

SHAHRYAR AHMADI, MD, FRCSC

EDUCATION

Fellowship Education: Fellowship in Shoulder and Elbow Surgery, Mayo Clinic, Rochester	2010-2011
Residency: Residency in Orthopedic Surgery, University of Toronto, Toronto, Canada	2005-2010
Medical School: Doctor of Medicine, Tehran University of Medical Sciences, Tehran, Iran	1987-1994

ACADEMIC APPOINTMENTS

Director of Shoulder and Elbow Surgery, Associate Professor of Orthopedics, Department of Orthopedics, University of Arkansas for Medical Sciences	2011-2021
Director of Trauma Surgery, Assistant Professor of Orthopedics, Department of Orthopedics, University of Arkansas for Medical Sciences	2012-2013

OTHER POSITIONS and EMPLOYMENT

Best Doctors in America	2015-present
Consultant, Best Doctors in America	2018-present
Consultant, Wright Medical and Tornier	2017-present
Consultant, Zimmer, Biomet	2021-present
Shoulder and Elbow Evaluation Committee, American Academy of Orthopaedic Surgeons (AAOS)	2017-present
Upper Extremity Practice Analysis, American Academy of Orthopaedic Surgeons (AAOS)	2021- present
Assistant Professor of Orthopedics, John L. McClellan Memorial Veterans Hospital, Little Rock, AR	2014-2016
Medical Doctor, Rasht, Iran	1994-2001

CERTIFICATION and LICENSURE

The American Board Orthopedic Surgery	2015
Canadian Orthopedic Board Certificate	2010
ECFMG Certificate	2007
LMCC certificate	2005
Ontario, Canada Medical License	2005-2011
Minnesota Medical License	2011-2012
Arkansas Medical License	2011-2021
California Medical License	2016-present

PROFESSIONAL MEMBERSHIP and ACTIVITIES

American Shoulder and Elbow Surgeons	2017- present
Medical Council of Canada	2005-2011
College of Physicians and Surgeons of Ontario	2005-2011
American Academy of Orthopedic Surgeons	2005- present
Fellow of the Royal College of Surgeons of Canada (Orthopedic Surgery)	2010
Arkansas Orthopedic Association	2011-2020
American Medical Association	2011
Mayo Clinic Elbow Club	2011- present

HONOURS and AWARDS

Best Doctors in America	2015-present
Top Doctors	2021
The Walter G. Selakovich, M.D.	2013
Faculty award for outstanding contribution to orthopedic training	
Dean's teaching award	2013
Awarded Poster: Complications of Internal Fixation for Distal Humerus Fractures: A Shift Over Time, European Society for Surgery of the Shoulder and Elbow, Lyon, France,	2011
Honors, Clerkship, University of Toronto, Toronto, Canada	2005
Graduated in the top 3% of medical students, Tehran University of Medical Sciences, Tehran, Iran	1994

COMMITTEE ASSIGNMENT and ADMINISTRATIVE SERVICES

Director of Shoulder and Elbow Surgery, Assistant Professor of Orthopedics, Department of Orthopedics, University of Arkansas for Medical Sciences	2011-2021
Orthopaedic Surgery Medical Student Advisor	2011-2021

Director of Trauma Surgery, Assistant Professor of Orthopedics, Department of Orthopedics, University of Arkansas for Medical Sciences	2012-2013
Cadaver lab organizer for orthopedics, University of Arkansas for Medical Sciences	2012-2021
Organizer and speaker, Arkansas Orthopedic Forum, Orthopedic Department, University of Arkansas	2013
Organizer and speaker, Arkansas Orthopedic Forum, Orthopedic Department, University of Arkansas	2016

EDUCATIONAL ACTIVITIES

Medical student lecture, University of Arkansas	2011-2021
Resident lectures, University of Arkansas	2011-2021
Community base education and media	2012-present
Instructional course lecture (ICL), AAOS annual meeting	2018
Instructor: Mayo Clinic Elbow Course Mayo Clinic, Rochester, Minnesota	2012-present
Instructor: ICL for Shoulder Arthroplasty American Academy of Orthopedic Annual Meeting. San Francisco, CA; United States	2012

GRANTS and CONTRACT AWARDS

2019

Virtual rotator cuff arthroscopic skill training
Source of Support: Kitware Inc.

2018

Development of new treatment to augment rotator cuff repair for improved patient outcomes
Source of Support: National Institutes of Health

2018

Soft Robotics Technology for Hand Prosthetics
Source of Support: National Institute of General Medical Sciences (NIGMS)

2018

Load Distribution across the human elbow after radial head replacement
Source of Support: Accumed

2016

Using the mechanobiology of myogenesis to stimulate functional regeneration of volumetric muscle loss injuries

Source of Support: National Institutes of Health

2015-2017

Virtual Arthroscopic tear diagnosis and evaluation platform for rotator cuff surgery

Source of Support: National Center for Research Resources (P20RR016460) and the National Institute of General Medical Sciences (P20GM103429) from the National Institutes of Health

2014-2017

Engineering a Muscle Mimetic Biomaterial

Source of Support: National Institutes of Health (NIAMS)

2014-2016

The Effect of the Diameter of Radial Head Prosthesis on Posterolateral Rotatory instability

Source of Support: Biomet

EDITORIAL APPOINTMENTS and PUBLICATIONS

2018-present

Review papers for Journal of Shoulder and Elbow Surgery

2018

Review papers for Geriatric Orthopaedic Surgery & Rehabilitation

2017-present

Review papers for The Archives of Bone and Joint Surgery

2012-2013

Review of papers for Clinical Anatomy

2016- present

Review of papers for The International Journal of Medical Robotics and Computer Assisted Surgery

2017-present

Review of paper for Tissue Engineering

In Progress

Soft Robotics Technology for Hand Prosthetics: A Review of the State-of-the-Art, Ashuri T, Ahmadi S.

In Progress

A novel approach for elbow arthroplasty, Two incision triceps on approach for total elbow arthroplasty

Scoring metrics for assessing skills in arthroscopic rotator cuff repair: performance comparison study of novice and expert surgeons.

EDITORIAL APPOINTMENTS and PUBLICATIONS

Demirel D, Palmer B, Sundberg G, Karaman B, Halic T, Kockara S, Kockara N, Rogers ME, Ahmadi S. *Int J Comput Assist Radiol Surg.* 2022 Oct.

Decision-making in the treatment of radial head fractures: Delphi methodology. Surucu S, Torres KA, Mitchell G, Bachman D, Cheng AL, Cil A; ASES Elbow Fracture-Dislocation Multicenter Study Group. *J Shoulder Elbow Surg.* 2023 Feb

Towards Real-time Bone Drilling Simulation for Anchor Placement in VR Based Arthroscopic Rotator Cuff Surgery Simulation. Dinc F, Oumimoun K, Kwabla W, Kockara S, Halic T, Arikatla S, Ahmadi S. *AMIA Annu Symp Proc.* 2022 May.

Biomechanics of axial load transmission across the native human elbow. Smithson K, Smith J, Hogue W, Mannen E, Ahmadi S. *Shoulder Elbow.* 2021 Oct.

High-Energy Proximal Humerus Fractures in Geriatric Patients: A Review, *Geriatric Orthopaedic Surgery & Rehabilitation.* Walters J, Ahmadi S, 2020 Dec.

In vivo testing of an injectable matrix gel for the treatment of shoulder cuff muscle fatty degeneration. Huynh T, Kim JT, Dunlap G, Ahmadi S, Wolchok JC. *J Shoulder Elbow Surg.* 2020 Jun 9.

A partition-based optimization model and its performance benchmark for Generative Anatomy Modeling Language. Demirel D, Cetinsaya B, Halic T, Kockara S, Reiners D, Ahmadi S, Arikatla S. *Comput Biol Med.* 2020 Mar.

Systematic approach for content and construct validation: Case studies for arthroscopy and laparoscopy. Farmer J, Demirel D, Erol R, Ahmadi D, Halic T, Kockara S, Arikatla S, Sexton K, Ahmadi S. *Int J Med Robot.* 2020 Aug.

Radial Nerve In Relationship To Deltoid Tuberosity And Brachioradialis, Park KJ, Romero BA, Ahmadi S. *Arch Bone Jt Surg.* 2019 May.

Radial-to-axillary Nerve Transfer Resolves Symptoms of Axillary Nerve Injury Due to Proximal Humerus Fracture-Dislocation in an Elderly Patient Treated with Hemiarthroplasty. Willis C, Ahmadi S, *Orthopedics,* 2019

Partition-based Optimization Model for Generative Anatomy Modeling Language (POM-GAML), Tansel Halic, Doga Demirel, Berk Cetinsaya, Sinan Kockara, Shahryar Ahmadi *BMC Bioinformatics.* 2019 Mar 14;20(Suppl 2):105

EDITORIAL APPOINTMENTS and PUBLICATIONS

Mapping of Arterial Supply of Posterior Elbow Skin, Cadaveric Study, Connelly J, Ahmadi S, Clin Anat. 2019

Posterior Lateral Rotatory Instability in Radial Head Arthroplasty, Couch, Songy, Kee, Siegel, Ahmadi, Clin Biomech, 2018

The Value of Perioperative Tests for the Diagnosis of Infection in Revision Shoulder Arthroplasty, Ahmadi S, Lawrence T, Sperling J, Cofield R, AJBJS, 2018

Septic elbow, Book Chapter for “The Elbow and Its Disorders” Ahmadi S, Morrey B. 2017

The Effect of the Beach Chair Position Angle on Cerebral Oxygenation During Shoulder Surgery, Songy C, Siegel E, Stevens S, Ismaeil M, Wilkinson J, Ahmadi S, JSES, 2017

A Hierarchical Task Analysis of Shoulder Arthroscopy for a Virtual Arthroscopic Tear diagnosis and Evaluation Platform (VATDEP), Demirel D, Yu A, Cooper-Baer S, Dendukuri A, Halic T, Kockara S, Kockara N, Ahmadi S, The International Journal of Medical Robotics and Computer Assisted Surgery, 2016

Co-delivery of Infusion Decellularized Skeletal Muscle with Minced Muscle Autografts, Kasukonis B, Kim J, Brown L, Jones J, Ahmadi S, Washington T, Wolchok J, Tissue Engineering, 2016

Pubic Symphysis Rupture and Separation During Pregnancy, Shnaekel KL, Magann EF, Ahmadi S, Obstet Gynecol Surv. 2015

The incidence and risk factors for blood transfusion in revision shoulder arthroplasty: our institution's experience and review of the literature, Ahmadi S, Lawrence TM, Sahota S, Schleck CD, Harmsen WS, Cofield RH, Sperling JW, JSES 2014

Wound Complications after distal humerus fixation: incidence, risk factors, and outcome, Lawrence T, Ahmadi S, Morrey B, Sanchez-Sotelo J, JSES 2014

The biomechanics of three different fracture fixation implants for distal femur repair in the presence of a tumor-like defect, Ahmadi S, Shah S, Wunder JS, Schemitsch EH, Ferguson PC, Zdero R, Proc Inst Mech Eng H 2013.

The biomechanical effect of proximal tumor defect location on femur pathological fractures, Sivasundaram R, Shah S, Ahmadi S, Wunder JS, Schemitsch EH, Ferguson PC, Zdero R, Journal of Orthopedic Trauma 2013

EDITORIAL APPOINTMENTS and PUBLICATIONS

The value of intra operative pathology for predicting infected elbow Arthroplasty, Ahmadi S, Lawrence T, Morrey B, Sanchez-Sotelo J, Department of Orthopedic Surgery, Mayo Clinic, JBJS, Am 2013

Fixation and durability of a bone-ingrowth component for glenoid bone loss, Lawrence T, Ahmadi S, Sperling J, Cofield R, JSES 2012

Patient reported activities after reverse shoulder arthroplasty: part II, Lawrence T, Ahmadi S, Sperling J, Cofield R, JSES 2012

Capitellar Fractures, Book Chapter for “Current Management of Shoulder and Elbow Trauma”, Ahmadi S, Steinmann S. 2012

Cemented vs. Uncemented Fixation in Total Shoulder Arthroplasty, Book Chapter for “Evidence-Based Orthopedics, Ahmadi S, Veillette C. 2011

Pain due to posterior impingement of components in total hip arthroplasty Marchie A, Ahmadi S, Davey JR, University of Toronto 2008

Epidemiologic Survey of Noninfectious Diseases Ahmadi S, Noursalehi E, Ministry of Health, Rasht, Iran 1996

Textbook: “Ambulatory Surgeries, Principles and Procedures”, Ahmadi S, This is an illustrated book and contains over 500 art-works and illustrations. Half of the drawings are done by the author 1999

Handbook of the Pediatric Diseases 1993

Several articles in local press 2012, 2013

ABSTRACT and PRESENTATIONS

Educational videos

2016

Remplissage procedure with double pulley technique (VuMedi.com)

Surgical approaches to humeral shaft and distal humeral fracture, how to treat complex fractures (in progress)

ABSTRACT and PRESENTATIONS**Posters**

- Fluid Flow for Virtual Arthroscopic Skill Trainer, MCBIOS 2019
- Load Distribution across the Native Human Elbow, Mid-South Biomechanics Conference 2019
University of Memphis
- Mapping of Arterial Supply of Posterior Elbow Skin, Cadaveric Study, Connelly J, 2019
Ahmadi S, University of Arkansas
- Radial-to-axillary Nerve Transfer Resolves 2019
Symptoms of Axillary Nerve Injury Due to
Proximal Humerus Fracture-Dislocation in an Elderly Patient Treated with
Hemiarthroplasty. Willis C, Ahmadi S,
University of Arkansas
- Bioinspired Design of a Soft Robotics Hand using 2018
Fluidic Elastomer Martials,
Arkansas tech university
- Radial Nerve In Relationship To Deltoid Tuberosity And Brachioradialis, 2016
Southern Orthopaedic Association's Annual Meeting, Naples, Florida
- Radial Nerve In Relationship To Deltoid Tuberosity And Brachioradialis, 2016
University of Arkansas
- The Effect of the Beach Chair Position Angle on Cerebral 2016
Oxygenation During Shoulder Surgery,
University of Arkansas
- The Impact of Exogenous Antibiotics on Bone Healing in the 2016
Mouse: A Pilot Study
University of Arkansas
- The Value of Intra-operative Pathology for the Diagnosis of 2012
Infection in Revision
Shoulder Arthroplasty, American Academy of Orthopedic
Annual Meeting.
San Francisco, United States
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ABSTRACT and PRESENTATIONS

Complications of Internal Fixation for Distal Humerus Fractures: A Shift Over Time, European Society for Surgery of the Shoulder and Elbow, Lyon, France, Awarded Poster 2011

Presentations and Presented Papers

Presentation and cadaver lab in shoulder arthroplasty for orthopaedic surgeons, Long Beach, CA 2023

Presentation in shoulder arthroplasty for orthopaedic surgeons, Orange County, CA 2023

Presentation and cadaver lab in shoulder arthroplasty for orthopaedic surgeons, Las Vegas, NV 2022

Upper extremity trauma, for orthopaedic residents, Los Angeles, CA 2022

Unstable reverse shoulder arthroplasty , ICL, American Shoulder and Elbow Society annual meeting, Tampa, Florida 2021

Shoulder Arthroplasty, Orange County, California 2021

Shoulder Arthroplasty, Dalas, TX 2021

Update on shoulder and elbow surgery, Geriatric department, University of Arkansas 2020

Effect of Infusion Decellularized Skeletal Muscle in Atrophied Rotator Cuff Muscle in Rabbits, American shoulder and elbow surgeons annual meeting 2019

Two incision approach for total elbow arthroplasty, Mayo elbow meeting, teach the teacher 2019

How to assess patient with shoulder and elbow symptoms, UAMS 2019

Webinar, elbow arthroplasty for distal humeral fracture 2019

Webinar, elbow arthroplasty, indication, approach 2019

Presentations and Presented Papers

Webinar, fractures around elbow	2018
How to assess shoulder, 19th Annual Geriatrics and Long Term Care Update, University of Arkansas	2018
Worker's comp related shoulder and elbow surgeries, Little Rock, AR	2018
Complex shoulder and elbow fractures, University of Missouri-Kansas City	2017
Difficulty Scenario Modeling for virtual Arthroscopic Rotator Cuff Surgery, international conference on computational and mathematical biomedical engineering	April, 2017
The Effect of the Beach Chair Position Angle on Cerebral Oxygenation During Shoulder Surgery, AAOS annual meeting	March, 2017
Acromioclavicular dislocation, Arkansas Orthopedic Forum, Orthopedic department, University of Arkansas	2016
Update on shoulder and elbow surgery, Arkansas Orthopedic Forum, Orthopedic Department, University of Arkansas	2016
The Effect of the Beach Chair Position Angle on Cerebral Oxygenation During Shoulder Surgery, Songy C, Siegel E, Stevens S, Ismaeil M, Wilkinson J, Ahmadi S, Arkansas Orthopedic Forum, Orthopedic department, University of Arkansas	2016
Posterior Lateral Rotatory Instability in Radial Head Arthroplasty, Couch, Songy, Kee, Siegel, Ahmadi, Arkansas Orthopedic Forum, Orthopedic Department, University of Arkansas	2016
Update on elbow surgery, Arkansas Orthopedic Association, Arkansas	2016
Alexander Yu, Doga Demirel, Sinan Kockara, Tansel Halic, Seth Cooper-Baer, Jake Farmer, Matthew Martens, Shahryar Ahmadi. "Dynamic Voxelization for Virtual Rotator Cuff Surgery", 13th Annual MCBIOS Conference, Memphis, TN	2016

Presentations and Presented Papers

- Doga Demirel, Alexander Yu, Tansel Halic, Sinan Kockara, Seth Cooper-Baer, Jake Farmer, Matthew Martens, Shahryar Ahmadi, “Time and Video Analysis for Virtual Arthroscopic Tear Diagnosis and Evaluation Platform (VATDEP)”, 13th Annual MCBIOS Conference, Memphis, TN 2016
- Alexander Yu, Doga Demirel, Tansel Halic, Sinan Kockara, Jake Farmer, Matthew Martens, Shahryar Ahmadi, Larry J. Suva, “ A Task Analysis for Virtual Arthroscopic Tear Diagnosis and Evaluation Platform (VATDEP)” Arkansas INBRE Research Conference, Fayetteville, AR 2015
- Radial Nerve In Relationship To Deltoid Tuberosity And Brachioradialis, Park K, Ahmadi S, Arkansas Orthopedic Forum, Orthopedic Department, University of Arkansas 2015
- The Impact of Exogenous Antibiotics on Bone Healing in the Mouse: A Pilot Study Gilley J, Suva L, Akel N, Ahmadi S, Arkansas Orthopedic Forum, Orthopedic department, University of Arkansas 2015
- Update on shoulder and elbow surgery, Geriatric department, University of Arkansas 2015
- An overview on shoulder and elbow pathology, 19th Annual Family Medicine Update, University of Arkansas 2015
- Update on shoulder surgery, University of Arkansas, Emergency Department 2014
- Update on shoulder and elbow surgery, University of Arkansas, Geriatric department 2014
- The Biomechanical Influence of Proximal Tumor
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Presentations and Presented Papers

Defect Location on Femur Pathological Fractures, Canadian Orthopedic Association Annual Meeting, Winnipeg, Canada	2013
Update on shoulder and elbow surgery, Arkansas Orthopedic Forum, Orthopedic Department, University of Arkansas	2013
Update on shoulder and elbow, Air force base, Jonesboro, AR	2013
Update on shoulder surgery, University of Arkansas, Rheumatology Department	2013
S Hurd, Kasukonis B, Cherry K, Ahmadi S, Wolchok, JC. “Engineering a Muscle Mimetic ECM Biomaterial, Proceedings of the Annual Meeting of the Biomedical Engineering Society, Seattle	2013
Cherry K, Hurd S, Kasukonis B, Ahmadi S, Wolchok JC, Engineering a Muscle Mimetic Biomaterial”, United Kingdom Society of Biomaterials, London	2013
The Value of Intra-operative Pathology for the Diagnosis of Infection in Revision Shoulder Arthroplasty, American Shoulder and Elbow Surgeons Specialty Day Annual Meeting. San Francisco, CA	2012
Update on elbow surgery, Arkansas Orthopedic Association	2012
How to assess the shoulder and elbow, Air force base, Jonesboro, AR	2012
Update on shoulder surgery, University of Arkansas, Rheumatology Department	2012
The Value of Intra-operative Pathology for the Diagnosis of Infection in Revision Shoulder Arthroplasty, European Society for Surgery of the Shoulder and the Elbow Annual Meeting. Lion, France	2011

PATENTS AND INVENTIONS

Proximal Humeral plate system	2023
Distal humeral and Olecranon plate system	2023
A novel approach for elbow arthroplasty (two incision triceps on approach for total elbow arthroplasty)	2018
Invented a Unique Cannula for Arthroscopic Surgery (Canadian Patent)	2010
Invented a Unique Fixed Angle Device for Trauma and Reconstruction Surgery, (Canadian and US Patent)	2008
Two plate fixation system (Canadian and US Patent)	2008
