

# CURRICULUM VITAE

**EDWARD S. CHANG, M.D.**

*April 2020*

## APPOINTMENTS

Orthopaedic Surgeon  
Department of Orthopaedic Surgery and Sports Medicine  
Inova Health System (2015-present)

Associate Professor  
Department of Orthopaedic Surgery  
Virginia Commonwealth University School of Medicine, (2017-present)

Adjunct Assistant Professor  
Department of Surgery  
Uniformed Services University of the Health Sciences (2019-present)

Director of Research  
Inova Sports Medicine

## ADDRESS

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Suite 110  
Fairfax, VA 22031

## CONTACT

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201.925.6729

## DATE OF BIRTH

July 13, 1983  
New York, NY

## EDUCATION

Johns Hopkins University, Baltimore, MD  
A.B. Biophysics, 2005

Robert Wood Johnson Medical School, Piscataway, NJ  
M.D., 2009

Thomas Jefferson University Hospital, Philadelphia, PA  
Internship, General Surgery, 2009-2010

The Rothman Institute at Thomas Jefferson University Hospital,  
Philadelphia, PA  
Residency, Orthopaedic Surgery, 2010-2014

University of Pittsburgh, Pittsburgh, PA  
Administrative Fellow  
Sports Medicine and Shoulder Surgery Fellowship, 2014-2015

#### **LICENSURE/CERTIFICATION**

American Board of Orthopaedic Surgery (ABOS) Part 1, 2014  
American Board of Orthopaedic Surgery (ABOS) Part 2, 2017  
American Board of Orthopaedic Surgery (ABOS) Sports Medicine, 2018  
Virginia Medical License: 0101259063 (Exp: 07/31/2020)  
National Provider Identifier: 1235373648

#### **AWARDS**

Top Clinical Educator, VCU School of Medicine, 2020  
Top Doctors, Washingtonian Magazine, 2019  
Top Clinical Educator, VCU School of Medicine, 2019  
Top Clinical Educator, VCU School of Medicine, 2018  
Charles S. Neer Award, Nominee, 2012  
Philip Syng Physick Award for Outstanding Research, May 2014

#### **SOCIETY MEMBERSHIPS**

American Academy of Orthopaedic Surgeons (AAOS)  
American Shoulder and Elbow Surgeons (ASES)  
American Orthopaedic Society for Sports Medicine (AOSSM)  
Arthroscopy Association of North America (AANA)  
Mid-Atlantic Shoulder and Elbow Society (MASES)  
Physician Advisory Council, Inova Alexandria Hospital, 2020-present  
Pennsylvania Orthopaedic Society (POS)  
-Past Representative to the Board of Directors, 2012-2013  
Journal of Shoulder and Elbow Surgery  
-Reviewer  
American Journal of Orthopedics  
-Editorial Review Board (2016-2018)

#### **CURRENT TEAM EXPERIENCE**

Wakefield High School, Team Physician 2016-present

#### **PREVIOUS TEAM EXPERIENCE**

DC Divas, Team Physician 2015-2017  
University of Pittsburgh Men's Baseball, 2015  
Pittsburgh Steelers Football, 2014-2015  
University of Pittsburgh Women's Basketball, 2014-2015  
University of Pittsburgh Women's Volleyball, 2014-2015  
Philadelphia Marathon, 2010-2013  
Bensalem High School Varsity Football, 2011-2013

## RESEARCH GRANTS

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### **Inova Seed Grant, 2018**

Biomechanical comparison of Anatomic Restoration of the Ulnar Footprint versus Traditional Ulnar Tunnels in Ulnar Collateral Ligament Reconstruction (\$15,000)

### **Inova Seed Grant, 2016**

Biomechanical comparison of Ulnar collateral Ligament Reconstruction with the Docking Technique versus Repair with Internal Bracing (\$15,000)

## RESEARCH COLLABORATIONS

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Elbow Ulnar Collateral Ligament (UCL) Research Group, American Shoulder and Elbow Surgeons (ASES)

## CLINICAL TRIALS

The Effect of Blood Flow Restriction (BFR) on Therapy following Anterior Cruciate Ligament Reconstruction: A Prospective, Randomized Controlled Study (NCT03758755)

## PEER-REVIEWED MANUSCRIPTS

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Conroy C, Curley AJ, West RV, Chang ES. Postoperative Use of Blood Flow in Orthopedics (*accepted for Publication- Orthopedics*).

Bodendorfer BM, Wang DX, McCormick BP, Looney AM, Conroy CM, Fryar CM, Kotler JA, Ferris WJ, Postma WF, Chang ES. Treatment of Pectoralis Major Tendon Tears: A Systematic Review and Meta-analysis of Repair Timing and Fixation Methods. *Am J Sports Med.* 2020 Feb 28;363546520904402. doi: 10.1177/0363546520904402.

Bodendorfer BM, McCormick BP, Wang DX, Looney AM, Conroy CM, Fryar CM, Kotler JA, Ferris WJ, Postma WF, Chang ES. Treatment of Pectoralis Major Tendon Tears: A Systematic Review and Meta-Analysis of Operative and Nonoperative Treatment. *Orthop J Sports Med.* 2020 Feb 6;8(2):2325967119900813. doi: 10.1177/2325967119900813.

Curley AJ, Chang ES. Operative Positioning Technique for Intertrochanteric Fracture with Ipsilateral Below the Knee Amputation. *JBJS Case Connect.* 2019 Jan-Mar; 9(1): e1. doi:10.2106/JBJS.CC.18.00106.

Arner J, Chang ES, Bayer S, Bradley JP. Direct Comparison of Modified Jobe and Docking UCL Reconstruction at Mid-term Follow-up. *Am J Sports Med.* 2019 Jan; 47(1):144-150. doi:10:363546518812421.

Bodendorfer B, Looney A, Lipkin SL, Chou EA, Li J, Najarian RG, Chang ES. Biomechanical Comparison of Ulnar Collateral Ligament Reconstruction with the Docking Technique versus Repair with Internal Bracing. *Am J Sports Med.* 2018 Dec; 46(14):3495-3501. doi:10.1177/0363546518803771

Chang ES, Bishop ME, Dodson CC, DeLuca PF, Ciccotti MG, Cohen SB, Ramsey ML. The Management of Elbow Dislocations in the National Football League (NFL). *Orthop J Sports Med.* 2018 Feb 20;6(2). doi: 10.1177:2325967118755451

Aleem AW, Narzikul AC, Wilent WB, Kuntz AF, Chang ES, Williams GR, Abboud JA. Incidence of Peripheral Nerve Injury during Shoulder Arthroplasty when Motor Evoked Potentials are Monitored. *J Clin Monit Comput.* 2018 Oct;32(5):897-906. doi:10.1007/s10877-017-0080-5.

Chang ES, Dodson CC, Ciccotti MG. Comparison of Surgical Techniques in Ulnar Collateral Ligament Reconstruction in Overhead Athletes., *J Am Acad Orthop Surg.* 2016 Mar; 24(3):135-149.

Chang ES, Bishop ME, Baker D, West RV. Interval Throwing and Hitting Programs: Biomechanics and Rehabilitation. *Am J Orthop.* 2016 Mar-Apr; 45(3):157-162.

Chang ES, Greco NJ, McClincy MP, Bradley JP. Posterior Shoulder Instability in Overhead Athletes. *Orthop Clin North Am.* 2016 Jan; 47(1):179-87. doi: 10.1016/j.ocl.2015.08.026

Chang ES, Zou J, Costello JM, Lin A. Accuracy of Magnetic Resonance Imaging in Predicting the Intraoperative Tear Characteristics of Pectoralis Major Ruptures. *J Shoulder Elbow Surg.* 2015 Oct. S1058-2746(15)00474-7.

Gillespie RJ, Garrigues GE, Chang ES, Namdari S, Williams GR. Surgical Exposure for Reverse Total Shoulder Arthroplasty: Differences in Approaches and Outcomes. *Orthop Clin North Am.* 2015 Jan; 46(1):49-56.

Austin L, Chang ES, Zmistowski B, Nydick J, Lazarus ML. Isolated Subscapularis Repair for Massive Rotator Cuff Tear. *Orthopedics.* 2014 Nov; 37(11): e962-7.

Chang ES, Dodson CC, Tjoumakaris F, Cohen SB. Functional Results Following Surgical Repair of Simultaneous Bilateral Quadriceps Tendon Ruptures. *Phys Sportsmed.* 2014 May; 42(2):114-8.

Austin L, Zmistowski B, Chang ES, Williams GR. Is Reverse Shoulder Arthroplasty a Reasonable Alternative For Revision Arthroplasty? *Clin Orthop Relat Res.* 2011 Sep; 469(9): 2531-7.

## **BOOK CHAPTERS**

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Kearns K, O'Malley K, McDaniel C, Saporito C, Chang ES. Chapter 68: Biceps and Triceps Tendon Injuries: Surgery and Therapy. *Rehabilitation of the Hand and Upper Extremity, 7<sup>th</sup> Edition (in press)*

Pelton M, Chang ES. Epidemiology of ACL Injuries in Female Athletes. *ACL Injuries in the Female Athlete.* Elsevier. Philadelphia, PA. 2019 Chapter 1, pg 1-8.

Kalawadia J, Chang ES, Harner CD. Meniscal Root Repair. *Master Techniques in Orthopaedic Surgery: Reconstructive Knee Surgery (Fourth Edition).* Wolters Kluwer. Philadelphia, PA. Chapter 8, 2017

Chang ES, Tarity TD, Dodson CC. Chapter 14: SLAP lesion: Part III. Return to Play After SLAP Repair. Sports Injuries to the Shoulder and Elbow. Springer Korea Limited. Seoul, South Korea. 117-124, 2015

Chang ES, Schneider R, Dodson CC. Chapter 27: Elbow Arthroscopy and Related Anatomy. Sports Injuries to the Shoulder and Elbow. Springer Korea Limited. Seoul, South Korea. 293-301, 2015

Chang ES, Tucker B, Dodson CC. Point/Counterpoint: Arthroscopic Bankart Repair. Controversies in Shoulder Instability. Lippincott Williams and Wilkins. Philadelphia, PA. 80-85, 2014

Chang ES, Dodson CC. Arthroscopic Treatment for Osteochondritis Dessicans of the Elbow. International Congress for Joint Reconstruction. 2014.

Drakos M, Chang ES, Warren, RF. Acute Ankle Instability. Foot and Ankle Sports Medicine, Lippincott Williams and Wilkins. Philadelphia, PA. 98-102, 2013.

## **SCIENTIFIC RESEARCH PODIUM PRESENTATIONS**

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Blake M. Bodendorfer, Caroline M. Fryar, Andrew J. Curley, David X. Wang, Christine M. Conroy, Mark Hopkins, Brian P. McCormick, Edward S. Chang. Impact of Socioeconomic Status on Concomitant Injuries and Access to Care following ACL Injury. Podium. 2020 Arthroscopy Association of North America Annual Meeting. Grapevine, TX. May 7th-9<sup>th</sup>, 2020.

Looney AM, Chang ES Comparison of Clinical Outcomes between Docking versus Modified Jobe Technique for Medial Ulnar Collateral Ligament Reconstruction: A Systematic Review and Meta-Analysis. American Academy of Orthopaedic Surgeons Annual Meeting. Orlando, FL March 2020

Bodendorfer B, Curley AC, Fryar C, Hopkins MS, Chang ES. Impact of Socioeconomic Status on Concomitant Injuries and Access to Care following ACL Injury. Arthroscopy Association of North America. Grapevine, TX, May 2019.

Bodendorfer BM, McCormick BP, Wang DX, Looney AM, Conroy CM, Fryar CM, Kotler JA, Ferris WJ, Postma WF, Chang ES. Treatment of Pectoralis Major Tendon Tears: A Systematic Review and Meta-Analysis of Operative and Nonoperative Treatment. Eastern Orthopaedic Association (EOA). Palm Beach, FL, October 2019.

Arner JW, Chang ES, Bradley JP. A Direct Comparison of Modified Jobe and Docking UCL Reconstruction at 7 year Follow-up. American Academy of Orthopaedic Surgeons Annual Meeting. Las Vegas, NV March 2019.

Fryar C, Hopkins MS, Bodendorfer B, Chang ES. Does Health Insurance Status Impact Timing in Treatment of Anterior Cruciate Ligament Tears? Eastern Orthopaedic Association (EOA). Amelia Island, FL, October 2018

Bodendorfer B, Looney A, Najarian ES, Lipkin S, Chang ES. Biomechanics of UCL Reconstruction: Docking versus Internal Brace. Eastern Orthopaedic Association (EOA). Amelia Island, FL, October 2018

Arner JW, Chang ES, Bradley JP. A Direct Comparison of Modified Jobe and Docking UCL Reconstruction at 7 year Follow-up. 18<sup>th</sup> European Society of Sports Traumatology, Knee Surgery and Arthroscopy Congress . Glasgow, Scotland, May 2018.

Arner JW, Chang ES, Bradley JP. A Direct Comparison of Modified Jobe and Docking UCL Reconstruction at 7 year Follow-up. Arthroscopy Association of North America, Annual Meeting. April 2018.

Aleem AW, Narzikul AC, Wilent WB, Kuntz AF, Chang ES, Williams GR, Abboud JA. Incidence of Peripheral Nerve Injury During Shoulder Arthroplasty when Motor Evoked Potentials are Monitored. American Academy of Orthopaedic Surgeons Annual Meeting. San Diego, CA, March 2017.

Chang ES, Dodson CC, Deluca P, Ciccotti MG, Ramsey ML. The Management of Elbow Dislocations in the National Football League. Eastern Orthopaedic Association (EOA), Miami, FL Oct 2013

Gillespie RJ, Garrigues G, Kraeutler MJ, Chang ES, Crabtree GS, Austin L, Williams GR. Reverse Shoulder Arthroplasty through a Deltopectoral Approach versus a Superior Approach: A Comparison of Outcomes. American Academy Orthopaedic Surgeons Annual Meeting, San Francisco, CA, February 2012

Chang ES, Kurd MF, Vaccaro AR, Hilibrand, AH, Albert TJ. The Impact of Preventable Spine Imaging. Eastern Orthopaedic Association, October 2011

Austin L, Nydick J, Chang ES, Zmistowski BM, Lazarus MD. Isolated Subscapularis Repair in the Face of Irreparable Posterior-Superior Cuff Tears, American Academy Orthopaedic Surgeons Annual Meeting, ASES Specialty Day, San Diego CA, February 2011

## **POSTERS AND SCIENTIFIC EXHIBITIONS**

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Blake M. Bodendorfer, Caroline M. Fryar, Andrew J. Curley, David X. Wang, Christine M. Conroy, Mark Hopkins, Brian P. McCormick, Edward S. Chang. Impact of Socioeconomic Status on Concomitant Injuries and Access to Care following ACL Injury. Poster. Virginia Orthopaedic Society 2020 Annual Meeting. Virginia Beach, VA. May 15<sup>th</sup>, 2020.

Blake M. Bodendorfer, Brian P. McCormick, David X. Wang, Austin M. Looney, Christine M. Conroy, Caroline M. Fryar, Joshua A. Kotler, William J. Ferris, William F. Postma, Edward S. Chang. Treatment of Pectoralis Major Tendon Tears: A Systematic Review and Meta-Analysis of Operative and Nonoperative Treatment. Poster. American Orthopaedic Society for Sports Medicine. Seattle, WA. July 9<sup>th</sup>-12<sup>th</sup>, 2020.

Looney AM, Wang D, Fryar CM, Israel JE, Bodendorfer BM, Webb AR, Kamath R, Meyers SA, Chang ES. Identification of Radiographic Parameters Associated with Anterior Cruciate Ligament Injury. Arthroscopy Association of North America 2020 Annual Meeting. Poster. 7–9 May 2020. Grapevine, TX.

Looney AM, Fryar CM, Wang D, Israel JE, Webb AR, Bodendorfer BM, Kamath R, Meyers SA, Chang ES. Radiographic Parameters Differentially Predict Concomitant Meniscal Injury In Anterior

Cruciate Ligament Tears. Poster. Orthopaedic Research Society 2020 Annual Meeting. 8–11 Feb 2020. Phoenix, AZ.

Curley AJ, Conroy C, Looney AM, Israel J, Fryar C, Blee S, West RV, Chang ES. Blood Flow Restriction Therapy in the Management of Athletic Injuries. Scientific Exhibit. American Academy of Orthopaedic Surgeons Annual Meeting. Las Vegas, NV March 2019.

Looney AM, Israel J, Curley AJ, Bodendorfer B, Conroy C, Fryar C, Chang ES. The Management of Elbow Injuries in the Adolescent Overhead Athlete. Scientific Exhibit. American Academy of Orthopaedic Surgeons Annual Meeting. Las Vegas, NV March 2019.

Bodendorfer B, Looney A, Najarian ES, Lipkin S, Chang ES. Biomechanics of UCL Reconstruction: Docking versus Internal Brace. Orthopaedic Research Society (ORS) Annual Meeting, Austin, TX February, 2019

Chang ES, Dodson CC, Deluca P, Ciccotti MG, Ramsey ML. The Management of Elbow Dislocations in the National Football League. Pennsylvania Orthopaedic Society, Scottsdale, AZ. April 10-11, 2015

Chang ES, Cohen SB, Padegimas EM, Hyatt AE, Zarah J, Stein SL, Hammoud S, Dodson CC, Ciccotti MG. Comparison of Current Surgical Techniques in Ulnar Collateral Ligament Reconstructions in Overhead Athletes. Scientific Exhibit. American Academy Orthopaedic Surgeons Annual Meeting. Las Vegas, NV March 2015

Chang ES, Dodson CC, Deluca P, Ciccotti MG, Ramsey ML. The Management of Elbow Dislocations in the National Football League. NFL Physician Society (NFLPS) Scientific Meeting, NFL Combine. Indianapolis, IN, February 2013

Isolated Subscapularis Repair in the Face of Irreparable Posterior-Superior Cuff Tears, Austin L, Nydick J, Chang ES, Zmistowski BM, Lazarus MD. Pennsylvania Orthopaedic Society, Fontainebleau, FL, April 20-21, 2012

Chang ES, Dodson CC, Pepe M, Tucker B, Cohen SB. Outcomes in Bilateral Extensor Mechanism Injuries. Eastern Orthopaedic Association, October 2011.

Austin L, Zmistowski B, Chang ES, Williams GR Jr. Reverse Total Shoulder Arthroplasty for the Treatment of Failed Arthroplasty. American Academy Orthopaedic Surgeons Annual Meeting, San Diego CA, February 2011

Austin L, Zmistowski B, Chang ES, Williams GR Jr. Reverse Total Shoulder Arthroplasty for the Treatment of Failed Arthroplasty. Eastern Orthopaedic Association Annual Meeting, Naples, FL, October 2010

Austin L, Zmistowski B, Chang ES, Williams GR Jr. Reverse Total Shoulder Arthroplasty for the Treatment of Failed Arthroplasty. International Congress of Shoulder and Elbow Surgery, Edinburgh, Scotland, September 2010

## **INSTRUCTIONAL COURSES, COURSE DIRECTORSHIP, EDUCATIONAL WORKSHOP**

Speaker. Management of Grade IV Chondral Lesions of the Medial Femoral Condyle. Inova Sports Medicine Symposium. Fairfax, VA. June 21, 2019

Program Co-Director. Emerging Techniques in Sports Medicine, Inova Sports Medicine Summit. Fairfax, VA. May 17, 2019

Moderator. Knee Session, Emerging Techniques in Sports Medicine, Inova Sports Medicine Summit. Fairfax, VA. May 17, 2019

Speaker. Tommy John Surgery- Where are we in 2018? Inova Sports Medicine Symposium. Fairfax, VA. June 22, 2018

Speaker. Traumatic Elbow Injuries. Inova Sports Medicine Lecture Series. Fairfax, VA. December 2017.

Speaker. Proximal Hamstring Injuries. Capital City Sports Medicine Summit. Washington, DC. May 12-13, 2017

Moderator. Elbow Session, Capital City Sports Medicine Summit. Washington, DC. May 3, 2016.

Speaker. Meniscal Injuries and Surgical Management. Inova Sports Medicine Lecture Series. Fairfax, VA. June 2016.

Speaker. Surgical Management of Proximal Hamstring Ruptures. Inova Sports Medicine Lecture Series. Fairfax, VA. January 2016