Education

07/2007 – 05/2011 University of Connecticut, Storrs CT

Bachelor of Science

07/2012 – 05/2016 University of Connecticut School of Medicine, Farmington, CT

Medical Doctorate

Post-Doctorate Training

08/2022 – 07/2023 Rush University Medical Center, Chicago, IL

Spine Fellowship

Director: Howard S. An, MD

07/2016- 05/2022 **UConn Health Center**, Farmington, CT

Orthopaedic Surgery Resident Chairman: Isaac Moss, MD

07/2018 – 07/2019 **UConn Health Center,** Farmington, CT

<u>Neag Orthopaedic Research Fellow</u> Chairman: Augustus D. Mazzocca, MD

Distinguished Awards

2023	Golden Apple Fellow of the Year
	Rush University Medical Center, Chicago IL
2023	Fellow Research Paper of the Year Co-Author
	Rush University Medical Center, Chicago IL
2022	Cavazos Chief Resident of the Year
	University of Connecticut, Farmington CT
2022.	Nevaiser Award Best Scientific Paper
	American Shoulder and Elbow Surgeons

Publications

1. Rudisill, SS, Hornun AL, **Kia** C, et al. Obesity in Children with Low back pain: implications with imaging phenotypes and opioid use. *Spine J.* 2023;(7):945-953.

- 2. **Kia C**, Yannopoulos A, Gulati S, Cremins M, Cote MP, Moss I. Variations in Patient Demographic and Perioperative Complication Rate Between a National Database and Local Registry for 1-2 Level Posterior Lumbar Fusion Surgery. *Int J of Spine Surg.* 2021; Accepted.
- 3. **Kia C,** Mallozzi S, Moss I. Chronic Atlantoaxial Rotatory Subluxation in an Adult Following a Traumatic Event: A Case Report. *Int J Spine Surg.* 2020; https://doi.org/10.14444/7064.
- 4. **Kia C**, Antonacci CL, Wellington I, Makanji HS, Esmende SM. Spinal Implant Osseointegration and the Role of 3D Printing: An Analysis and Review of the Literature. *Bioengineering*. 2022; 6(3): 08.
- 5. **Kia C,** Esmende S. Robotic-assisted Spine Surgery: A Review of its Development, Outcomes, and Economics on Practice. *Tech Orthop*. Feb 2020, doi: 10.1097/BTO.000000000000441.
- 6. **Kia C**, Stelzer JW, Lee MC. Delayed Postoperative Spinal Cord Injury with Complete Paralysis Following Adolescent Idiopathic Surgery: A Case report. *JBJS Case Connector. Accepted.* 2021
- 7. Lambrects MJ, Schroder GD, **Kia C**, Makanji HS. Is it Time to Change the Peer Review Process? *Clin Spin Surg*. 2023; 36(6):221-223.
- 8. Supra-iliac or Trans-iliac Endoscopic Access to L5-S1: Prevalence of Anatomic Variants and a Novel Radiographic Method for Predicting the Preferred Approach. Osman N, Gulati S, **Kia C**, Mallozzi S, Cote MC, Osman S, Moss IM. *Int J Spine Surg.* In Submission.
- 9. **Kia C,** Antonacci CL, Wellington I, Makanji HS, Esmende SM. Spinal Implant Osseointegration and the Role of 3D Printing: AN analysis and Review of the Literature. *Bioengineering*. 2022; 6(9):108.
- 10. **Kia C,** Messina J, Cusano A, Chadayammuri V, McCarthy MB, Umejiego E, Mazzocca A, Muench LN. Effectiveness of Topical Adjuvants in Reducing Biofilm Formation on Orthopedic Implants: An in-vivo Analysis. *JSES*. 2021; 30(9):2177-2183.
- 11. **Kia C**, Cavanaugh Z, Gillis E, Dwyer C, Chadayammuri V, Muench LN, Berthold DP, Murphy M, Pacheco R, Arciero RA. Size of Initial Bone Bruise Predicts Future Lateral Chondral Degeneration in ACL Injuries: A Radiographic Analysis. *Orthop J Sports Med.* 2020; 6;8(5):2325967120916834. doi: 10.1177/2325967120916834. eCollection 2020 May.

- 12. **Kia C**, Muench LN, Williams AA, Avery DM 3rd, Cote MP, Reed N, Arciero RA, Chandawarkar R, Mazzocca AD. 'Reply to Letter to the Editor for 'High Clinical Failure Rate After Latissimus Dorsi Transfer for Revision Massive Rotator Cuff Tears.' *Arthroscopy*. Accepted.
- 13. **Kia C,** Dukas AG, Marshall ST, Voss A, Obopilwe E, Browner BD, Mazzocca AD. Olecranon Sled vs. Intramedullary Screw and Tension Band Construct. *Orthop J Sports Med*. 2018 Dec; 6(12): 2325967118816075.
- 14. **Kia C**, Baldiono J, Bell R, Ramji A, Uyeki C, Mazzocca A. PRP: Review of Current Literature on its Use for Tendon and Ligament Pathology. *Curr Rev Musculoskelet Med*. 2018;11(4):566-572.
- 15. **Kia C**, Faraj Y, Isch E, Sathe V. Review of Percutaneous Achilles Tendon Repair: Techniques and Outcomes. *CPQ Orthopaedics*, 2018; 1(5): 1-10.
- 16. **Kia C,** O'brien D, Ziegler C, Pacheco R, Forouhar F, Williams V. An unusual case of pigmented villonodular synovitis after total knee arthroplasty presenting with recurrent hemarthrosis. *Arthroplasty Today.* 2018; 4(4): 426–430.
- 17. **Kia C**, Yoshida R, Cote M, Divenere J, Geaney LE. First Metatarsophalangeal Contact Properties Following Proximal Opening Wedge and Scarf Ostoetomies for Hallux Valgus Correction: A Biomechanical Study. *Foot Ankle Int.* 2017; 38(4): 430-435.
- 18. **Kia C**, Muench LN, Mazzocca AD. Editorial Commentary: Is an Arthroscopic Single Row Repair Effective for the Treatment of Chronically Retracted, Full-thickness Subscapularis Tears? *Arthroscopy*. 2019; 35(7): 1982-1983.
- 19. Scheiderer B, **Kia C**, Obopilwe E, Johnson JD, Cote MP, Imhoff FB, Dyrna F, Beitzel K, Imhoff AB, Adams CR, Mazzocca AD, Morikawa D. Biomechanical Effect of a Superior Capsule Reconstruction Using a 3-mm and 6-mm Thick Acellular Dermal Allograft in a Dynamic Shoulder Model. *Arthroscopy*. 2020; 36 (2): 355-364.
- 20. Johnson J, **Kia C,** Morikawa, J. Mehl, F.B. Imhoff et al. Histological And Biomechanical Evaluation of Biologic Adjuvants in a Murine Tendon-Bone Healing Model. Muscl, Tend, Lig J. 2019; 9 (4): 494-505. 10.32098/mltj.04.2019.03.
- 21. Muench LN, **Kia C**, Jerliu A, Murphy M, Berthold DP, Cote MP, Arciero RA, Mazzocca AD. Functional and Radiographic Outcomes After Anatomic Coracoclavicular Ligament Reconstruction for Type III/V Acromioclavicular Joint Injuries. *Orthop J Sports Med*. 2019; 7(11): 2325967119884539. doi: 10.1177/2325967119884539.
- 22. Muench LN, **Kia C**, Otto A, Mehl J, Baldino JB, Cote MP, McCarthy MB, Beitzel K, Mazzocca AD. The effect of a single consecutive volume aspiration on concentrated

- bone marrow from the proximal humerus for clinical application. *BMC Musculoskelet Disord*. 2019; 20(1): 543.
- 23. O'Brien D, **Kia C,** Beebe R, Macken C, Bell R, Cote M, McCarthy MB, Williams V, Mazzocca AD. Evaluating the Effects of Platelet Rich Plasma and Amniotic Viscous Fluid on Inflammatory Markers in a Human Co-culture Model for Osteoarthritis. *Arthroscopy.* 2019; 35(8): 2421-2433.
- 24. O'Malley M, **Kia C**, Dukas AG, Cote M, Stock H, Savoy L, Tinsley BA, Alaee F, Mazzocca AD, Shea KP. Ultrasound Examination of the Subscapularis tendon after TSA. *Journal of Shoulder and Elbow Arthroplasty*. 2019; 3: 1-7.
- 25. Dwyer C, **Kia**, Apostolakos J, DiVenere J, Dyrna F, Cote M, Arciero RA, Mazzocca AD. Clinical Outcomes After Biceps Tenodesis or Tenotomy Using Subpectoral Pain to Guide Management in Patients with Rotator Cuff Tears. *Arthroscopy*.2019; 35(7): 1992-2000.
- 26. Muench LN, **Kia C**, Williams AA, Avery DM 3rd, Cote MP, Reed N, Arciero RA, Chandawarkar R, Mazzocca AD. High Clinical Failure Rate After Latissimus Dorsi Transfer for Revision Massive Rotator Cuff Tears. *Arthroscopy*. 2020; 35(1): 88-94.
- 27. Mehl JT, **Kia C**, Murphy M, Obopilwe E, Cote M, Imhoff FB, Imhoff AB, Arciero RA, Beitzel K, Otto A. Posteromedial Ligament Repair of the Knee with Suture Tape Augmentation: A Biomechanical Study. *Am J Sports Med.* 2019; 47(12): 2952-2959.
- 28. Muench LN, **Kia C**, Jerliu A, Williams AA, Berthold DP, Cote MP, McCarthy MB, Arciero RA, Mazzocca AD. Clinical Outcomes Following Biologically Enhanced Patch Augmentation Repair as a Salvage Procedure for Revision Massive Rotator Cuff Tears. *Arthroscopy*. 2020; 36(6): 1542-1551.
- 29. Berthold DP, Muench LN, **Kia C**, Ziegler CG, Laurencin SJ, Witmer D, Reed DN, Cote MP, Arciero RA, Mazzocca AD. Surgical and Patient Upper Extremity Dominance Does Not Influence Clinical Outcomes After Total Shoulder Arthroplasty. *Orthop J Sports Med.* 2020; 8(7): 1-7. DOI: 10.1177/2325967120932106
- 30. Otto A, Muench LN, **Kia C**, Baldino JB, Mehl J, Dyrna F, Voss A, McCarthy MB, Nazal MR, Martin SD, Mazzocca AD. Proximal Humerus and Ilium are Reliable Sources of Bone Marrow Aspirates for Biologic Augmentation during Arthroscopic Surgery. *Arthroscopy.* Jun 15:S0749-8063(20)30525-9. doi: 10.1016/j.arthro.2020.06.009. Online ahead of print.
- 31. Muench LN, Berthold DP, **Kia C**, Lebaschi A, Cote MP, McCarthy MB, Mazzocca AD. Concentrated Bone Marrow Aspirate and Subacromial Bursa-Derived Cells Demonstrate Similar Cellular Adhesion and Proliferation Potential on Demineralized Bone Matrix

- Scaffolds for Biologic Augmentation of Rotator Cuff Repair. *Muscles Ligaments Tendons J.* 2020. 10(1): 48-56.
- 32. Baldino JB, Muench LN, **Kia C**, Johnson J, Morikawa D, Tamburini L, Landry A, Gordon-Hackshaw L, Bellas N, McCarthy MB, Cote MP, Mazzocca AD. Intraoperative and In Vitro Classification of Subacromial Bursal Tissue. *Arthroscopy*. 2020; Apr 16:S0749-8063(20)30316-9. doi: 10.1016/j.arthro.2020.03.039. Online ahead of print.
- 33. Mehl J, Otto A, **Kia C**, Murphy M, Obopilwe E, Imhoff FB, Feucht MJ, Imhoff AB, Arciero RA, Beitzel K. Osseous valgus alignment and posteromedial ligament complex deficiency lead to increased ACL graft forces. *Knee Surg Sports Traumatol Arthrosc.* 2020; 28(4): 1119-1129.
- 34. Morikawa D, Johnson JD, **Kia C**, McCarthy MBR, Macken C, Bellas N, Baldino JB, Cote MP, Mazzocca AD. Examining the Potency of Subacromial Bursal Cells as a Potential Augmentation for Rotator Cuff Healing: An In Vitro Study. *Arthroscopy*. 2019; 35(11): 2978-2988.
- 35. Schmidtberg B, Johnson J, **Kia C**, Baldino J, Cote M, Obopilwe E, Geaney L. Flexor Hallucis Longus Transfer Improves Achilles Tendon Load to Failure in Surgery for Non-Insertional Tendinopathy: A Biomechanical Study. Transfer Increases Load to Failure for Non-Insertional Achilles Tendoninopathy. *J Bone Joint Surg Am*. 2019; 101(16): 1505-1512.
- 36. Mehl J, Otto A, Comer B, **Kia C**, Liska F, Obopilwe E, Beitzel K, Imhoff AB, Fulkerson JP, Imhoff FB. Repair of the medial patellofemoral ligament with suture tape augment leads to similar primary contact pressures and joint kinematics like reconstruction with a tendon graft: a biomechanical comparison. *Knee Surg Sports Traumatol Arthrosc.* 2020; 28(2): 478-88.
- 37. Scheiderer B, Imhoff FB, **Kia C**, Aglio J, Morikawa D, Obopilwe E, Cote MP, Lacheta L, Imhoff AB, Mazzocca AD, Siebenlist S. LUCL internal bracing restores posterolateral rotatory stability of the elbow. *Knee Surg Sports Traumatol Arthrosc.* 2020; 28(4):1195-1201.
- 38. Williams AA, Mancini NS, **Kia C**, Wolf MR, Gupta S, Cote MP, Arciero R. Recurrent shoulder instability: Do morbidity and treatment differ based on insurance?. *Orthop J Sports Med.* 2019; 74: 1-4.
- 39. Cerciello S, Berthold DP, Uyeki C, **Kia C**, Cote MP, Imhoff AB, Beitzel K, Corona K, Mazzocca AD, Muench LN. Anatomic coracoclavicular ligament reconstruction (ACCR) using tendon allograft is effective for chronic acromioclavicular joint injuries at mid-term follow up. *Knee Surg Sports Traum Arthrosc.* 2020; doi: 10.1007/s00167-020-06123-0.Online ahead of print.

- 40. Muench LN, Berthold DP, Uyeki C, **Kia C**, Cote MP, Imhoff AB, Beitzel K, Corona K, Mazzocca AD, Cerciello S. Conversion to anatomic coracoclavicular ligament reconstruction (ACCR) shows similar clinical outocmes compared to successful non-operative treatment in chronic primary type III to V acromioclavicular joint injuries. *Knee Surg Sports Traumatol Arthrosc.* 2020; doi: 10.1007/s00167-020-06159-2.
- 41. Morikawa D, Huleatt JB, Muench LN, **Kia C**, Berthold DP, Kelloli D, Cote MP, Obopilwe E, Scheiderer B, Mazzoca AD. Posterior Rotational and Translational Stability in Acromioclavicular Ligament Complex (ACLC) Reconstruction: A Comparative Biomechanical Analysis. *Am J Sports Med.* 2020; doi: 10.1177/0363546520939882.
- 42. Morikawa D, Mazzocca AD, Obopilwe E, Cote MP, **Kia C**, Johnson JD, Imhoff FB, Scheiderer B. Reconstruction of the Acromioclavicular Ligament Complex Using Dermal Allograft: A Biomechanical Analysis. *Arthroscopy*. 2020; 36(1): 108-115.
- 43. Morikawa D, Muench LN, Baldino JB, **Kia C**, Johnson J, Otto A, Pauzenberger L, Dyrna F, McCarthy MBR, Mazzocca AD. Comparison of Preparation Techniques for Isolating Subacromial Bursa-Derived Cells as a Potential Agument for Rotator Cuff Repair. *Arthroscopy*. 2020; 36(1): 80-85.
- 44. Muench LN, Baldino JB, Berthold DP, **Kia C**, Lebaschi A, Cote MP, McCarthy MB, Mazzocca AD. Subacromial Bursa-Derived Cells Demonstrate High Proliferation Potential regardless of Patient Demographics and Rotator Cuff Tear Characteristics. *Arthroscopy.* 2020 Jun 15:S0749-8063(20)30524-7. doi: 10.1016/j.arthro.2020.06.008. Online ahead of print.
- 45. Adams CR, Comer B, Scheiderer B, Imhoff FB, Morikawa D, **Kia C**, Muench LN, Baldino JB, Mazzocca AD. The Effect of Glenohumeral Fixation Angle on Deltoid Function During Superior Capsule Reconstruction: A Biomechanical Investigation. *Arthroscopy.* 2020; 36(2): 400-408.
- 46. Muench LN, Murphey M, Oei B, **Kia**, et al. Ellipitcal and spherical heads show similar obligate glenohumeral translation during axial rotation in total shoulder arthroplasty. BMC Musculoskeeltal Disord. 2023; 24(1): 171.

Ongoing Projects

Title: Anterior Longitudinal Reconstruction using the Internal Brace.

- Biomechanical, cadaveric study.
- Aim: Examine the use of the internal brace in repairing the ALL following an ACDF or disc arthroplasty.

Title: A Systematic Review of Literature Estimating the Clinically Meaningful Difference,

Substantial Clinical Benefit, and Patient Acceptable Symptomatic State of Outcome Measures Following Cervical and Lumbar Surgery

- Systematic review, PROSPERO approved
- Goal is to identify clinically meaningful thresholds including substantial clinical benefit (SCB) and patient acceptable symptomatic state (PASS) of patient reported outcomes for common cervical and lumbar procedures

Presentations/Abstracts

Title: Supra-iliac or Trans-iliac Endoscopic Access to L5-S1: Prevalence of Anatomic Variants and a Novel Radiographic Method for Predicting the Preferred Approach. Authors: Osman N, Gulati S, **Kia C,** Mallozzi S, Cote MC, Osman S, Moss IM. Conference: Society for Minimally Invasive Spine Surgery, e-poster. Las Vegas, NV. October 28th, 2021.

Title: Can Preoperative Labs Predict Morbidity and Mortality in Adolescent Idiopathic Scoliosis?

Authors: Stelzer J, Kia C, Wellington I, Lee M.

Conference: 17th Annual International Pediatric Orthopaedic Symposium. Orlando, FL; December 7th, 2021, eposter

Title: FHL Transfer Improves Achilles Tendon Load to Failure in Non-Insertional Tendinopathy.

Authors: **Kia C**, Schmidtberg B, Johnson J, Cote MP, Obopilwe E, Geaney LG. Conference: 13th Annual UConn Musculoskeletal Institute Research Day. Farmington CT; March 1st 2019; PowerPoint Presentation

Title: Effectiveness of the Digit Widget device on proximal interphalangeal joint flexion contractures.

Authors: **Kia C**, Shabin Z, Tybor DJ, Peaver M, Kimball H, Cassidy C. Conference: ASSH, Austin, TX; September 29-October 1st 2016, e-poster

Conference: 27th Annual Richard J. Smith residents & fellows conference, Boston, MA;

April 29, 2016, podium presentation

Title: First Metatarsophalangeal Contact Properties Following Proximal Opening Wedge and Scarf Osteotomies for Hallux Valgus Correction: A Biomechanical Study.

Authors: Kia C, Divenere J, Geaney LE, Yoshida R.

Conference: AOFAS Annual Meeting, 2016. DOI: 10.1177/ 2473011416S00184. Poster Presentation.

Title: Posteromedial ligament repair of the knee with anatomic internal bracing vs. anatomic graft-reconstruction: a biomechanical study of primary stability

Authors: Mehl J, Ottor A, **Kia C,** Obopilwe E, Imhoff F, Imhoff AB, Arciero RA, Beitzel RA.

Conference: 36th Annual Congress Society for Arthroscopy and Joint Surgery, Poster Presentation.

Title: Comparison of Non-Operative Grade III/VI Acromioclavicular Joint Injuries to Anatomic Reconstruction: Minimum of 2 year follow up

Authors: **Kia C**, Cerciello S, Wolf M, Allen D, Rodriguez S, Cote MP, Mazzocca AD. Conference: ESSKA- ESA Closed Annual Meeting, Athens Greece, 2018, podium presentation.

Title: Minimum One-Year Follow Up for Acute and Chronic AC Joint Injuries Follow Anatomic Coracoclavicular Reconstruction

Authors: **Kia C**, Cerciello S, Wolf M, Allen D, Rodriguez S, Cote MP, Mazzocca AD. Conference: ESSKA- ESA Closed Annual Meeting, Athens Greece, 2018, podium presentation.

Book Chapters

- 1. Handbook of Spine Surgery; Transoral Odontoidectomy
- 2. Arthroscopic and Open Treatment of the Proximal Biceps Tendon. AAOS; OKU 5: Shoulder and Elbow. *Chapter 17.*
- 3. Repair and Reconstruction of Acromioclavicular Injuries. Wiesel's Operative Techniques in Orthopaedics. *Chapter 12*.

Professional Memberships

Society of Minimally Invasive Spine Surgery AO Spine North American Spine Society American Medical Association AAOS resident member AO Trauma

Honors

2008-2010	University of Connecticut Babbidge Scholar
2007-2010	Dean's Honor List, University of Connecticut
2007-2010	University of Connecticut New England Scholar

Awarded Grants

2020 Synthes Educational Grant

AO Advanced Principles of Trauma Course

2018-2019 OREF/UCONN FOUNDERS ENDOWMENT RESIDENT CLINICIAN

SCIENTIST TRAINING GRANT

Effectiveness of Toradol vs Corticosteroid and Simvisc for Knee OA

Advisor: Mohammad Halawi, MD

Department of Orthopaedic Surgery, UCONN Health, Farmington, CT

Work/Volunteer Experience

2013-2013 Tufts New England Medical Center, Boston, MA

Summer Research Assistant Department of Orthopedics

- Participated in unpaid clinical research in Department of Orthopedics
- Assisted with creation of data tools, collection, statistics using REDcap
- Integral part in the drafting and editing of research manuscript

2012-2012 Princeton Review, Boston, MA

Premier MCAT Teacher

- Taught MCAT science topics in a classroom environment
- Held one-on-one private tutor sessions to cater to student's needs

2008-2011 University of Connecticut, Storrs, CT

Resident Assistant

- Assisted new students so they adapted smoothly to the residence hall
- Served as a mentor for students for academic, personal, and emotional issues

Hobbies & Activities

Fishing, soccer, playing saxophone, hiking, traveling, collegiate wrestling, Brazilian jiu iitsu