

# 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

AAOS 2024 Annual Meeting American Academy of Orthopaedic Surgeons San Francisco, California	2024
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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 American Academy of Orthopaedic Surgeons New Orleans, Louisiana	2014
AAOS 2013 Annual Meeting American Academy of Orthopaedic Surgeons Chicago, Illinois	2013

## **PROFESSIONAL EXPERIENCE**

Consultant Biodynamic Research Corporation San Antonio, Texas	2023-Present
Chief of Surgery Corpus Christi Medical Center Corpus Christi, Texas	2019-2021
Board Certified General Orthopaedic Surgeon Orthopaedic Surgery Trauma/McAllen Medical Center Designated Doctor for State of Texas Borikenex Medical, PLLC with Rio Health Medical McAllen, Texas	2013-Present 2014-2018 2013-2017

Board Certified General Orthopaedic Surgeon Christus Spohn Medical Group, Shoreline Orthopedics Corpus Christi, Texas	2010-2013
Contract Orthopaedic Surgeon Three Rivers Federal Correctional Institution, Federal Bureau of Prisons Three Rivers, Texas	2009-2012
Chief of Surgery South Texas Regional Medical Center Jourdanton, Texas	2009-2010
Staff Orthopaedic Surgeon Valley Baptist Medical Center Harlingen, Texas	2008-2012
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 1988-1989  
National Institute of Standards and Technology  
Gaithersburg, Maryland

## **APPOINTMENTS/QUALIFICATIONS**

Association for the Advancement of Automotive Medicine (AAAM)

Member 2023-Present

Board of Directors 2016-2022  
TMF Health Quality Institute

Fellow 2012  
American Academy of Orthopaedic Surgeons (AAOS)

Board of Directors 2007-2010  
South Texas Regional Medical Center

AAOS Clinician-Scientist Development Program 2003

Resident Leadership Forum, AOA/OREF 2003

Adjunct Assistant Clinical Professor 2013-Present  
Department of Surgery  
Texas College of Osteopathic Medicine  
University of North Texas Health Science Center at Fort Worth

Adjunct Assistant Professor 2013-2017  
Department of Family Medicine  
Texas A&M University of the Health Sciences

ACLS, BLS and Disaster Preparedness Instructor 1999-2001  
Dyess AFB

## **PROFESSIONAL REGISTRATIONS**

Medical Licensure: Texas 1997-Present  
Alabama 2001-2005

Advanced Trauma Life Support	1998 - 2026
Diplomate of the American Board of Orthopaedic Surgery (Board Certified in Orthopaedic Surgery)	2010 – 2030 2010 – 2030
Fellow of the American Academy of Orthopaedic Surgeons	2012-Present

## **PROFESSIONAL AFFILIATIONS**

American Academy of Orthopaedic Surgeons  
American Association of Latino Orthopaedic Surgeons (AALOS)  
Texas Medical Association  
Texas Orthopaedic Association  
Hidalgo County Medical Society  
Zimmer-Biomet Diversity Consultant for Movement is Life Caucus (2015-2022)  
Nth Dimensions Mentoring Program (2015 – present)

## **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* ( ):10.5435/JAAOS-D-24-00112, November 19, 2024. | 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 53<sup>rd</sup> 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- $\beta$ 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- $\beta$ 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.