

ERICK M. SANTOS, MSE, MD, PhD, FAAOS
CURRICULUM VITAE

EDUCATION

MD	University of Pennsylvania Perelman School of Medicine Philadelphia, Pennsylvania	1996
PhD	University of Pennsylvania School of Engineering and Applied Science Philadelphia, Pennsylvania	1996
MSE	University of Pennsylvania School of Engineering and Applied Science Philadelphia, Pennsylvania	1990
BS	The Johns Hopkins University Biomedical Engineering Baltimore, Maryland	1989

POST-GRADUATE STUDIES

Residency	University of Alabama at Birmingham Orthopaedic Surgery Residency Birmingham, Alabama	2005
Internship	Wilford Hall USAF Medical Center General Surgery Internship Lackland AFB, Texas	1997

SELECTED CONTINUING EDUCATION COURSES

National Association of Professional Accident Reconstruction Specialists (NAPARS) Tires and Wheels in Crashes - Online	June 2026
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Texas Medical Association Addiction in Chronic Pain Patients: How to Know and What to Do Multimodal Opioid-Sparing Strategies for Acute Pain Management	April 2026
AAOS 2026 Annual Meeting American Academy of Orthopaedic Surgeons New Orleans, Louisiana	March 2026
National Association of Professional Accident Reconstruction Specialists (NAPARS) Anatomy for the Crash Analyst - Online	February 2026
National Association of Professional Accident Reconstruction Specialists (NAPARS) Hydroplaning - Online	January 2026
Texas Department of Insurance Division of Workers' Compensation Certifying Doctor Required Certification Training Online	September 2025
AAOS Webinar: Treatment of Irreparable Rotator Cuff Tears: New and Expensive Versus Old and Cheap	2025
2025 ABOS WLA ABOS WLA Online Activity American Board of Orthopaedic Surgery	2025
AAOS 2025 Annual Meeting American Academy of Orthopaedic Surgeons San Diego, California	2025
Engineering Dynamics Company (EDC) EDC Reconstruction Course Online	2024
Institute of Police Technology and Management (IPTM) ACTAR Test Preparation – Comprehensive Online	2024

Institute of Police Technology and Management (IPTM) Traffic Crash Reconstruction Online	2024
Institute of Police Technology and Management (IPTM) Advanced Traffic Crash Investigation Online – Accelerated	2024
SAE International Vehicle Crash Reconstruction: Principles and Technology Marina Del Rey, California	2024
AAOS 2024 Annual Meeting American Academy of Orthopaedic Surgeons San Francisco, California	2024
National Association of Professional Accident Reconstruction Specialists (NAPARS) Nighttime Crash Scene Investigation – Online	2024
At-Scene Traffic Crash/Traffic Homicide Investigation Online – Accelerated Institute of Police Technology and Management University of North Florida	2023
2023 ABOS WLA ABOS WLA Online Activity American Board of Orthopaedic Surgery	2023
AAOS 2023 Annual Meeting American Academy of Orthopaedic Surgeons Las Vegas, Nevada	2023
Orthopaedic In-Training Scored and Recorded Examination 2021 (OITE) American Academy of Orthopaedic Surgeons	2022
AAOS Competency-Based Education for Independent Medical Examination (IME)/Qualified Medical Evaluator (QME) American Academy of Orthopaedic Surgeons San Antonio, Texas	2022

2022 ABOS WLA ABOS WLA Online Activity American Board of Orthopaedic Surgery	2022
2021 ABOS WLA ABOS WLA Online Activity American Board of Orthopaedic Surgery	2021
AAOS 2021 Annual Meeting American Academy of Orthopaedic Surgeons San Diego, California	2021
AAOS 2019 Annual Meeting American Academy of Orthopaedic Surgeons Las Vegas, Nevada	2019
Orthopaedic In-Training Scored and Recorded Examination 2017 (OITE) American Academy of Orthopaedic Surgeons	2018
AAOS 2018 Annual Meeting American Academy of Orthopaedic Surgeons New Orleans, Louisiana	2018
AAOS 2017 Annual Meeting American Academy of Orthopaedic Surgeons San Diego, California	2017
AAOS 2016 Annual Meeting American Academy of Orthopaedic Surgeons Orlando, Florida	2016
AAOS 2015 Annual Meeting American Academy of Orthopaedic Surgeons Las Vegas, Nevada	2015
Orthopaedic In-Training Scored and Recorded Examination 2014 (OITE) American Academy of Orthopaedic Surgeons	2014

AAOS 2014 Annual Meeting 2014
American Academy of Orthopaedic Surgeons
New Orleans, Louisiana

AAOS 2013 Annual Meeting 2013
American Academy of Orthopaedic Surgeons
Chicago, Illinois

PROFESSIONAL EXPERIENCE

Consultant 2023-Present
Biodynamic Research Corporation
San Antonio, Texas

Chief of Surgery 2019-2021
Corpus Christi Medical Center
Corpus Christi, Texas

Board Certified General Orthopaedic Surgeon 2013-Present
Orthopaedic Surgery Trauma/McAllen Medical Center 2014-2018
Designated Doctor for State of Texas 2013-2017
Borikenex Medical, PLLC with Rio Health Medical
McAllen, Texas

Board Certified General Orthopaedic Surgeon 2010-2013
Christus Spohn Medical Group, Shoreline Orthopedics
Corpus Christi, Texas

Contract Orthopaedic Surgeon 2009-2012
Three Rivers Federal Correctional Institution,
Federal Bureau of Prisons
Three Rivers, Texas

Chief of Surgery 2009-2010
South Texas Regional Medical Center
Jourdanton, Texas

Staff Orthopaedic Surgeon 2008-2012
Valley Baptist Medical Center
Harlingen, Texas

Board Certified General Orthopaedic Surgeon South Central Texas Bone & Joint Center, PA Pleasanton, TX (2005-2010) Aransas Pass, TX (2014-2016) Corpus Christi, Texas (2016-2023) San Antonio, Texas (2023 – present)	2005-Present
Orthopaedic Surgery Resident University of Alabama at Birmingham Birmingham, Alabama	2001-2005
USAF Flight Surgeon Dyess AFB, Texas	1997-2001
Locum Tenens ER Physician Southwest Medical Associates Rockport, Texas	1997-2001
Health Care Provider/General Surgery Resident Wilford Hall USAF Medical Center Lackland AFB, Texas	1996-1997
Graduate Fellow Ware College House, University of Pennsylvania Philadelphia, Pennsylvania	1991-1994
Research Engineer and Research Technician National Institute of Standards and Technology Gaithersburg, Maryland	1988-1989

APPOINTMENTS/QUALIFICATIONS

Guest Instructor, USAF School of Aerospace Medicine	2024-Present
Society of Automotive Engineers (SAE) Member	2023-Present
Association for the Advancement of Automotive Medicine (AAAM) Member	2023-Present

Board of Directors TMF Health Quality Institute	2016-2022
Fellow American Academy of Orthopaedic Surgeons (AAOS)	2012
Board of Directors South Texas Regional Medical Center	2007-2010
AAOS Clinician-Scientist Development Program	2003
Resident Leadership Forum, AOA/OREF	2003
Adjunct Assistant Clinical Professor Department of Surgery Texas College of Osteopathic Medicine University of North Texas Health Science Center at Fort Worth	2013-Present
Adjunct Assistant Professor Department of Family Medicine Texas A&M University of the Health Sciences	2013-2017
ACLS, BLS and Disaster Preparedness Instructor Dyess AFB	1999-2001

PROFESSIONAL REGISTRATIONS

Medical Licensure: Texas Alabama	1997-Present 2001-2005
Advanced Trauma Life Support	1998 - 2026
Diplomate of the American Board of Orthopaedic Surgery	2010 – 2030
(Board Certified in Orthopaedic Surgery)	2010 – 2030
Fellow of the American Academy of Orthopaedic Surgeons	2012-Present
The Accreditation Commission for Traffic Accident Reconstruction (ACTAR #5100)	2025-Present
NAPARS – National Association of Professional Accident Reconstruction Specialists	2025-Present

PROFESSIONAL AFFILIATIONS

American Academy of Orthopaedic Surgeons
American Association of Latino Orthopaedic Surgeons (AALOS)
American Board of Orthopaedic Surgeons
American Medical Association
Association for the Advancement of Automotive Medicine
Society for Automotive Engineers
Texas Medical Association
Texas Orthopaedic Association

Hidalgo-Starr County Medical Society
Zimmer-Biomet Diversity Consultant for Movement is Life Caucus
Nth Dimensions Mentoring Program

HONORS AND AWARDS

Helen O. Dickens, MD Award
Penn Medical Scholar
Medical Society of Eastern Pennsylvania Award for Outstanding Leadership,
Achievement and Community Service
Fontaine Fellowship
GEM Fellowship
National Hispanic Scholarship Fund
Merit Scholarship
U.S. Air Force Health Professions Scholarship
Alpha Epsilon Delta Pre-Med Honor Society
Johns Hopkins University Dean's List
Air Force Commendation Medal
Joint Service Achievement Medal
Air Expeditionary Medal
Outstanding Unit Award with One Bronze Oak Leaf Cluster
National Defense Medal
Air Force Longevity Award

PUBLICATIONS/PRESENTATIONS

Santos, Erick M. MD, PhD, FAAOS; Watson, Richard A. PhD; Dixon, Alexis E. MD, FAAOS; Whang, Peter G. MD, FAAOS, FACS. A Comprehensive Review of Injury Causation Analysis Methodology for the Assessment of Workers' Compensation and Motor Vehicle Collision Injuries.

Journal of the American Academy of Orthopaedic Surgeons 33(5):p 212-220, March 1, 2025.
| DOI: 10.5435/JAAOS-D-24-00112

Watson RA, Bonugli E, Greenston M, Santos EM, Martinez J. Event Data Recorder Trigger Probability in the Crash Investigation Sampling System Database. SAE Technical Paper 2024-01-5027; February 23, 2024.

Moore M, Ramirez G, Orellana KJ, Treviño P, Santos EM, Bradford L; After the COVID Quarantine: Combating Lower Extremity Pain Using Movement is Life Multimedia Interventions and Home Exercise Programs. Coastal Bend Medicine, 63 (1), 8-9 (2023).

Wiznia DH, Santos EM, Morgan, RC; Movement Is Life – Optimizing Patient Access to Total Joint Arthroplasty: Cardiovascular Health Disparities. Journal of the American Academy of Orthopaedic Surgeons, March 16, 2022.

O'Connor MI, Rankin KA, Santos EM; Movement Is Life – Optimizing Patient Access to Total Joint Arthroplasty: Mental Health Disparities. Journal of the American Academy of Orthopaedic Surgeons, March 8, 2022.

Escalera C, Rodarte P, Navarro RA, Bolanos AA, Buerba RA, Payares-Lizano M, Santos EM, Gonzalez MH, Jimenez R. The American Association of Latino Orthopaedic Surgeons: Our History, Achievements, and Future Goals. Journal of Bone and Joint Surgery. 10-2106; February 26, 2021.

Orellana KJ, Yamout T, Ramirez G, Treviño P, Santos EM, Bradford L; Impact of Movement is Life Multimedia Interventions for Musculoskeletal Health Amidst the COVID-19 Pandemic. Coastal Bend Medicine, 61(3), 13, 16-17, 20 (2021).

Yamout, T, Ramirez G, Treviño P, Santos EM, Mason B; Patients with Lower Extremity Pain: Diminishing Pain and Improving Emotional Well-Being with Multimedia Educational Materials and a Home Exercise Program. Coastal Bend Medicine, 60 (3), 9-10 (2020).

Williams Y, Zingg L, Santos EM, Mason B; Distinctive Educational Approaches Make a Difference on BMI & Lower Extremity Recovery Time; Health and Human Behavior/Salud y Conducta Humana, 4 (1), 89 (2017).

Zingg LH, Williams Y, Santos EM, Treviño P, Mason B; A Suspected Propionibacterium acnes Infection after Arthroscopic Shoulder Surgery: A Case Study; Coastal Bend Medicine, Volume 56, Number 6, November/December 2017, pages 8-9 and 14-15.

Raszewski J, Vasquez-Gomez R, Santos EM, Mason B; Patient Educational Materials Lower Musculoskeletal Disparity Rates in Suburban Minorities: A Blinded Cohort Study; Coastal Bend Medicine, Volume 56, Number 5, Sep/Oct 2016, pages 12-13.

García-Velez D, Mason B, Santos EM. The Effectiveness of Multimedia Educational Materials as a Tool to Prevent Musculoskeletal Disease Progression. Coastal Bend Medicine, Sep-Oct 2015 Volume 55, Number 5, p. 14-15.

Santos EM, Vohra S, Catledge SA, McClenny MD, Lemons JE, Moore KD. Examination of surface and material properties explanted zirconia femoral heads. Journal of Arthroplasty. 2004, 19(7) Supp. 2, p. 30-34.

Santos EM, Vohra S, Catledge SA, McClenny MD, Cook M, Vohra YK, Lemons JE, Moore KD. Examination of surface and material properties explanted zirconia femoral heads. Journal of Arthroplasty. 2004, 19(2), p. 260.

Santos EM, Vohra S, Catledge SA, Vohra YK, Lemons JE, Moore KD. Materials properties examination of explanted alumina femoral heads. Proceedings of 53rd annual meeting of AL Orthopedic Society. 2004, Orange Beach, AL.

Santos EM, Vohra YK, Catledge SA, Lemons JE, McClenny MD, Cook M, Moore KD. Degradation of surface and material properties of zirconia femoral heads with time in vivo. Proceedings of 71st annual meeting AAOS. 2004, San Francisco, CA.

Santos EM, Catledge SA, McClenny MD, Cook M, Vohra YK, Lemons JE, Moore KD. Surface examination of explanted zirconia femoral heads. Proceedings of 52nd annual meeting of AL Orthopedic Society. 2003, Point Clear, AL.

Catledge SA, Cook M, Vohra YK, Santos EM, McClenny MD, Moore KD. Surface crystalline phases and nanoindentation hardness of explanted zirconia femoral heads. Journal of Materials Science: Materials in Medicine. 2003, 14, p. 863-867.

Santos EM, Radin S, Ducheyne P. Sol-gel derived carrier for the controlled release of proteins. Biomaterials. 1999, 20(18), p.1695-1700.

Santos EM, Radin S, Shenker B, Shapiro IM, Ducheyne P. In vitro cell bioassay using stromal marrow cells to evaluate Si-Ca- P xerogels with incorporated bone morphogenetic protein. Journal of Biomedical Materials Research. 1998, 41, p. 83-94.

Santos EM, Radin S, Shenker B, Shapiro IM, Ducheyne P. Si-Ca-P xerogels and bone morphogenetic protein act synergistically on rat stromal marrow cell differentiation in vitro. Bioceramics Volume 10. Eds. Sedel L, Rey C. Elsevier Science Ltd., Paris, France, 1997.

Nicoll SB, Radin S, Santos EM, Tuan RS, Ducheyne P. In vitro release kinetics of biologically active transforming growth factor- β 1 from a novel porous glass carrier. Biomaterials. 1997, 18(12) p. 853-859.

Santos EM, Ducheyne P, Radin S, Shapiro IM. The effect of bioactive xerogel glass with and without bone morphogenetic protein on stromal marrow cell function. Proceedings of the 43rd annual meeting of the Orthopaedic Research Society. 1997, San Francisco, CA.

Santos EM, Radin S, Ducheyne P. Bioactivity of a sol-gel derived material for the controlled release of growth factors. Transactions of the Fifth World Biomaterials Congress. 1996, Toronto, Canada.

Tan BH, Santos EM, Radin S, Ducheyne P. Ultramicroscopic pore size and porosity of xerogels for controlled release of biological molecules. Transactions of the Fifth World Biomaterials Congress. 1996, Toronto, Canada.

Santos EM, Radin S, Ducheyne P. A novel xerogel carrier for controlled release of biologically active molecules: II release profile for a model protein. Proceedings of the 21st annual meeting of the Society for Biomaterials. 1995, San Francisco, CA.

Nicoll SB, Santos EM, Radin S, Ducheyne P, Tuan RS. A novel xerogel carrier for controlled release of biologically active molecules: III TGF- β 1. Proceedings of the 21st annual meeting of the Society for Biomaterials. 1995, San Francisco, CA.

Santos EM. Chapters on Financial Aid and Extracurricular Activities in: Getting into Medical School: A Planning Guide for Minority Students. Eds. James EJ, Hamilton KE. Betz Publishing Co., Baltimore, MD. 1996.

Santos EM. Abstract & Presentation of: Use of the internet / world-wide-web as a tool to help minorities get into medical school in X Hispanic Medical Congress. 1995, San Antonio, TX.

Santos EM. Abstract & Presentation of: A Guide to Success in the Pre-medical Years for Minority Students in VII Hispanic Medical Congress. 1992, New Orleans, LA.

Santos EM. Extracurricular Activities. Journal of the Student National Medical Association. Fall 1991

PATENTS

Santos EM, Radin S, Ducheyne P: inventors. U.S. Patent; Incorporation of Biological Molecules into Bioactive Glasses. Patent # 5,874,109 granted on February 23, 1999.

Santos EM, Radin S, Ducheyne P: inventors. U.S. Patent; Incorporation of Biologically Active Molecules into Bioactive Glasses. Patent # 5,871,777 granted on February 16, 1999.

Santos EM, Radin S, Ducheyne P: inventors. U.S. Patent; Incorporation of Biological Molecules into Bioactive Glasses. Patent # 5,861,176 granted on January 19, 1999.

Santos EM, Radin S, Ducheyne P: inventors. U.S. Patent; Incorporation of Biological Molecules into Bioactive Glasses. Patent # 5,849,331 granted on December 15, 1998.

Santos EM, Falaize S, Radin S, Ducheyne P: inventors. U.S. patent application filed; Stabilization of Sol-Gel Derived Silica- Based Glass. Patent # 5,830,480 granted on November 3, 1998.

Santos EM, Radin S, Ducheyne P: inventors. U.S. Patent; Incorporation of Biologically Active Molecules into Bioactive Glasses. Patent # 5,817,327 granted on October 6, 1998.

Santos EM, Radin S, Ducheyne P: inventors. U.S. Patent; Incorporation of Biological Molecules into Bioactive Glasses. Patent # 5,591,453 granted on January 7, 1997.