

Michael A. Robbins, M.D.

Orthopaedic Surgery- Hand

Hand Surgery Fellow

Education

- 2021-2022 Hand and Upper Extremity Fellowship, University of Utah Health (Salt Lake City, UT)
- 2016-2021 Orthopaedic Surgery Residency, Oregon Health and Science University (Portland, OR)
- 2011–2016 M.D. University of California, Davis, School of Medicine (Sacramento, CA)
- Rural-PRIME (PRograms In Medical Education) track- Leadership pathway track training medical students interested in any field of medicine. Emphasizes disparities seen in rural care and how to address them; in addition to standard medical school curriculum.
 - Research 2014-2015
- 2008–2011 B.S. Exercise Physiology, emphasis in Neuroscience. University of California, Davis (Davis, CA)
- 2005-2008 A.A. Social and Behavioral Sciences. Butte Community College (Oroville, CA)

Awards/Honors

- 2019 **American Society for Surgery of the Hand (ASSH) Annual Meeting Scholarship.**
- 2015-2016 **Outstanding Medical Student in Orthopaedic Surgery, UC Davis, SOM**
- 2013-2014 **UC Davis Leadership Council Scholarship** (Sacramento, CA)
The Leadership Council of the UC Davis Health System is a volunteer group of community leaders and ambassadors who are dedicated to supporting the mission of the Health System.
- One of five 3rd and 4th year medical students selected based on leadership qualities, history of volunteerism, and academic standing to receive this scholarship.
- 2012-2014 **North Valley Health Education Foundation Scholarship** (Chico, CA)
The NVHEF seeks to help individuals with high academic achievement and financial need. Our hope is that our investment in these medical students will benefit the communities they choose to serve.
- Scholarships between \$2,500-5,000 were received each year.
- 2010-2011 **Outstanding Community Service Award, UC Davis** (UC Davis, School of Medicine)
- Founded Willow Dental Clinic- a free dental clinic to serve the homeless/uninsured population of Sacramento.
- 2010-2011 **Outstanding Work and Community Service Award, Willow Clinic**
- Founded Willow Dental Clinic, improved Willow Clinic operations including implementing transition to electronic medical records, coordinating with UCD Law students to provide legal services to homeless, and streamlined weekly operations.

Research/Grants

- 2011–Present **Orthopaedic Research** (OHSU, Portland, OR/ UCDCM, Sacramento, CA)
- Authored and Co-authored several manuscripts for publication in Orthopaedic peer-reviewed journals. Presented multiple posters, and abstracts at regional and national meetings. Continue to collaborate on several research projects with Dr. Adam Mirarchi, M.D., Associate Professor, and Dr. Omar Nazir, MD, Assistant Professor leading to abstract submissions, posters, and manuscripts currently in preparation.
 - Current projects:
 - Preoperative opiate use in orthopaedic fracture patients
 - Investigating Radius of curvature of capitellum for osteochondral allograft transplants
 - Efficacy of cryotherapy for pain control after ORIF of distal radius fx
- 2014-2015 **NIH funded Clinical and Translational Science Center, T-32 Pre-Doctoral Scholar**
- One of 4 medical students selected for funding of a year-long research project.
 - Performed basic science research with Dr. Eric Klineberg M.D. Associate Professor, Assistant Residency Director, and Spine Fellowship Director, and Dr. Dominik Haudenschild Ph.D. Associate Professor of Biomedical Engineering.
 - Developed protocol for *in vivo* animal study including obtaining IACUC approval.
 - Investigated contribution of mesenchymal stem cells to bone formation in a rat spinal fusion model.
 - Performed basic science research including assays, cell placement, data collection and analysis.
 - Participated in grant writing.
 - Projects:
 1. Characterization of mesenchymal stem cells in bone formation
 - Utilized specialized genetically labeled mesenchymal stem cells in a bone formation model to determine contribution to bone formation. This characterization may lead to improved tissue engineering strategies.
 2. Evaluation of fixation constructs for medial malleolar fractures
 - Biomechanical study evaluating fixation of the medial malleolus for stiffness and force of failure using varying constructs.
 3. Evaluation of molecular contributors to formation of post-traumatic osteoarthritis
 - Using a novel mouse knee injury model we induced injury and evaluated early biomolecular changes in the joint. The affected pathways can potentially be targeted to improve outcomes of patients with joint injury.

Publications

ACCEPTED MANUSCRIPTS

1. Goldstein, Z.T., Thompson, A.R., **Robbins, M.A.**, Yang, S.S., Nazir, O.F., Mirarchi, A.J., Optimizing Graft Extraction From the Femoral Condyle for Fresh Osteochondral Allograft Transplantation in Treating Osteochondritis Desiccans of the Capitellum: Best Fit Radius of Curvature. *Journal of Pediatric Orthopaedics* 2021 Jun2. PMID: 34074957
2. Wegner A.M., Campos N.B., **Robbins M.A.**, Haddad A.F., Cunningham H.C., Yik J.H., Christiansen B.A., Haudenschild D.R., Acute Changes in NADPH Oxidase 4 in Early Post-Traumatic Osteoarthritis. *Journal of Orthopaedic Research*. 2019 Jul; epub ahead of print. PMID: 31304988
3. Wegner A.M., Wolinsky P.R., **Robbins M.A.**, Garcia T.C., Maitra S., Amanatullah D.F. Headless compression screw fixation of vertical medial malleolus is superior to unicortical screw fixation. *American Journal of Orthopaedics* 2018 Aug;47:8. PMID: 30180221
4. Wegner A.M., Wolinsky P.R., **Robbins M.A.**, Garcia T.C., Amanatullah D.F. Mini-fragment fixation is equal to bicortical screw fixation for horizontal medial malleolus fractures. *Orthopedics* 2018 May 1;41(3). PMID: 29658979

5. **Robbins M.A.**, Haudenschild D.R., Wegner A.M., Klineberg E.O. Stem Cells in Spinal Fusion. *Global Spine Journal*. 2017 Dec; 7:801-810 2017 Epub Sep 1. PMID: 29238646
6. Wegner A.M., Wolinsky P.R., Cheng R.Z, **Robbins M.A.**, Garcia T.C., Amanatullah D.F. Sled fixation in horizontal medial malleolus fractures *Clinical Biomechanics* 2017 Feb;42:92-96 Epub 2017 Jan 16. PMID: 28119205
7. Wegner A.M., Wolinsky P.R, **Robbins M.A.**, Garcia T.C., Maitra S., Amanatullah D.F. Antiglides Plating of Vertical Medial Malleolus Fractures Provides Stiffer Initial Fixation Than Bicortical or Unicortical Screw Fixation. *Clinical Biomechanics*. 2016 Jan 31:29-32 Epub 2015 Oct 16. PMID: 26483073
8. **Robbins M.**, Mallon Z., Patel R., Roberto R., Gupta M., Klineberg E.O. Traumatic Spondylopelvic Dissociation: A Report of Spondylolisthesis at L5/S1 and Review of Literature. *Global Spine J* 2015;5(3):225-230. PMID: 26131390

Presentations

1. Wegner, AM, Wolinsky, PR, **Robbins, MA**, Garcia, TC, Amanatullah, DF. Mini-Fragment Fixation is Equivalent to Bicortical Screws for Horizontal Medial Malleolus Fractures. *Western Orthopaedic Association Annual Meeting Rapid Fire Session 10B* (2016).
2. Wegner, AM, Wolinsky, PW, **Robbins, MA**, Garcia, TC, Amanatullah, DF. Biomechanics of Acutrak Screw Fixation of Vertical Medial Malleolus Fractures. *Western Orthopaedic Association Annual Meeting Rapid Fire Session 7B* (2015).
3. **Robbins M.A.**, Haudenschild D.R., Klineberg E.O. Do Mesenchymal Stem Cells Contribute to Bone Formation in Spinal Fusion? *CTSC Scholar's Symposium, May 2015, UC Davis School of Medicine* (Sacramento, CA)
4. **Robbins M.A.**, Haudenschild D.R., Klineberg E.O. Role of Mesenchymal Stem Cells in Bone Formation for Spinal Fusion. *CTSC Annual Meeting, March 2015, UC Davis School of Medicine* (Sacramento, CA)
5. Wegner A.M., **Robbins M.A.**, Garcia T.C., Wolinsky P.R. Amanatullah D.F. Biomechanics of Acutrak Screw Fixation of Vertical Medial Malleolus Fractures. *Orthopaedic Trauma Association July 2015, (San Diego, CA)*
6. Wegner A.M., **Robbins M.A.**, Campos N.R., Haudenschild D.R. Nox4 in Post-Traumatic Arthritis. *Graduate Research Symposium, June 2015 (Sacramento, CA)*

Abstracts/Posters

ACCEPTED/PRESENTED

1. Goldstein Z, Thompson A, **Robbins M**, Yang S, Nazir O, Mirarchi, A Determining the Optimal Location for Fresh Osteochondral Allograft Transplantation in Treating Osteochondritis Dissecans of the Capitellum Based on Radius of Curvature. E-Poster Presentation, Western Orthopaedic Association, 2020.
2. Goldstein Z, Thompson A, **Robbins M**, Yang S, Nazir O, Mirarchi, A. Determination of best femoral condyle donor site for fresh osteochondral allograft transplantation for osteochondritis dissecans of the capitellum – best fit based on radius of curvature. American Society for Surgery of the Hand 75th Annual Meeting; San Antonio, TX; October 2020.
3. **Robbins M.A.**, Thompson A.R., Nazir O.F., Mirarchi A.J., Fresh Osteochondral Allograft Transplant (FOCAT) to Capitellum- First Described Female Case. *Western Orthopaedic Association Annual Meeting 2019*. Abstract
4. Goldstein Z., Thompson A.R., **Robbins M.A.**, Nazir O.F., Mirarchi A.J. Femoral allograft donor site location for osteochondritis dissecans of the capitellum: Best fit based on radius of curvature. *Oregon Health and Science University Research week May 2019*.
5. Wegner, AM, Wolinsky, PR, **Robbins, MA**, Garcia, TC, Maitra, S, Amanatullah, DF. Sled Fixation for Horizontal Medial Malleolus Fractures. *Western Orthopaedic Association Annual Meeting E-Poster Session* (2016).
6. Wegner, AM, **Robbins, MA**, Campos, NR, Haddad, AF, Christiansen, BA, Yak, JHN,

- Haudenschild, DR. Acute Changes in Nox4 Activity in Early Post-Traumatic Arthritis. *Oxygen Club of California* Poster #129 (2016).
7. Wegner, AM, **Robbins, MA**, Campos, NR, Haddad, AF, Christiansen, BA, Yak, JHN, Haudenschild, DR. Acute Changes in Nox4 Activity in Early Post-Traumatic Arthritis. *Orthopaedic Research Society Annual Meeting* Poster #1362 (2016)
 8. Wegner, AM, **Robbins, MA**, Campos, NR, Haddad, AF, Christiansen, BA, Yak, JHN, Haudenschild, DR. Acute Changes in Nox4 Activity in Early Post-Traumatic Arthritis. *Orthopaedic Research Society Annual Meeting* Poster #1362 (2016).
 9. Wegner A.M., **Robbins M.A.**, Garcia T.C., Wolinsky P.R., Amanatullah D.F. Optimal Fixation of Vertical Medial Malleolus Fractures *Orthopaedic Trauma Association, San Diego, CA. July 2015 Poster*
 10. **Robbins M.A.**, Haudenschild D.R., Klineberg E.O. Role of Lentivirally Labeled Mesenchymal Stem Cells in Rat Spinal Fusion Model. *ACTS/AMFR Translation Science National Conference, Washington D.C. April 2015 Poster*
 11. **Robbins M.A.**, Haudenschild D.R., Klineberg E.O. Osteogenic Potential for Lentiviral-labeled Mesenchymal Stem Cells for Spinal Fusion. *UCD SOM Poster Symposium, Sacramento, CA, March 2015. Poster*
 12. **Robbins M.A.**, Mallon Z., Roberto R., Patel R., Gupta M., Klineberg E.O. Traumatic Posterior Spondylolisthesis L5/S1. *AFMR- Western Regional Meeting. Carmel, CA, January 2014. Poster*
 13. **Robbins M.A.**, Mallon Z., Roberto R., Patel R., Gupta M., Klineberg E.O. Traumatic Posterior Spondylolisthesis L5/S1. *Journal of Investigative Medicine, January 2014. Abstract*
 14. Lopez M.J., **Robbins M.A.**, Geissler T., Rath P., Pereira G.C. The use of pure synthetic calcium sulfate as a bio-absorbable delivery vehicle in hip and knee arthroplasty. *Western India Regional Orthopaedic Conference. Mumbai, India, December 2012. Poster*

Book Chapters

1. **Robbins M.A.**, O’Conner D.T., Eastman J.G., Klineberg E.O. Fractures of the Sacrum. *Chapman’s Comprehensive Orthopaedic Surgery 4th Edition*. Chapter 238. *In Press*
2. O’Conner D.T., **Robbins M.A.**, Klineberg E.O. Surgical Treatment of Sagittal Spinal Deformity in Adults. *Chapman’s Comprehensive Orthopaedic Surgery 4th Edition*. Chapter 261. *In Press*

Institutional Service

- 2017-2021 **Resident Educational Committee Member** (OHSU, Orthopaedic Surgery)
- Engage in monthly meetings with Orthopaedic faculty and residents at OHSU to address upcoming changes, improvements, or concerns involving the residency program
 - Disseminate information from the meetings to the residency cohort
- 2014–2016 **4th Year Medical Student Welcome Committee Member** (UC Davis SOM, Sacramento, CA)
- Friendly, welcoming 4th year students were selected by the advisory committee to greet medical school applicants on interview days, provide tours of the campus, answer questions about the school, and to congratulate accepted applicants with a personal phone call or email.
- 2011-2016 **UC Davis School of Medicine Statewide PRIME Councilmember** (UCD, SOM, Sacramento, CA)
- Statewide PRIME council seeks to increase intercampus communication between PRIME students, and foster communication between Statewide PRIME council, PRIME council members, and UC office of the president.
- Serve as representative of Rural-PRIME student body to Rural-PRIME administration and Statewide PRIME council.
 - Coordinate with PRIME council members from all other University of California medical schools to form cohesive voice among PRIME programs.
 - Participated in planning and facilitating Statewide PRIME conference held at UC Davis

in 2012.

- Selected to give opening and closing remarks at PRIME Statewide conference.

2012

CMDA Medical Mission Trip to Honduras (Siguatepeque, Honduras)

- Provided medical, dental, and visual care to six different rural Honduran villages by bringing supplies and medications to their village and administering services.
- Served a total of 1,462 patients over a 5 day period.
- Provided patient care mediated via translators to the local population. Formulated differential diagnosis and presented patients to attendings. Distributed medications, glasses, and supplies as needed.
- Required daily set up and tear down of sites.

2012 - 2016

Orthopaedics/ Student Interest Group, President 2012 (UCD, SOM, Sacramento, CA)

- Encouraged involvement of lower classmen in Orthopaedic events.
- Coordinated lunch-time talks about careers in Orthopaedics.
- Facilitated communication between lower classmen with interest in Orthopaedics and potential mentors in the field.

Teaching

6/3/2020 **Polydactyly-** Current Understanding and Treatments (Shriner's Children's Hospital, Portland, OR)

2/3/2020 **Total Wrist Arthrodesis-** A Case Presentation (OHSU, Portland, OR)

2/15/2019 **Anatomy of the Forearm/Elbow/Humerus-** Anatomic Dissections and Clinical Correlations (OHSU, Portland, OR)

2/8/2019 **Anatomy of the Hand/Wrist-** Anatomic Dissections and Clinical Correlations (OHSU, Portland, OR)

2/4/2019 **Olecranon Fractures-** A Case Presentation (OHSU, Portland, OR)

1/17/2018 **Congenital Vertical Talus-** A Case Presentation (Shriner's Children's Hospital, Portland, OR)

8/2017 **Tendinopathy and Tendon Repair-** Basic Science Lecture (OHSU, Portland, OR)

2015- 2016 **Fourth Year Medical Student Doctoring Scholar** (UCD, SOM, Sacramento, CA)

- Teach physical exam, interviewing skills, and critical evaluation of literature skills.
- Develop educational improvement projects for the school of medicine.
- Develop case presentations and lectures for 1st-3rd year medical students.
- Teach and tutor first and second year student basic sciences curriculum.
- Facilitate journal clubs for first and second year students.

2012

Surgical Education and Mentoring Association (UCD, SOM, Sacramento, CA)

SEMA provides opportunities and events for medical students and undergraduates interested in surgery to learn and experience surgery through lectures, speakers, interactive wet labs, and mentoring activities.

Taught anatomy classes to undergraduates interested in surgical careers.

2006-2008

Chemistry Tutor, Butte Community College (Oroville, CA)

Clinical Service

2009-2012 **The Willow Clinic – Student Run Free Health Clinic** (UCD, SOM, Sacramento, CA)
The mission of the Willow Clinic is to comprehensively improve the health of the homeless population of Sacramento, while providing a unique platform for undergraduate and professional student education. Provides weekly free medical, dental and legal services to the homeless and uninsured population of Sacramento.

-2011-2012 **Medical Student Co-Director**

- Worked bi-weekly in clinic during 1st and 2nd year of medical school.
- Performed patient interviews and physical exams. Formulated plan and presented patients to attendings.
- Recruited preceptors to volunteer at the clinic.
- Directed undergraduate activities within the clinic including fundraising activities and outreach opportunities.
- Coordinated monthly dental clinics.
- Selected new student volunteers.
- Served as medical student representative at UCD wine auction for the student run clinics and the Sierra Sacramento Valley Medical Society annual fundraiser.
- Taught undergraduates about common illnesses seen in homeless population.

-2010-2011 **Undergraduate Co-Manager**

- Coordinated with medical directors and medical student co-directors to implement quality improvement changes impacting patient care delivery.
- Supervised 35 undergraduate volunteers.
- Selected committee members to oversee large projects within the clinic.
- Managed fundraising events and annual coat drive for the homeless.
- Launched the addition of dental and legal services to the clinic.
- Implemented EMR.
- Streamlined weekly flow and operations to improve time from patient sign-up to care received.

-2008-2010 **Undergraduate Volunteer**

- Recorded patient vitals, assisted in developing an inventory tracking system for the physician's dispensary; helped with annual fundraisers and coat drive.

2008-2009 **Volunteer for Sutter Davis Hospital** (Davis, CA)

Professional Memberships

2018-Present	American Society for Society of the Hand (ASSH- Fellow Candidate Member)
2016-Present	American Academy of Orthopaedic Surgery (AAOS- Fellow Member)
2011–Present	American Medical Association (AMA)
2011–Present	Christian Medical and Dental Association (CMDA)
2011–2016	American Medical Student Association (AMSA)
2011–2016	California Medical Association (CMA)
2011–2016	Sierra Sacramento Valley Medical Society (SSVMS)