Computer Analysis" in *Glaucoma*. 2nd Ed. Shaarawy TM, Sherwood MB, Hitchings RA, Crowston JG eds. (London: Elsevier. 2015) pp 244-261.
11. **Craven ER**: "Optic disc, retinal nerve fiber layer, and macular analysis for glaucoma" in *Atlas of Glaucoma*. 3rd Ed. Choplin NT and Traverso CT eds. (Manila: CRC Press. 2014) p. 73-87.
12. **Craven ER**: "What Are the Most Frequent Causes of Glaucoma-Related Medical Malpractice Suits? What Can I Do to Minimize My Risk?" in *Curbside Consultation in Glaucoma: 49 Clinical Questions*. 2nd ed. Gedde S, Heuer D, Lewis R and Panarelli J eds. (New York: Slack. 2014) p 15-17.
13. **Craven ER**: "Raised Episcleral Venous Pressure." *Ophthalmology* 5th ed. Yanoff MF and Duker J eds. (London: Elsevier. 2017) pp. 1090-1091.

Monographs

1. **Craven ER** and Shields RL: Tonometry in Clinical Practice. In: *Clinical Signs in Ophthalmology*. St. Louis: CV Mosby, 1990; XII, 1.
2. Salinas-Van Orman E, Bashford KP, **Craven ER**: Nerve Fiber Layer, Macula, and Optic Disk Imaging in *Glaucoma*. *Focal Points of Ophthalmol*. 2006; 6: 1-19.

Monographs Turned into Risk Management Training Programs for Ophthalmologists (OMIC)

1. **Craven ER**: Risk Management Issues in Glaucoma Diagnosis and Treatment. *Ophthalmic Risk Management Digest*, Summer 1994; 4:3-5.
2. Demorest BH, Bettman JW and **Craven ER**: Risk Management in the New Managed Care Environment. *Ophthalmic Risk Management Digest*, Spring 1996; 7:1-4.
3. **Craven ER** and Moran EC: Medicolegal Implications of Using Off-Label Drugs and Devices. *Ophthalmic Risk Management Digest*, Winter 1996; 6:3-5.
4. **Craven ER** and Packo KH: Risk Management Concerns of Satellite Offices. *Ophthalmic Risk Management Digest*, Fall 1997; 7:4-8.

OTHER PUBLICATIONS

Consensus Statements

1. Coleman AL, Baerveldt G, Bournais, TE, **Craven ER**: "Evidence-Based Management of Glaucoma: Recommendations of an Expert Panel." *Glaucoma Disease Management Guide*. Thompson PDR, 2004; pp 2001-15.

Editorials

1. Spaeth GL and **Craven ER**: Solving the Mystery of Aqueous Humor. (Editorial). *Ophthalmic Surg.* 1987; 18:791.
2. **Craven ER**: Are UFOs Dangerous? (Editorial). *Ophthalmic Surg.* 1988; 19:465.

Columns/Interviews/Questions

1. **Craven ER**: In-Office Lasers: You Could Get Burned. *Argus.* 1994; 17:22.
2. **Craven ER**: Cover Story. Filtering Bleb Revisions. *Ophthal Times.* 1996; 21 (6): 1, 34.
3. **Craven ER**: Iris Trauma During Intraocular Surgery May Lead to a Lawsuit. *Argus.* 1996; 19:1-4.
4. Hutchinson BT, **Craven ER**: Risks of Using-and Not Using-Antimetabolites in Glaucoma Surgery. *Argus: OWN.* 1996; 1:12.
5. **Craven ER**: Ocular Regional Anesthesia: Who Should Inject? *Argus: OWN.* 1997; 2: 12.
6. **Craven ER**: The Expansion Team. *Ophthalmol Management.* 1998; 2:33-35.
7. **Craven ER**: Shield Yourself from Malpractice Claims. *Review of Ophthalmol.* 1998; 5(2): 90-92.
8. **Craven ER**: The Dicon Field View Perimeter. *Review of Ophthalmol.* 1998; 5 (2): 126-27.
9. McCauley MB and **Craven ER**. Risk Management Issues in Glaucoma. *Review of Ophthalmol.* 2000; 7 (6):93-96.
10. **Craven ER**: Corneal Thickness: Does it Really Help Us Manage Patients? *Ophthalmol. Management.* 2004; 8 (3): 86-7.
11. **Craven ER**: Using the TSNIT Plot to Correlate Structure and Function Changes. *Retinal Physician* 2006; 7:45-7
12. **Craven ER**: How Imaging Technology Improved My Glaucoma Practice. *Ophthalmol Management.* 2006; 10 (3):41-6.
13. **Craven ER**: Fixed combination therapies. *Review of Ophthalmol (Suppl.)* 2006; 32(2):1-12
14. **Craven ER**: A Global View on Fixed-Combination Therapy. *Ophthalmol Times (Suppl.)* 2007; 32, 2.
15. **Craven ER**: Restoring Physiologic Outflow in Glaucoma. *Glaucoma Today.* 2007; 5 (2): 35,6.
16. **Craven ER**: Malpractice Cost Rise as Glaucoma Surgery Evolves. *Review of Ophthalmol.* 2007; 14 (8): 50-52.
17. **Craven ER**: Patient Education Strategies for Improving Compliance. *Ophthalmol. Management.* 2007; 11 (11): 44-48.
18. **Craven ER**: Cover Story: Fixed Combination Approval May Boost Adherence. *Ophthal Times.* 2007; 32 (22): 1, 13.
19. **Craven ER**: Cover Story: Combigan Becomes Second Combination Glaucoma Drug to Enter US Market. *Ocular Surg News.* 2007; 25 (22): 1, 36.
20. **Craven ER**: A New View on Imaging the Anterior Segment. *Ophthalmol Times.* 2008; 33 (16):34-37.
21. **Craven ER**: Stent Aids in Handling Dual Challenge of POAG, Cataract. *Ophthalmol Times.* 2008; 33 (17): 54-56.

22. **Craven ER:** How to Manage the Progressing Glaucoma Patient: Current Options in Adjunctive Therapy. Ocular Surg News (Suppl.) 2008; 26(14) S8-10.
23. **Craven ER:** Experience with the Newest Available Fixed Combination. Glaucoma Today. 2008; 6 (2): 43-45.
24. **Craven ER, Kolker A:** Which Drops do You Use Before Glaucoma Surgery? Glaucoma Today 2008; 6 (3): 22.
25. **Caceres V, Craven ER:** Determining the Ideal IOP for Glaucoma Patients. Eye World. 2008; 13 (11): 27-29.
26. **Craven ER:** Moving SLT Procedures to the ASC. Ophthalmol Management. 2009; 13 (12): S1-S4.
27. **Craven ER:** Prescribing for Glaucoma in a Tough Economy. Ophthalmol Management. 2010; 14 (1): 43-46.
28. **Rhee, DJ, Price FW, Cantor LB, Craven ER:** Drainage Device Continues to Crowd Blebs. Eye World. 2010; 15 (2): 74.
29. **Craven ER:** Glaucoma device Shows Stable IOP Reduction, Good Safety Profile. Ocular Surg News. 2010; 28 (19): 40.
30. **Craven ER:** Going with the Flow. Ophthalmol Management. 2011; 15(2): 29-33.
31. **Craven ER:** Ophthalmic Generics: The Same but Different? Ophthalmol Management (Suppl.) 2011; 16 (6): 20-23.
32. **Karmel, M, Craven ER:** Glaucoma Treatment Paradigm. EyeNet. 2011; 15 (3): 41-45.
33. **Luthe, R, Craven ER:** Timeless Timolol? Ophthalmol Management. 2012; 16 (2): 42, 45, 68.
34. **Five Questions with E. Randy Craven.** Glaucoma Today. 2011; 9 (3): 66.
35. **Craven ER:** Next Generation of Glaucoma Surgeries: Transcend CyPass System. Glaucoma Today. 2011; 9 (4): 50-52.
36. **Craven ER:** Cover Story: Surgeons Seek Appropriate Niche for Microincision Glaucoma Surgery. Ocular Surg News. 2012; 20 (4): 1, 10-12.
37. **Radcliffe NM:** Cognitive Dissonance in Glaucoma Treatment (Description of Craven Surgical Technique): Glaucoma Today. 2012; 10 (2): 45-6.
38. **Craven ER:** The iStent receives FDA Approval. Glaucoma Today. 2012; 10 (4): 58-9.
39. **Craven ER:** New Multifunction Perimetry Device Combines Static and Kinetic Testing. Advanced Ocular Care. 2013; 4 (2): 16-18.
40. **Craven ER and Juhani S** Caught in the middle: glaucoma and cataract a stepped surgical approach could be the answer. Ophthalmology Management, Volume: 17, Issue: July 2013, page(s): 60 – 62
41. **Craven ER.** SLT: An economical choice for early glaucoma. Ophthalmology Management, Volume: 18 Issue: February 2014. Pages: 33 & 34.
42. **Craven ER,** Monthly Column in Ophthalmology Management for 2015 titled: “Managing Glaucoma”

Media Releases or Interviews [MR]

- 5/27/92 Wall Street Journal: page B7 (continue from front page), Description of New Glaucoma Caused by a Product: "Orcolon Related Glaucoma" phrase coined by me.
- 1996 Ophthalmology Times: Front Page, Description of Bleb Procedure (ref. 2 in columns)
- 1998 9 News Interview, in Studio with Willard Scott on Glaucoma Awareness
- 2006 Press Announcement: Combigan Approval
- 2011 Press Conference: Lumigan 0.01 Approval

Other Media [OM]:

Video

1. EYETUBE: The CyPass <http://eyetube.net/video/cypass-micro-stent-procedure/>
2. EYETUBE: SLT and Medication Costs <http://eyetube.net/series/glaucoma-today-journal-club/episode-3-cost-as-a-factor-in-glaucoma-care/>
3. EYETUBE: The iStent Inject <http://eyetube.net/video/istent-inject-procedure/>
4. Healio (5/15): <http://www.healio.com/ophthalmology/glaucoma/news/online/{078f96f5-ace9-47ab-9cff-e0ab093f4614}/video-update-on-microinvasive-glaucoma-procedures>
5. Healio (5/16) <http://www.healio.com/ophthalmology/glaucoma/news/online/%7Bec5cac3d-b384-4a92-bb7a-bbe5e1074984%7D/video-surgeon-reports-2-year-data-on-the-compass-trial>

On-Line Risk Management

1. www.OMIC.com/?s=craven Multiple on line risk management forms and articles.

Educational/Clinical Extramural Funding

- 1992 Taurus Foundation, \$100,000 to develop new software for imaging of optic nerve.
- 1993 Tomey Technologies, \$50,000 to develop new (Proton) tonometer.
- 2009 Merck Foundation, \$10,000 to develop educational monograph and slide set for educating doctors about glaucoma

CLINICAL ACTIVITIES

Clinical Focus

Just finished as Chief of Glaucoma and the director of the Glaucoma Fellowship at King Khaled Eye Specialist Hospital for JHU. Clinical research has been a key part of my career, over \$5,000,000 in revenues and have served as a key advisor to companies developing new products for glaucoma. Known nationally and internationally as a glaucoma surgeon and on the cutting edge having been the first US surgeon to implant many new MIGS devices (iStent and CyPass.)

Certification

Medical, other state/government licensure

- 1984-present Colorado, Active; #26080
- 1995-present Wyoming, Active; #5696A
- 2013-present Maryland, Active; # D007537
- 2013-present Saudi Arabia, Active; # 13-R-M-0039502

Boards, other specialty certification

- 1984 National Board of Medical Examiners, #285589
- 1985 FLEX Last Day, #560914018
- 1989-present American Board of Ophthalmology, #17779

Clinical (Service) Responsibilities

- 1988-89 Clinical Instructor--Veterans Administration Hospital, Lebanon, Pennsylvania -monthly surgery and clinic
- 1988-89 Clinical Assistant Professor--Department of Ophthalmology, Milton Hershey School of Medicine, Pennsylvania State University Monthly VA-surgery and clinic monthly
- 1989-10 Clinical Instructor--Denver General Hospital, Covered ER trauma and glaucoma clinic once a month
- 1991-96 Clinical Instructor--Fitzsimmons Army Medical Center, Denver, Colorado, Monthly glaucoma clinic/surgery
- 1990-00 Assistant Clinical Professor--Department of Ophthalmology, University of Colorado School of Medicine
Grand rounds, monthly clinic; residents twice a week in private clinic staffed
- 2005-10 Attending Surgeon—Veterans Administration, Denver, Staffed weekly clinic at VA. Weekly surgery ½ day
- 2000-12 Associate Clinical Professor—Department of Ophthalmology, University of Colorado School of Medicine
Teach residents in ophthalmology, staff clinic weekly, rotation of resident in Glaucoma surgery
- 2009-13 Associate Clinical Professor—Rocky Vista University, Parker, Co Supervise medical school ophthalmology rotations and basic science, One day a week
- 2013-2016 Chief, Glaucoma Service—Johns Hopkins University Department of Ophthalmology at King Khaled Eye Specialists Hospital (KKESH) Patient Care Duties: 40% clinical and 20% surgical; educational 20%; administrative 20%
- 2017- Glaucoma Service-- Johns Hopkins University Department of Ophthalmology; Patient Care Duties: 40% clinical and 20% surgical; educational 20%; administrative 20%
- 2017- Medical Director, Bethesda Branch

Clinical Productivity

- 2013-2016 My targeted clinical effort assignment is 60%. My surgical volume is second highest in Division with the number of surgeries proctored for fellow cases as the highest. KKESH has high volume referral and pathology.
- 2017- My targeted clinical effort assignment is 60%.

Clinical Draw

- 1990-2012 Referrals were 45% from out of Colorado in prior practice and many from other glaucoma specialists. Largest glaucoma clinical trial site in USA for industry. Surgical volume for glaucoma in top 1% of USA.
- 2013-2016 Several patients from the USA have requested visas to come see me at KKESH. At KKESH I receive tertiary referrals from Kuwait, Lebanon, Syria, Yemen, Oman, UAE, Qatar, Egypt and Sudan. We do not have a method to track referral numbers here at KKESH.
- 2017- East Baltimore 2 days a week and Bethesda 2 days a week.

Membership in or examiner for specialty board

- 2004-present Associate Examiner, American Board of Ophthalmology, #1776
- 2012-present American Board of Ophthalmology Author for Exam Questions, Optics and Glaucoma
- 2013-present Saudi Arabian Board of Ophthalmology, exam questions and examiner
- 2016-present American Board of Ophthalmology Exam Development Committee

Clinical Program Building/Leadership

- 1988-2012 Participated in restructuring VA clinic schedules and OR efficiency at Penn State and the VA in Colorado. Increased number of patients seen at clinics by 50% at both locations.

1996-2012 Developed large clinical trial research site. Net budget for all studies exceeded 4.5 million USD. Often was the highest center for numbers of patients correctly enrolled into trials. Research department grew to employ 1 full time MD-JD manager, 3 research coordinators and 4 physicians participating in trials.

Developed highly efficient clinical practice with patient wait time under 10 minutes.

Nearly 100% satisfaction reviews by patients and employees.

Increased patients seen by providers to maximum amount provider capable of seeing, with some providers seeing excess of 60 patients per day.

Improved operating scheduling and implementation.

Implemented new software to integrate multiple office locations with one database for scheduling and implant ordering information.

Increased surgical volume from 10 to 20-25 cases per day per provider.

Decreased ASC room turnover to 10 minutes between cases with lowest infection rate in the city.

Merged 11 Tax IDs into one at Specialty Eye Care and grew from 3 employees to over 50 employees with 8 eye care providers. Managing partner for Specialty Eye Care. Oversaw all budget and financial aspects of business. Built-out two medical office and three ambulatory surgery centers in Colorado. Steering committee and directed architects for 8101 E. Lowry Blvd Medical Office Building (18,000 sq. ft) 11960 Lioness Way Medical Office Building (27,000 sq ft). Reviewed and tracked and oversaw progress of building. Finished both projects 2 months ahead of schedule with savings exceeding \$100,000 each.

2013-2016 KKESH for JHU: Chief of Glaucoma. Division had 3 full-time members, 2 locums and other intermittent working doctors when I arrived. Changed process of recruitment and methods to achieve successful hiring of recruits and the division has grown to 9 full time members with no turnover.

2017- Medical Director at Bethesda Location for Wilmer Eye Institute. Organize schedule and manage location.

Clinical Demonstration Activities

1998-2002 Development of OMIC Risk Management Program and forms with styles for physicians to practice with reduced risk of being sued. Substantial amount of time was spent with OMIC (Ophthalmic Mutual Insurance Company) developing a risk management program to reduce exposure and change practice patterns for ophthalmology. Many of the forms and web tools for OMIC were authored with our committee that I chaired.

2/19/00 Doheny Eye Institute: Malpractice avoidance teaching

11/16/06 Live Surgery: Trabecular Bypass Procedures: Non-penetrating Glaucoma Surgery: Recklinghausen, Germany

11/5/08 Live Surgery: Glaucoma Valves

11/5/08 Live Surgery: iStent

3/13/10 Scheie Eye Institute: Glaucoma Risk Management and Cataract Surgery Basics for Residents

10/8/15 Live Surgery Demonstration, Addis Ababa, Ethiopia

10/9/15 Live Surgery—Suprachoroidal bypass: The CyPass

Development of nationally/internationally recognized clinical standard of care:

1st Description of my method for Conjunctival Advancement Graft to treat glaucoma blebs with over-filtration at American Academy of Ophthalmology in October, 1995 (see below AAO CME); often referred to as “Craven Bleb” Subsequently validated as standard method and published in trials by various authors (Budenz 1999 and Burnstein 2002) in the late-1990’s.

EDUCATIONAL ACTIVITIES

Educational Focus

- Risk management for ophthalmology (developed workshops and educational tool for OMIC)
- Cataract surgery learning center at KKESH for starting residents
- Glaucoma surgery in Africa

- Assessment of knowledge for Board Candidates (ABO Committees)
- Micro-invasive surgical techniques for glaucoma (lead speaker at many national meetings on this)
- Optic nerve imaging (teach the largest course on imaging at American Academy Ophthalmology)
- Ultrasound and OCT for anterior segment issues (multiple columns, work shops and lectures)
- Developing clinical research sites (multiple workshops on this)
- New drug and device development for glaucoma (1st to test or use many glaucoma treatments)
- Develop efficient practice style with precision and compassion (multiple lectures and columns)
- Practice patterns for glaucoma care (had monthly column in 2015 and on editorial board for Ophthalmology Management Magazine and direct information on Glaucoma Care)

Teaching

Classroom instruction

JHMI/Regional (My JHMI Assignment is at KKESH, so I am using that here)

- 1989-96 University of Colorado: ophthalmology resident knowledge assessment exam preparations (OKAP) review
Weekly conferences reviewing glaucoma pathology and physiology.
Glaucoma Journal Club-monthly review of articles with residents
- 1989-2008 Multiple hours spent reviewing and coaching residents about their annual resident presentations at the Alumni Day at CU.
- 2010-13 Rocky Vista University: medical students' monthly lectures on eye anatomy and eye physiology
- 2/13-2016 JHU/KKESH:
Residency:
Basic ophthalmic disease teaching --basic science courses for ophthalmology and glaucoma at KKESH
Grand Rounds – twice a year presentations
Residency quiz and final exams for promotion to next year or for graduation.
Fellowship:
Director of Fellowship in Glaucoma at KKESH Weekly Fellows Conferences—twice a week on Glaucoma and Surgery. Twice monthly teaching rounds
Quarterly resident glaucoma teaching rounds.
- 2017-

National

- 1993 Fitzsimmons Army Medical Center, Residents and faculty “Angle Closure & Congenital Glaucomas”
- 7/9/94 “Fundamentals of Risk Management” Novi, Michigan, Beaumont Hospitals
- 11/2/94 “Risk Management Reduction” American Academy of Ophthalmology Meeting, San Francisco, California
- 3/3/95 “Glaucoma Risk Management” Dallas Spring Ophthalmology Symposium, Dallas, Texas
- 1995 OMIC Mock Trial, AAO Annual Meeting
*This was a 4-hour trial I wrote for clinic teaching and became the standard for OMIC RM from hereafter
- 1996 University of Texas Health Science Center, San Antonio, residents and faculty
“Glaucoma Risk Management”
- 5/11/96 “Managed Care Risk Management” Texas Ophthalmological Society, San Antonio, Texas
- 1996 Malpractice Prevention in the Era of Managed Care: “The Changing Role of the RN” ASORN Annual Meeting, Chicago, Illinois
- 12/6/97 American Glaucoma Society: “Glaucoma Risk Management and Malpractice”
- 1999 OMIC Mock Litigation, AAO Meeting
- 2000 OMIC Mock Litigation, AAO Meeting
- 2001 OMIC Mock Litigation, AAO Meeting
- 2/8/01 “Risk Management Basics” University of Oklahoma, Dean A McGee

International

- 10/15/93 University of British Columbia: “Nerve Fiber Layer Analysis with Heidelberg Retina Tomograph” Residents and faculty

2013-present Middle East Africa Council of Ophthalmology (MEACO): Educational video lectures to African Residencies, various topics in glaucoma
 8/10/15 Sinskey Eye Institute, Addis Ababa, Ethiopia: “New Glaucoma Surgical Techniques”

Clinical instruction

JHMI/Regional

1989-2010 University of Colorado: Staffed clinics and surgery weekly between the VA and university. Rounds weekly with residents.
 2017 JHU—staff clinics with residents and fellows
 6/10/17 JHU—Advanced IOL and MIGS course

National

None

International

2/13-6/15 Director of Residency at KKESH oversight of residents’ rotations, review of clinical activities on all rotations; when residents needed mentoring, served as advisor. Rounds and case presentations with residents. Staff resident surgery twice a month. Basics of Cataract Surgery—built out a learning center with a simulator and wet lab for teaching. Staff resident surgery cases. Also developed a protocol for video recordings of resident surgery with critiques.
 2013-2016 Glaucoma fellows. Daily rounds with fellows, twice a week surgery staff surgery.

CME instruction

JHMI/Regional

University of Texas Health Science Center-Dallas Alumni Days
 6/85 “HLA Antigens in Ocular Disease”
 6/86 “Tonometer Tip Sterilization”
 5/87 “Iridocapsular Adhesions after Extracapsular Cataract Extractions”
 8/7/93 Montana Ophthalmological Society, Whitefish, Montana, “Ocular Blood Flow and Beta Blockers”
 10/19/93 Texas Ophthalmological Society, Austin, Texas, “Small Incision Cataract/Glaucoma Surgery,” “Ocular Blood Flow and Beta Blockers”
 1994 Colorado Ophthalmological Society, Vail, Colorado, “Infantile and Pediatric Glaucomas”
 4/13/94 Kansas City Eye Society, Kansas City, Kansas, “Update on New Beta Blockers”
 3/3/95 Dallas Spring Ophthalmology Symposium, Dallas, Texas, “Antimetabolites for Glaucoma Surgery: Good News, Bad News and the Blues”
 5/2/96 Chicago Glaucoma Society, Chicago, Illinois “Full Circle Glaucoma Treatments”
 5/11/96 Texas Ophthalmological Society, San Antonio, Texas, “Managed Care Risk Management”
 1/9/97 Des Moines Ophthalmological Society, Des Moines, Iowa, “Full Circle of Glaucoma Treatments: New Drugs”
 5/15/97 Des Moines Ophthalmological Society, Des Moines, Iowa, “Trabeculectomy Surgery”
 7/24/97 Georgia and Tennessee Ophthalmology Societies, Amelia Island, Florida, “Managed Care Risk Management and “Glaucoma Medical Record Keeping”

- 5/8/99 Allegheny University Hospitals, Pittsburgh, Pennsylvania, “Low Tension Glaucoma” and Medical Malpractice”
- 9/21/99 Toledo Ohio Ophthalmology Study Group, “Neuroprotection”
- 4/15/00 Iowa Academy of Ophthalmology “Scanning Laser Ophthalmoscopy and Medical Malpractice”
- 11/4/00 San Diego Eye Bank “Scanning Laser Polarimetry” and “GDx vs. HRT”
- 12/7/00 Phoenix Ophthalmological Society “Steroid Glaucomas”
- 2/26/01 Montana Academy of Ophthalmology “Medication Update and New Diagnostic Tools and Surgery Update”
- 6/14/02 Arizona Ophthalmological Society, Annual Meetings
Glaucoma Clinical Trials
- 6/15/02 Normal Tension Glaucoma
- 6/15/02 Optic Nerve Head Imaging
- 10/2/02 Southern California Glaucoma Society “Optic Nerve and Nerve Fiber Imaging”
- 11/12/09 Chicago Glaucoma Society, Chicago, Illinois “Glaucoma, What Else but Lowering IOP?”
- 8/3/13 Hawaii Ophthalmological Society, Annual Meeting, Honolulu “Chronic Angle Closure Glaucoma”

National

Current Concepts in Ophthalmology, Vail, Co (Johns Hopkins CME)

- 3/14/02 “Early Detection of Glaucoma”
- 3/10/13 “Scleral Fixed Lenses”
- 3/13/13 “Micro-Incision Glaucoma Surgery”
- 3/13/13 “What to do When a Canaloplasty Doesn’t Work?”
- 3/13/13 “Structure Function Cases”
- 3/15/13 “Iris Reconstruction Cases”
- 3/12/14 “Non-penetrating Glaucoma Surgery”
- 3/12/14 “Management Options with Congenital Glaucoma”
- 3/12/14 “Tonometry, what to do?”
- 3/14/14 “SLT for Glaucoma”
- 3/14/14 “Which Visual Field for your Patient?”
- 3/14/14 “What we do with Glaucoma Patients: Time-flow Studies”
- 3/18/15 “Fixed Combinations in Glaucoma Therapy”
- 3/18/15 “Is There a Role for Miotics Anymore?”
- 3/18/15 “MIGS in the Middle East”
- 3/18/15 OCT Workshop on Structure and Function
- 3/18/15 “Update on Prostaglandin Analogs”
- 3/16/16 “Monitoring Advanced Glaucoma”
- 3/16/16 “Glaucoma Medications Available out of USA”
- 3/16/16 “Management of Blind, Painful Eyes”
- 3/16/16 “Intraoperative OCT”
- 3/16/16 Anterior Segment Imaging Workshop

American Academy of Ophthalmology (AAO) Meetings

- 1994 “Laser Sclerostomies”
- 1994 “Risk Management Reduction”
- 1995 “Laser Sclerostomy”
- 1995-01 “OMIC Professional Liability and Risk Management Review” (1995, 99, 00, 01)

1997 “A Tour of Practice Management Resources: How to Use the AAO to Help You”
 1999-17 “Scanning Laser Workshop”
 2006-17 “Computerized Scanning Imaging of the Optic Nerve and Retinal Nerve Fiber Layer”
 2005 “Managing Risk in Glaucoma”
 2012-17 “Visual Fields”

American Glaucoma Society (AGS)

3/4/00 “Glaucoma Risk Management”
 3/2/01 “Glaucoma Risk Management”

American Society for Cataract and Refractive Surgery (ASCRS) Meetings

4/18/98 Course/Roundtable-- “Sail into Dock with the GDx “
 4/18/98 Course/Roundtable-- “What’s New in Perimetry” Abstract published.
 4/6/08 Course— “Ultrasound Essentials for Refractive Lens Surgeons” G. M. Kezirian; R. L. Lindstrom; K. G. Stonecipher; S. G. Slade; E. Craven

Aspen Glaucoma Conference

10/2/92 “Ab-Interno Sclerostomies”
 9/23/94 “Optic Nerve Analysis”

Contact Lens Association for Ophthalmology (CLAO) Meetings

1992 “Ab-Interno Sclerostomies”
 1993 “Carbonic Anhydrase Inhibitors and Osmotic Drugs”
 1994 “Nerve Fiber Layer Analysis with HRT”

Corneal Research Foundation of America, Indianapolis, IN

11/12/11 “Focus on Education: Glaucoma”

Eye Care Technology Magazine Meetings

1994 “Nerve Fiber Layer Analysis”
 1994 “Early Diagnosis of Glaucoma: New and Old Technology”
 1994 “Early Visual Field Changes with Glaucoma”
 1995 “Optic Nerve Head and Nerve Fiber Layer: Scanning Laser Ophthalmoscopy”
 1995 “Glaucoma Medical Records Management: How to Keep Yourself Out of Trouble”
 1996 “Optic Nerve Head Imaging”

FORGE I and III (National Glaucoma Educational Initiative)

3/10/05 “Forge I” Reframing Diagnosis: Denver
 12/13/07 “Forge III” Reframing Treatment: New York

Frontiers in Ophthalmology, Phoenix, AZ

2/25/99 “Newer Testing Strategies for Glaucoma”
 2/26/99 “Malpractice and Glaucoma”
 2/27/99 “Surgical Update”

Glaucoma Today Magazine

12/10/11 “Glaucoma Update” Seattle

Hawaiian Eye Meetings, Hawaii, various islands

1994 “Nerve Head Analysis”
 1994 “IOP: Is it the Culprit?”
 1994 “Hypotony”
 1/05 “Risk Management Issues in Glaucoma”
 1/07 “Lawsuit Waiting to Happen”
 1/07 “Trabeculectomy”

1/07 "Malpractice for Nurses"
01/08 "Ultrasound Imaging"
01/08 "Glaukos Microstent"

Review of Ophthalmology Magazine

10/11/12 Surgical Approaches for Coexisting Cataract and Glaucoma at AAO
"When to do a Cataract Surgery Alone"

Wills Eye Conferences

Ophthalmic Technicians Review Course Conference

1988 "Glaucoma and Tonometry"

40th Annual Conference

1988 "Quantitating Trabeculectomies"

34th Annual Glaucoma Conference, St. John, VI

2/13/12 The 3-Dimensional Optic Nerve

2/14/12 Iris Repair

50 years of Glaucoma Fellowships at Wills Celebration

10/18/13 Glaucoma Care in Saudi Arabia

International

Wilmer Eye Institute Current Concepts of Ophthalmology Symposium at PAAO, Bogota, Columbia

8/6/15 "MIGS: How micro incision surgery is a part of our future world in glaucoma"

8/6/15 "Are medications reliable treatment for glaucoma?"

Wilmer Eye Institute Current Concepts of Ophthalmology Symposium at PAAO, Lima, Peru

8/10/17 "MIGS: Bypass, micro stent, or trans-scleral? Which and why"

Glaucoma Update at KKESH (7 hours of CME) Riyadh, Saudi Arabia

12/16/14 "How to Pick the Right Glaucoma Surgery"

12/16/14 "Pars Plana Tubes"

12/16/14 "What the Future Will Look Like for Glaucoma Care"

Cairo Glaucoma Symposium, Cairo, Egypt

7/31/15 "OCT and Ultrasound for the Angle"

8/1/15 "Pars plana tube placement"

8/1/15 "MIGS in the Middle East"

8/1/15 "SLT for Glaucoma"

Workshops / seminars

JHMI/Regional

10/90 "Update on Glaucoma Surgery" Pueblo, Colorado

3/90 "Update on Glaucoma Treatment" Porter Hospital Nursing Staff

10/90 Rocky Mountain Ophthalmic Personnel "New Techniques for Glaucoma Treatment"

11/91 "Orcolon Related Glaucoma" San Francisco, CA

2/22/92 Boston Laser Sclerostomy Workshop, Panel Member

4/18/92 Humana East Montgomery Hospital, Montgomery, AL "Glaucoma Filtration Surgery, Internal Sclerostomies, and Cyclodestructive Surgery"

9/26/92 Del Ray Community Hospital, West Palm Beach, FL "Ab-Interno Sclerostomy and Transscleral Cyclophotocoagulation"

10/24/92 Phillips Eye Institute, Minneapolis, MN "Principles of Contact Laser Technologies, Glaucoma Filtration Surgery, and Transscleral CPC Procedure"

8/1/93 Rocky Mountain Ophthalmic Personnel "Glaucoma Treatments"

4/27/94 "Glaucoma Medication Side Effects" Medical Staff at St. Catherine Hospital, Garden City, Kansas

2/17/95 "Glaucoma and Assisting with Trabeculectomy" Porter Hospital Perioperative Services

9/28/98 Rocky Mountain Ophthalmic Personnel "Surgical Treatment of Glaucoma"

5/16/99 "Risk Management" Merck Meeting—Keystone, Colorado

2000 “Glaucoma, Medications and Risk Management” Merck Regional 2000 Symposium—Vail, Colorado
 09/28/02 Rocky Mountain Ophthalmic Personnel “Optic Nerve Imaging”
 2001-02 “Travoprost and IOP Control”, Multiple locations across USA
 2001-02 “Latanoprost tolerability” Multiple locations, across USA
 2001-13 “Bimatoprost 0.03 and 0.01” Multiple locations, USA
 2007 “Timolol/Dorzolamide Fixed combination in Glaucoma therapy”
 2008-2013 “Timolol/Brimonidine” Across USA
 2011-13 “Brimonidine 0.01 with Purite for glaucoma” Across USA
 11/1/11 Rocky Mountain Ophthalmic Personnel “Visual Fields”
 2/1/12 Rocky Mountain Ophthalmic Personnel “Visual Fields”
 2012 “Tafluprost”

National

AAO Annual Meeting, Conjunction Meetings

1995 Breakfast for Champions: “Clinical Findings with TopSS”
 10/28/96 “Detection and Management of Glaucoma using the Nerve Head Analyzer”
 10/28/97 “Practical Examples of How the GDx Helps You”
 11/8/98 “GDx Users Meeting—Interesting Cases”
 10/18/14 “Managing Glaucoma: Considerations in Clinical Care”

American Eye Study Club: USA locations

1994 “Conjunctival Hoods”
 1999 “Pneumatic Trabeculectomy”
 2001 “Charles Bonnet Syndrome”

Charles A. Royer Corneal Study Group: various locations

2/00 “Glaucoma Risk Management”
 2/00 “Surgical Update”
 2/00 “Neuroprotection”
 1/09 “Glaucoma Surgery Update”
 1/09 “Glaucoma treatment when the IOP is 10”

Cutting Edge: Glaucoma Surgery Symposium. Del Mar, CA

3/4/09 “Trabecular bypass. Theory and implementation”
 3/2/11 “The iStent”
 6/9/12 “Imaging for MIGS Surgery”

Glaucoma Surgical Symposium

8/14/92 “Open Conjunctiva over Seton Tubes”
 8/14/92 “Ab-Interno Sclerostomies”

Nantucket Glaucoma Conference

8/12/93 “Glaucoma Risk Management”

Snowmass Ophthalmology Conference

2/15/11 “Nonpenetrating and Ab-interno glaucoma surgery”

Spaeth Fellows Society Scientific Sessions

11/14/93 “Revision of Thin Filtering Blebs” * This was the first public description of the bleb procedure later attributed to me

International

Middle-Eastern Clinical & Practical Course on Ophthalmic Ultrasound, Dubai, UAE

1/9/15 “The Role of UBM for the Cataract and Refractive Surgeon”

1/9/15 “40MHz UBM: An Indispensable Tool in the Management of Glaucoma”

Pan-American Ophthalmology Congress Buenos Aires, Argentina

7/8/11 “Optimizing First Line Therapy”

Glaucoma Seminar, Dubai, UAE

9/2/14 Glaucoma: progression and patients QOL

Meeting of Local Ophthalmologists, Riyadh, Saudi Arabia

11/17/14 “While Lowering IOP, Are You Considering Other Factors?”

13th European Eye Cubed Ultrasound Course

11/28/15 “How to Perform Accurate IOL Calculations in Various Clinical Situations”

“Enhancing Cataract and Refractive Surgery Outcomes with UBM”

XII International Congress of the Middle East Africa Council of Ophthalmology, Bahrain

5/6/2016 The Cutting Edge, Wilmer Eye Institute Symposium

MIGS: Updates and when to use

Mentoring

Pre-Doctoral Advisees/Mentees

1996 Kent P. Bashford, Medical Student: 2 months’ research project on nerve analysis and mentoring for ophthalmology residency and subsequent fellowship with Bruce Shields, MD. Spent most of 1996 mentoring and directing him.

1999 Matthew McCauley, Medical Student. Research Project in analysis of Lawsuits. Continual advice on residency and fellowship. Published in Review Journal and he subsequently did ophthalmology residency and corneal fellowship.

2011 Ryan Parks, Med Student. 6 months’ research rotation with subsequent abstract submission for statistical methodology for evaluating accuracy of visual field data transferred between instruments.

Post-doctoral Advisees /Mentees

1995 Michael May, Resident Univ. Colo. Resident research project and developed plan for successful fellowship with Alan Kolker, MD in St. Louis, MO

Glaucoma Fellows Mentored and Graduated Under my Supervision While in Saudi Arabia

2013 Saud Al-Juhani (Saudi National)
Nayef Al-Otabi (Saudi National)
Fatima Fikri (United Arab Emirates)

2013-15 Munerra Abunajma (Bahrain)
Sultan Zuhairy (Saudi National); now Chairman of Ophthalmology in Qassim University, Saudi Arabia
Badriah Ghamdi (Saudi National)

2014-15 Ahmed Omari (Saudi National)
Nasser Jumaian (Kuwait)
Mohammad Turki (Saudi National)
Amal Amri (Saudi National)

2015-15 Ali Beshri (Saudi National)
Ahmed Habash (Saudi National)
Mamdouh Tamimi (Saudi National)

2016-17 Saad Amri (Saudi National)
Alaa Mofiti (Saudi National)
Thuraia Saleh Al Dossary (Saudi National)
Amira Jaffar Dawood (Saudi National)

Glaucoma Fellows at Wilmer Eye Institute

2017 Jayant Iyer (Singapore National)
Guadalupe Villarreal (US)

Thesis committees

2013-2015 KKESH resident research thesis
2013-present KKESH glaucoma fellows' thesis

Educational Program Building /Leadership

2/13- 2017 Director Glaucoma Fellowship at KKESH. Underwent significant changes under my direction. The usual number of fellows in the past had been 2. We now have 3 or 4 fellows per year with a two-year program. The biggest change is the increase in educational activities and fellow's conferences and new teaching rounds with imaging at the core of the learning. Now fellows review many surgical cases they have done with active critique and comparisons of other similar cases done by attending surgeons to learn from differences in techniques.

Educational Demonstration Activities to external audience
None

RESEARCH ACTIVITIES

Research Focus

- Diagnostic OCT for Glaucoma and Optic Nerve Imaging
- Surgical Shunts and Stents for Glaucoma
- Glaucoma medications
- Glaucoma Drug Delivery
- Tonometry

Total Career Clinical Trials and Research Grant Budgets: \$5,111,399.00

Current: \$ 550,000 at Johns Hopkins Univ./King Khaled Eye Specialist Hospital (KKESH)

Prior-- from Colorado: \$ 4,561,399.00

Research Activity: FDA and IRB Protocols and Contributions:

1. Oculieve Shunt (Author of FDA PMA)
2. Aqueous Levels of Compounds (Contributor IRB Protocol)
3. TranscendTMI-07 CyPass (Author of FDA PMA Protocol)
4. Solx SLX53 (Contributor to IRB Protocol)
5. Memantine (Contributor to Study Design)
6. GDx Normative Data Design and Implementation (Author of IRB Protocol used for FDA approval)
7. Proton Tonometer (Author of IRB Protocol)

Research Program Building / Leadership

1992-94 Institutional Review Board Chairman--Arapahoe Medical Society Division of Medical Staff Services. Merged two IRBs into one while Chair.

1996-2013 Glaucoma Consultants of Colorado--Research Department President, organizer and leader
Responsible for recruiting, overseeing and implementing all trials listed

Research Demonstration Activities

Multiple Industry (Allergan, Alcon, Ivantis, Glaukos, Invantis) on multiple occasions has me speak on how to
successfully enroll and manage clinical trials.

Inventions, Patents, Copyrights

1992 Ab-interno cautery needle— “Colorado Needle” Patents filed by Evergreen Research

1993 1st Description of Conjunctival Advancement Graft at AAO; referred to as “Craven Bleb”

2009 Ab-interno mirror designed and patent applied for with Ocular Instruments, Seattle

2012 OCR conversion software for archive HVF images to Raw Data, ABBY Scanner, Patent Pending

2013 Intraocular staple system - ASICO designing and revising

Technology Transfer Activities

None

SYSTEM INNOVATION AND QUALITY IMPROVEMENT ACTIVITIES

System Innovation Focus

Focus is on finding more efficient ways that agree with compliance to see and care for patients.

System Innovation and Quality Improvement efforts within JHMI: (presenting KKESH, since its my JHU assignment)

Currently on the King Khaled Eye Specialist Hospital Joint Commission International Committee.

Perform tracers and evaluate process of patient care at KKESH Twice a month inspection of facilities for adherence to JCI standards with recommendations and solutions to correct inadequacies.

KKESH Performance Improvement Committee: Monthly review of processes in hospital with assignments and problem solving to improve hospital daily activities.

System Innovation and Quality Improvement efforts outside of JHMI:

- Chair of Pharmacy and Therapeutics Committee
- Improved time to new drug approval with comprehensive sub-committee review and process
- Decreased physician and patient complaints about pharmacy
- New protocol for how consider non-Saudi FDA drugs for formulary with method to track safety

System Innovation and Quality Improvement Program Building/Leadership:

None

ORGANIZATIONAL ACTIVITIES

1990-92 Families of the Blind--Board Member

1990-94 Institutional Review Board Member--Combined Medical Staff Porter/Swedish Hospitals

1992-94 Institutional Review Board Chairman--Arapahoe Medical Society, Division of Medical Staff Services

1992-96 Third Party Payor Committee Representative--Colorado Ophthalmological Society

1992-95 Program Committee--Colorado Ophthalmological Society
1992-96 Secretary--Colorado Ophthalmological Society

Ophthalmic Mutual Insurance Company

1999-01 Board of Directors
1999-01 Chair, Risk Management Committee
1994-01 Risk Management Committee
1993-01 Marketing Committee

American Academy of Ophthalmology

1995-01 Insurance Committee
1995-06 Glaucoma Outcomes Task Force
2001-03 American Glaucoma Society Patient Care Committee

Institutional Administrative Appointments

2013-present Institutional Review Board Member, King Khaled Eye Specialist Hospital, Saudi Arabia
2013-15 Residency Program Coordinator, KKESH
2013-15 Local Ophthalmology Education Committee, Saudi Health Commission
2013-present Learning Center, Organizer at King Khaled Eye Specialist Hospital
2013-15 Health Information Systems Committee, Physician Modules, KKESH
2014-present Joint Commission International Accreditation (JCIA) Committee, KKESH
2014-present Chair, Pharmacy and Therapeutics Committee, KKESH

Editorial Activities

1994-96 Eye Care Technology Magazine
1997-present Ophthalmology Management Magazine
2015-present Glaucoma Today: International Perspectives

Journal peer review activities

1994- Journal of Cataract and Refractive Surgery
1994-5 Journal of Glaucoma
1998 Provision (AAO Self-Assessment; Section 1, Glaucoma, Series 3)
2000- Survey of Ophthalmology
2005- Archives of Ophthalmology
2006- Journal of Ocular Pharmacology and Therapeutics
2012- British Journal of Ophthalmology
2013- Ophthalmology
2013- Middle East African Journal of Ophthalmology
2014- Saudi Journal of Ophthalmology
2014- Expert Opinion on Drug Safety
2015- Journal of Ophthalmology
2015- Graefe's Archive for Clinical and Experimental Ophthalmology
2017- American Journal of Ophthalmology

Other peer review activities

None

Advisory Committees, Review Groups/Study Sections

1993-96 Co-Chairman--Carrier Advisory Committee—Colorado Medicare Division of HCFA; reviewed and determined RVU for ophthalmic procedures for Medicare.

Professional Societies

1985 Fellow, American Academy of Ophthalmology
1988-89 Pennsylvania Medical Society
1988-89 Lehigh Valley Ophthalmic Society

1988, 91-8 American Medical Association
 1989-present Spaeth Fellows Society
 1985-present Association for Research in Vision and Ophthalmology
 1990-12 Colorado Ophthalmological Society
 1991-8 Arapahoe/Colorado Medical Society
 1992-present American Glaucoma Society, Inc.
 1995-present Pine Ridge Eye Study Society
 1993-present American Eye Study Club
 1993-6 American College of Physician Executives
 1995 and
 2013-present American College of Surgeons

Conference Organizer

JHMI/Regional

1993 Managed Care: What's Ahead in the 90's, Colorado Ophthalmological Society Meeting
 Budget 2,000; CME 1 hour
 1992, 94 Aspen Glaucoma Conference, Co-Director
 Budget 30,000 each year; 22 hours CME

National

1993-94 Contact Lens Association of Ophthalmologists, Glaucoma Section, Chairman
 Budget 25,000; 10 hours CME
 1999-01 AAO Mock Litigation Budget 10,000; 3 hours CME
 2006, 7 ACT: Advanced Combination Therapy, Budget 5,000 each year
 2008 How to Manage the Progressing Glaucoma Patient, Budget: 2,000; 2.0 hours CME
 2008 Adjunctive and Combination Therapy in the Treatment Budget 1,500; 1.5 hours CME
 2008 Novel Strategies in the Therapeutic Management of Glaucoma, Co-Director
 Budget: 10,000; 1.0 hours CME

Event Course Director

National

10/17/05 American Academy of Ophthalmology; Las Vegas, NV, USA
 Reducing the Risk in Glaucoma Management
 Course Number: 467
 10/14 American Academy of Ophthalmology; Chicago, IL, USA
 Computerized Scanning Imaging of the Optic Nerve and Retinal Nerve Fiber Layer
 Course Number: LEC101
 Course Director: E Randy Craven MD
 Co-Instructors: Neil T Choplin MD, Sanjay G Asrani MD, Howard Barnebey MD
 11/15 American Academy of Ophthalmology; Las Vegas, NV, USA
 Computerized Scanning Imaging of the Optic Nerve and Retinal Nerve Fiber Layer
 Course Number: LEC101
 Course Director: E Randy Craven MD
 Co-Instructors: Neil T Choplin MD, Sanjay G Asrani MD, Howard Barnebey MD
 10/16 American Academy of Ophthalmology; Chicago, IL, USA
 Computerized Scanning Imaging of the Optic Nerve and Retinal Nerve Fiber Layer
 Course Number: LEC101
 Course Director: E Randy Craven MD
 Co-Instructors: Neil T Choplin MD, Sanjay G Asrani MD, Howard Barnebey MD

International

2014 Glaucoma Update, King Khaled Eye Hospital, Riyadh, SA
 Budget: 45,000; 7.0 hours CME

Session Chair

JHMI/Regional None

National

American Academy of Ophthalmology:

1995 Optic Nerve Imaging Session
2012 Glaucoma Original Papers: Tuesday Session

Annual Current Concepts in Ophthalmology, JHMI, EDU

3/13/13 30th Meeting: 8:35 -11 AM “Glaucoma Session”
3/12/14 31st Meeting: 7:00 to 8:40 Session Glaucoma
3/18/15 32nd Meeting, Chair: 7:00-11:00 AM
3/16/16 33rd Meeting, Chair: 7:00-11:00 AM

International

Italian Society of Italy: Milan, Italy

5/12 Glaucoma Symposium Auditorium Chairperson
5/13 Glaucoma Symposium Auditorium Chairperson

Emirates Ophthalmology Conference, Dubai, UAE

12/12/13 Glaucoma Session 1
12/12/13 Surgical Management of Glaucoma

Saudi Ophthalmological Society, Riyadh, Saudi Arabia

3/4/14 Pharmacotherapeutics Session 9:45-11 AM

Glaucoma Update at KKESH, Riyadh, Saudi Arabia

12/16/14 Surgical Session

Emirates Ophthalmology Conference and Glaucoma Advanced Anterior Segment Surgical Symposium

12/20/14 Surgery Session

Evolving Practice of Ophthalmology Middle East Conference, Dubai, UAE

3/26/15 Chair: Most Interesting Surgical Cases Last Year

The 12th International Congress of the Jordanian Ophthalmological Society, Amman, Jordan

5/9/2015 Glaucoma Morning Session

Cairo Glaucoma Symposium, Cairo Egypt

8/1/2015 Day II

3rd Diagnostic Imaging Symposium in Ophthalmology, KKESH, Riyadh, Saudi Arabia

12/2/2015 Session 3 Moderator

8th International Congress on Glaucoma Surgery (ICGS)

2/20/16 Chair: Main Session 4 Combined Phaco/Glaucoma (Main Session 4)
2/20/16 Moderator: Phaco and Trabecular Bypass theory (Course 5C)

Consultantships

Allergan (Glaucoma, new product, educational)

Alcon (Glaucoma, Surgical and Medical Products)

Transcend (All aspects of business start up and formation of company and research)

Ivantis (Clinical Trails, design, publication and interpretation of results)

Haag-Streit (Inactive)

Optovue (Inactive)

Sucampo (Inactive)

Dicon (Inactive)
Zeiss (Inactive)

RECOGNITION

Awards, Honors

College

1979	Summa Cum Laude
1979	James Doyle Award in Science
1978	Shell Foundation Academic Grant
1978	Alpha Sigma Nu
1978	American Chemical Society Award in Analytical Chemistry
1978	Forstall Award in Analytical Chemistry

American Academy of Ophthalmology

1999	Achievement Award
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New York Academy of Medicine— Most Outstanding Paper on Glaucoma in 1997

1998	Lewis Rudin Prize (Contributing Author; Article 4 in Peer Review References)
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American Eye Study Club

2004	Killian Award
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American Academy of Ophthalmology

2010	Senior Achievement Award
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Woodward/White, Inc.

1994-98, 2000, 2003-2017	Best Doctors in America, Listing (21 times)
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University of Texas Health Science Center, Dallas

2013	Distinguished Alumni Award
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Named Lectures

6/8/13	4th Annual Wayne Won Wong Memorial Lecturer— “The Evolution of Glaucoma Surgery” Rush University, Chicago
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6/22/13	24th Distinguished Alumnus Speaker, UTHSC— “MIGS, where it fits”
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9/18/15	38th Midwest Glaucoma Symposium: Alcon International Lecturer “Ophthalmology, Saudi Arabia”
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Invited Talks

JHMI/Regional

Georgetown Glaucoma Symposium

4/29/17	“Miocropulse CPC: Fad or here to stay?”
4/29/17	“Subconjunctival MIGS: Replace the Trab?”

Virginia Society of Eye Physicians and Surgeons,

6/9/17	“Current and future treatments of narrow angle glaucoma”
6/9/17	“Solutions to problems in glaucoma surgery”

National

Glaucoma Day, AAO:

- 1995 “Medical Liability and the Glaucoma Patient”
- 1998 “Where are we with Imaging?”
- 2008 “Appropriate Use of Office Extenders in Management of Glaucoma Patients”
- 2012 “What Impact with the Trabecular Micro-Bypass Stent Have On Glaucoma Care?”
- 2013 “Matching Surgical Risk to Disease Risk”
- 2016 “Graveyard of Innovation”

American Glaucoma Society:

- 2000 Risk Management Issues in Glaucoma
- 2001 Risk Management: Glaucoma Specifics
- 3/1/2 Computerized Medical Records, “Risk v. Benefit”
- 3/3/16 Glaucoma Surgery Day: “Trabecular Bypass”

American Society for Cataract and Refractive Surgery (ASCRS), Glaucoma Day:

- 3/25/11 “Ab-Interno Microstent for Glaucoma and Complications of Glaucoma Surgery
- 4/21/13 “IOP lowering effect of CyPass suprachoroidal Microstent in combination with phaco Cataract surgery”
- 4/20/12 What I See for the Future of Glaucoma Surgery”
- 4/19/13 Glaucoma Surgical Innovation: “Pipeline Procedures”

Glaucoma 360, San Francisco, CA, USA

- 2/4/17 “Micropulse cyclophotocoagulation”

Ocular Surgery News, New York:

- 11/19/10 “If I don’t want to do a trabeculectomy, then what?”
- 11/19/10 “Risk management of electronic health records and glaucoma”

UCSF Glaucoma Update 2009 Meritage Resort, Napa Valley, California

- 9/11/09 “What is the Future of Imaging?”
- 9/12/09 “Canaloplasty”
- 9/12/09 “Update on New Cataract Techniques”

International

Non-penetrating Glaucoma Surgery Meetings: Recklinghausen, Germany

- 11/16/06 Trabecular Bypass Procedures
- 11/08 Glaucoma Valves
- 11/08 iStent

Advances in Ophthalmology: Toronto, Ca

- 12/5/08 Where are we with Pressure?

Combined OSN and Italian Ophthalmological Society Meetings

- 5/21/10 Rome, Italy— “Ab-interno suprachoroidal shunt”
- 5/21/11 Rome, Italy— “Ab-interno glaucoma surgery: options with trabecular and suprachoroidal”
- 5/20/11 Rome, Italy— “Repair of Traumatized Iris”
- 5/28/12 Milano, Italy— “Ab-interno Glaucoma surgery”
- 5/28/12 Milano, Italy— “What to do with ICE Syndrome Patients Iris”
- 5/18/13 Milano, Italy— “Minimally Invasive Glaucoma Surgery 2013: What’s Next?”
- 5/18/13 Milano, Italy— “Chronic Angle Closure Glaucoma Treatment Options and Controversy”
- 5/24/14 Milano, Italy— “Risks of Traditional Versus MIGS Surgeries”
- 5/24/14 Milano, Italy— “Managing Epithelial Toxicity When Using Glaucoma Medications”
- 5/17/15 Milano, Italy— “OCT for Glaucoma”
- 5/17/15 Milano, Italy— “MIGS Update”

5/21/16 Milano, Italy— “MIGS: Suprachoroidal Stent Update”
5/21/16 Milano, Italy— “Intracameral Bimatoprost”
5/21/16 Milano, Italy— “When to do Cataract Surgery for Glaucoma”
5/27/17 Milano, Italy— “MIGS choices”
5/27/17 Milano, Italy--“Intracameral Bimatoprost?”

Emirates Ophthalmology Conference Dubai, UAE

12/12/13 “Evolving Glaucoma Surgeries”
12/13/13 “OCT and Visual Fields, What’s Missing?”
12/20/14 “How to Pick the Right Glaucoma Surgery”
12/20/14 “MIGS II exploiting the suprachoroidal space”
12/20/14 “Repairing Iris”
12/20/14 “Really tough cases”

23rd Annual Congress of Ophthalmologists of Sri Lanka

9/28/14 “MIGS Procedures”
9/28/14 “Cataract Surgery in the Glaucoma Patient”

Evolving Practice of Ophthalmology Middle East Conference, Dubai, UAE

3/26/15 “Posterior Segment OCT and Myopic Discs”
3/26/15 “Next Phase Medications and MIGS”
3/26/15 “Bilateral Nanophthalmos with RD”
3/27/15 “Visual Field and OCT Challenges--Roundtable”
3/27/15 “How Does Anterior Segment OCT Help Me with My Practice?”
3/28/15 “How to Manage Glaucoma Surgical Complications-Roundtable”
3/28/15 “Clues to Bad Zonule and How to Manage”

The 12th International Congress of the Jordanian Ophthalmological Society, Amman, Jordan

5/9/15 “Complicated cataract: how to manage vitreous loss & loose lenses”
5/9/15 “What IOP goal to pick”
5/9/15 “MIGS with suprachoroidal and trabecular bypass”
5/9/15 “Non-penetrating procedures: deep sclerectomy and canaloplasty”
5/9/15 “OCT for angle and ciliary body imaging”

The Slovak Ophthalmological Society Meeting, Kosice, Slovakia

10/17/15 “MIGS for glaucoma”

3rd Diagnostic Imaging Symposium in Ophthalmology, KKESH, Riyadh, Saudi Arabia

12/1/15 “Anterior Segment Imaging”
12/1/15 “Imaging in Nanophthalmos” co-author with Fellow, Ahmed Habash, presenter

8th International Congress on Glaucoma Surgery (ICGS)

2/18/16 “Management of leaking blebs” (Course 1A)
2/20/16 “Phaco and Trabeculectomy” (Main Session 4)
2/20/16 Phaco and Trabecular Bypass theory (Course 5C)

Lebanese Ophthalmological Society

5/27/16 “Anterior Segment Imaging and deciding on which procedure to do for angle closure”
5/27/16 “Surgery for angle closure: does the lens need to come out?”
5/27/16 “Posterior OCT for glaucoma, when test and why?”

47th Congress of Polish Society of Ophthalmology

6/16/16 “Combination Therapy in Glaucoma Management – How to get it right?”

European Society of Cataract and Refractive Surgery

9/14/16 Better Outcomes in Glaucoma Day: "Refining Trabeculectomies"

King Saud University: 42nd Seminar: Glaucoma

10/26/2016 Keratoplasty and Glaucoma: Incidence and Pathophysiology

Visiting Professorships

4/13/94 University of Kansas: Early Diagnosis of Glaucoma and Grand Rounds

12/12/96 Brook Army Medical Center, Texas: How image the optic nerve and grand rounds

4/9/07 William Beaumont Hospital: Grand Rounds

3/10/16 State University of New York, Downstate Grand Rounds: MIGS and Advanced Glaucoma

OTHER PROFESSIONAL ACCOMPLISHMENTS

Posters

National

American Academy of Ophthalmology

1986 "Tonometer Tip Sterilization"

1992 "Internal Sclerectomy with an Automated Micro trephine for Complicated Glaucoma"

2002 "1-Year Comparison of Efficacy and Safety of Brimonidine 0.2%/Timolol 0.5% Fixed Combination VS Brimonidine or Timolol Monotherapy"

2004 "Twelve-Month Randomized comparison of Fixed Combination Brimonidine 0.2%/Timolol 0.5% with Each Component as Monotherapy"

2008 "12 Month 12-Month Analysis of the iStent™ Trabecular Micro-Bypass and Concurrent Cataract Surgery"

2011 "Safety of Minimally Invasive, Ab-interno Supraciliary Microstent for IOP Reduction Used in Combination with Phaco Cataract Surgery." (PO376)

American Glaucoma Society (AGS)

3/8/08 "Safety and Efficacy of the iStent Trabecular Micro-Bypass and Concurrent Cataract Surgery: 18 Month Analysis"

3/8/08 "Refractory Open-Angle Glaucoma Patients: 18-Month Analysis of the iStent Trabecular Micro-Bypass Stent"

3/9/08 "IOP-Lowering Efficacy of Anecortave Acetate following a single anterior juxta scleral administration in patients with open-angle glaucoma: Three Month Interim Results"

3/6/09 "A Randomized, Controlled Comparison of Conjunctival Hyperemia in Patients Treated With Bimatoprost 0.01% or Vehicle Who Were Previously Controlled on Latanoprost" Anup K. Khatana, E. Randy Craven, Thomas K. Mundorf, Ching-chi Liu, Amy L. Batoosingh

3/2/10 "iStent Trabecular Micro-Bypass and Concurrent Cataract Surgery: 24 Month Results" Randy Craven, Thomas Samuelson, GC002 Study Group

3/1/13 "Safety and clinical effect of suprachoroidal micro-stent implantation in conjunction with phacoemulsification cataract surgery in open-angle glaucoma patients on one or two intraocular pressure-lowering medications" S. Vold, H. Hoeh, E. R. Craven, et al.

3/1/14 "Periorbital changes following prostaglandin analogue use in pediatric glaucoma" Mohammed Al-Zobidi, Somaya S.H. Hanafi, E. Randy Craven, Antonio A.V. Cruz 1, Patricia P. Akaishi 1, Rajiv Khandekar, Deepak P. Edward

3/2/17 "Prognostic factors for lowering IOP in POAG patients after combined supraciliary microstenting-phaco cataract surgery: COMPASS RCT" ER Craven

Association for Research in Vision and Ophthalmology (ARVO) Meetings

1990 "Fluid Flow through a Trabeculectomy: Correlation of Complications and Success"

1994 "Clinical Comparison between Proton Tonometer and Goldmann Tonometer"

5/5/02 "A 3 Month comparison of Efficacy and Safety of Brimonidine-Tartrate 0.2%/Timolol 0.5% Fixed Combination (BID) with Timolol 0.5% or Brimonidine-tartrate 0.2% (TID)"

4/28/08 "Control of IOP in Open-Angle Glaucoma by Anecortave Acetate: A Comparison of Three Doses and Vehicle." A49, section 1207

- 5/1/10 “Patient- and Physician-Reported Satisfaction Following Treatment with Bimatoprost 0.01% or Vehicle in Patients with Glaucoma or Ocular Hypertension OHT” (170/A393)
- 5/8/12 “Biocompatibility of a Polyimide Suprachoroidal Microstent (CyPass) for Intra-Ocular Pressure Lowering in Glaucoma: 6 months Rabbit Animal Model” 368/A196
- 5/9/12 “Conjunctival Advancement Flap for Restoration of Visual Function While Conserving Filtration in Dysfunctional Antimetabolite Blebs” 290/A226 International

International

International Society for Imaging in the Eye:

- 5/1/04 “Retinal Thickness Analysis: An Additional Tool for Evaluating Glaucoma

World Ophthalmology Conference

- 2/22/06 “Efficacy and Safety of the IOP-Lowering Fixed Combination Brimonidine 0.2%/Timolol 0.5%
- 2010 “Patient and Physician-Reported Satisfaction Following Treatment with Bimatoprost 0.01% or Vehicle in Patients with Glaucoma or Ocular Hypertension (OHT) (2010;1401/P-MO-071)

European Society Cataract Refractive Surgery

- 9/11/12 Milan, It -Minimally Invasive Ab-interno suprachoroidal micro-stent implantation (CyPass) for the primary treatment of medication-naïve patients with open angle glaucoma
- 9/12/16 Copenhagen, DE Minimally invasive supraciliary microstent for IOP control in combined POAG-cataract surgery: 2-year COMPASS RCT results

European Glaucoma Society Congress

- 6/11/14 “Extra-length (C-Shaped) and tangential tube insertion with pediatric Ahmed Valve: A future back-up plan” Nice, France
- 6/20/16 “Interim 12-Month Efficacy, Safety, and Patient-reported Outcomes in a Phase 1/2 Trial of Bimatoprost Sustained-release Implants for Glaucoma Therapy” Prague Czech Republic

8th International Congress on Glaucoma Surgery (ICGS)

- 2/18/16 Conversion from anatomically narrowed angle to chronic angle closure after phacoemulsification in nanophthalmic eyes [Al Habash A](#), Craven ER (P37-abstract published)

7th World Glaucoma Congress (WGC) Helsinki, Finland

- 6/29/17 “Interim 12-Month Efficacy, Safety, and Patient-reported Outcomes in a Phase 1/2 Trial of Bimatoprost Sustained-release Implants for Glaucoma Therapy” Keith R. Martin, Richard A. Lewis, William C. Christie, Douglas G. Day, E. Randy Craven, Marina Bejanian, Susan S. Lee, Margot L. Goodkin, Jane Zhang, Michael R. Robinson
- 6/30/17 “Ocular Hypotensive Medication Use in Patients Undergoing Combined Cataract Surgery and Supraciliary Micro-Stent Implantation for Open-Angle” ER Craven

Oral/Podium Presentations

National

American Academy of Ophthalmology

- 1995 “Glaucoma Diagnostic and Therapeutic Progress: Management of Bleb Complications”
- 2012 “Global Safety and Efficacy Study of Suprachoroidal Microstent Implantation as a Stand-alone Treatment for Open-Angle Glaucoma” (P94)
- 2015 “Bimatoprost Sustained-Release Implants for Glaucoma Therapy: Interim Results from a 24-Month Phase 1/2 Clinical Trial”

American Glaucoma Society (AGS)

- 3/1/02 “A 3 Month comparison of Efficacy and Safety of Brimonidine-Tartrate 0.2%/Timolol 0.5% Fixed Combination (BID) with Timolol 0.5% or Brimonidine-tartrate 0.2% (TID)”
- 3/1/06 “Efficacy and Safety of the IOP-Lowering Fixed Combination Brimonidine 0.2%/Timolol 0.5%”

- 3/5/16 Interim 6-Month Results from a Phase 1:2 Clinical Trial of Bimatoprost Sustained Release Implant IOP Lowering, Safety and Patient Reported Outcomes
- Association for Research in Vision and Ophthalmology (ARVO) Meetings
1998 “Comparison of Hand-Held Digital Tonometer with Goldman Applanation Tonometry in Patients with Various Ocular Diseases”
- 5/4/14 “Standalone CyPass Micro-Stent implantation in patient’s refractory to topical glaucoma therapy:1year results Presentation Number: 822, Session: 145
- 5/4/16 “Bimatoprost Sustained-Release Implants for Glaucoma Therapy: 12-Month Interim Results from a Phase 1/2 Clinical Trial” (402/4280) Co-author, not presenter
- American Society for Cataract and Refractive Surgery (ASCRS) Meetings
4/7/08 “Using the iStent to Treat POAG in Cataract Patients: 12-Month Analysis”
3/27/11 “Prospective, Randomized Controlled Trial of Cataract Surgery with Trabecular Micro-Bypass Stent in Mild-Moderate Open-Angle Glaucoma: Safety through 2 Years”
4/22/13 “Effect of Differing Ocular Hypotensive Drops Immediately After Cataract Surgery on 3 and 24 Hour Post-Op IOP” (1506174)
4/27/14 “Effect of Differing Ocular Hypotensive Drops Immediately After Cataract Surgery on 3 and 24 Hour Post-Op IOP” Paper 14157
5/7/16 "Bimatoprost Sustained-Release Implants for Glaucoma Therapy: Safety and Efficacy Through Month 6 in a Phase 1/2 Clinical Trial"

International

International Congress of Ophthalmology, Sydney, Australia

- 04/26/02 “A 3 Month comparison of Efficacy and Safety of Brimonidine-Tartrate 0.2%/Timolol 0.5% Fixed Combination (BID) with Timolol 0.5% or Brimonidine-tartrate 0.2% (TID)”

World Ophthalmology Conference

- 6/10/10 “Twelve-Month, Randomized, Controlled Trial of the Efficacy and Safety of Bimatoprost 0.01%, 0.0125%, and 0.03% in Patients with Glaucoma or Ocular Hypertension”
6/10/10 “A Randomized, Controlled Comparison of Conjunctival Hyperemia in Patients Treated with Bimatoprost 0.01% or Vehicle Who Were Previously Controlled on Latanoprost”

Published Abstracts

1. **Craven ER**, Katz LJ, Steinmann WC, et al: Comparison of Hand-Held Digital Tonometer with Goldmann Applanation Tonometry in Patients with Various Ocular Diseases. Invest. Ophthalmol. Vis. Sci. 1988; 29:61.
2. **Craven ER**, Roth SM, Katz LJ, Steinmann WC, Spaeth GL, and Brown RH: Fluid Flow Through a Trabeculectomy: Correlation of Complications and Success. Invest. Ophthalmol. Vis. Sci. 1990; 31:1351.
3. **Craven ER**, Michael AJ, Hainault H, Kinnaird S: Clinical Comparison Between Proton Tonometer and Goldmann Tonometer. Invest. Ophthalmol. Vis. Sci. 1994; 25:1857.
4. Fingert JH, Alward LM, Sunden SL, Nishimura R, Nystuen A, Nichols BE, Mackey DA, Ritch R, Kalenak JW, Craven **ER**: Identification of the Gene Causing 1-Q-linked Juvenile Onset Open-Angle Glaucoma (GLC1A) and Evidence for its Involvement in Adult Primary Open Angle Glaucoma. Invest. Ophthalmol. Vis. Sci. 1997.
5. **Craven ER**: A 3-Month Comparison of Efficacy and Safety of Brimonidine Tartrate 0.2%/Timolol 0.5% Fixed-Combination (BID) with Timolol 0.5% (BID) or Brimonidine Tartrate 0.2% (TID). Clin Exper Ophthalmol 2002; 30 (supplement): 292.

6. **Craven ER**, Choplin N, Larsen C, Olson M and Whitcup S: A 3-month Comparison of Efficacy and Safety of Brimonidine-tartrate 0.2%/Timolol 0.5% Fixed Combination (bid) With Timolol 0.5% (bid) or Brimonidine-tartrate 0.2% (tid) Invest. Ophthalmol. Vis. Sci. 2002; 43: E-Abstract 282.
7. Dahlin DC, **Craven ER**, Moster M, Sall K, Whitson JT, Betham R, Curtis M, Faulkner R, and Orr S: Human Aqueous Humor Concentrations of Bimatoprost and Bimatoprost Free Acid Following Topical Ocular Dosing of Lumigan (Bimatoprost (17-Phenyl-Trinor-PGF2) 0.03% Ophthalmic Solution) Invest. Ophthalmol. Vis. Sci. 2004; 45: E-Abstract 2096.
8. Silverstein S, Mundorf T, Noecker, R, **Craven ER**, Earl MA. Multicenter Evaluation of the Effect of Patient Education on Acceptance of Hyperemia Associated with Bimatoprost Therapy for Glaucoma or Ocular Hypertension. Invest. Ophthalmol. Vis. Sci. 2007; 48: E-Abstract 4824.
9. **Craven ER**, Robin, AL, Feldman, RM, Scheib, SA, Dickerson, JE, Landry, DTA, Wells, T, Clark, AF, and Bergamini, MVW: Control of IOP in Open-Angle Glaucoma by Anecortave Acetate: A Comparison of Three Doses and Vehicle. Invest. Ophthalmol. Vis. Sci. 2008 49: E-Abstract 1207.
10. Walters TR, Chu YR, **Craven ER**, DeBarge LR, Cacioppo L, Song CK, Bianca R, Gow JA, McNamara TR, and Bromfenac Ophthalmic Solution Once Daily Study Group: The Incidence of Macular Edema From Two Integrated Phase III Clinical Trials of Bromfenac Ophthalmic Solution Administered Once Daily for Cataract Surgery. Invest. Ophthalmol. Vis. Sci. 2008 49: E-Abstract 2705.
11. Katz G, Springs CL, **Craven ER** and Montecchi-Palmer M: Double-masked, Randomized, Multi-Center, Examination of Ocular Surface Disease in Glaucoma Patients on Latanoprost with Benzalkonium Chloride (BAK) versus Travoprost BAK-free. Invest. Ophthalmol. Vis. Sci. 2010- 51: E-Abstract 570.
14. **Craven ER**, Lin T, Mundorf T, Tepedino M, Frenkel R, Walt J, Liu CC, Batoosing A: Patient- and Physician-Reported Satisfaction Following Treatment with Bimatoprost 0.01% or Vehicle in Patients with Glaucoma or Ocular Hypertension (OHT); Invest. Ophthalmol. Vis. Sci. 2010; 51: E-Abstract 170.
12. Nguyen QH, Ahmed I, **Craven ER**, Anton A, Grisanti S, Ianchulev T; Biocompatibility of a Polyimide Suprachoroidal Microstent (CyPass) for Intra-Ocular Pressure Lowering in Glaucoma: 6 months Rabbit Animal Model. Invest. Ophthalmol. Vis. Sci. 2012; 53: E-Abstract 3730.
15. Groth SL, **Craven ER**, Sponsel WR; Conjunctival Advancement Flap for Restoration of Visual Function While Conserving Filtration in Dysfunctional Antimetabolite Blebs. Invest. Ophthalmol. Vis. Sci. 2012; 53: E-Abstract 2500.
16. **Craven ER**, Garcia J, Rau M, Nardi M, Guguchkova P, Ianchulev T. Standalone CyPass Micro-Stent implantation in patients' refractory to topical glaucoma therapy: 1 year results. ARVO Meeting Abstracts. 2014;55(5):822.
17. Alzuhairy S, Mousa A, Alshahwan S, **Craven ER**, aljadaan i, Owaydhah O, et al. Intraocular pressure outcomes following transscleral diode cyclophotocoagulation using long and short duration burns. Investigative ophthalmology & visual science. 2016;57(12):6476-.
18. Perera S, Lewis RA, Christie WC, Day DG, **Craven ER**, Bejanian M, et al. Bimatoprost Sustained-Release Implants for Glaucoma Therapy: 12-Month Interim Results from a Phase 1/2 Clinical Trial. Investigative ophthalmology & visual science. 2016;57(12)