

## **NICHOLAS A. ALFONSO, M.D.**

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### **Academic Appointments:**

2023-Present	University of Colorado (CU) Orthopedic Surgery Residency Program Director
2023-Present	Affiliate Faculty, Department of Clinical Sciences College of Veterinary Medicine and Biomedical Sciences, Colorado State University
2023-Present	CU Graduate Medical Education (GME) Subcommittee and Voting Member
2022-Present	University of Colorado Hospital (UCH) Resident Site Director
2019-Present	Assistant Professor, Orthopedic Trauma and Fracture Surgery Service, Orthopedic Surgery Department, University of Colorado Anschutz Medical Campus

### **Education:**

2009-2013	Doctor of Medicine (M.D.) Michigan State University College of Human Medicine (MSU-CHM) East Lansing, MI
2005-2009	Bachelor of Science (B.S.), Human Biology, <i>magna cum laude</i> Michigan State University (MSU) Lyman Briggs College East Lansing, MI

### **Post Graduate Education and Training:**

2018-2019	Orthopedic Traumatology Fellowship MetroHealth Medical Center / Cleveland Clinic / Case Western Reserve University Cleveland, OH
2014-2018	Orthopedic Surgery Residency University of Colorado School of Medicine (SOM), Department of Orthopedics Aurora, CO
2013-2014	General Surgery and Orthopedic Surgery Internship University of Colorado SOM, Department of General Surgery Aurora, CO

### **Medical Licensure:**

2015-Present	Colorado Board of Medical Examiners, Colorado State Medical License (Active)
2015-Present	Drug Enforcement Agency, DEA (Active)

**Professional Society Memberships:**

2023-Present	Counsel of Orthopaedic Residency Directors (CORD) -AOA's CORD/Academics Committee Away Rotations Workgroup, 2025-2026
2024-Present	Western Orthopaedic Association Member
2021-Present	American Board of Orthopedic Surgeons
2018-Present	AOTrauma Member
2017-Present	OTA, Orthopaedic Trauma Association Member
2013-Present	FAAOS, American Academy of Orthopedic Surgery Fellow
2009-Present	AMA, American Medical Association Member
2007-Present	Golden Key International Honour Society Member, Michigan State University <i>Awarded to undergrads for being the top 15% of their class</i>

**Professional Teaching Conferences:**

2025	Smith and Nephew 26 <sup>th</sup> Annual Masters Fracture Forum, Huntington Beach, CA - Faculty
2025	J&J Med Tech Future Leaders: Comprehensive of the Orthopaedic Trauma Patient Course, Aurora, Colorado - Faculty
2024	Smith and Nephew Surgical Approaches for Internal Fixation (SAIF) Course, Aurora CO - Faculty
2022-2024	OTA Resident Comprehensive Fracture Course, OTA Annual Meeting - Faculty
2022	OTA Resident Advanced Trauma Techniques Course, Philadelphia, PA - Faculty

**Institutional Services:**

2023-Present	CU Orthopedics Resident Research Committee
2022-Present	Faculty Leadership for Fracture to Union Surgery Investigators Team (FUSE-IT)
2022-2023	University of Colorado School of Medicine LIC Medical Student Preceptor
2022	UCH Track and Reduce Last Minute Orders Rapid Improvement Event
2021-2023	Trauma Education Coordinator for CU Orthopedic Surgery Residency
2021-Present	UCH Quality, Patient Safety, and Outcomes Committee Member – Trauma Division Liaison
2020-Present	University of Colorado Hospital (UCH) Principal Investigator for the Major Extremity Trauma and Rehabilitation Consortium (METRC)
2019-Present	UCH Trauma Committee Member
2019-Present	University of Colorado School of Medicine mentor for medical students and residents
2019-2020	Developed Orthopedic Trauma DVT prophylaxis protocol for UCH
2017-2018	Administrative Chief, Orthopedic Surgery Residency, University of Colorado SOM

**Awards:**

2023	CU Orthopedics Colonel Allan Bucknell Award for Excellence in Resident Education
2022	CU Anschutz Alumni Hero
2021	Department of Orthopedics Award for Excellence in Medical Student Education

**Grants:**

2025-2027	Department of Defense PRMRP Grant, Consultant Multifunctional medical foam (MF) to enhance acute wound management in situ	<b>\$1,540,000</b>
2025-2026	OTA Research Grant, <b>Principal Investigator</b> Biologically compatible volume-filling medical foam for local antibiotic delivery in fractures	<b>\$50,000</b>
2025-2026	Incrediwear (Industry Funded), <b>Principal Investigator</b> Clinical Outcomes Related to Treatment of Ankle Injury Using Semiconductor Embedded Therapeutic Socks: A Randomized, Prospective, Double Blinded Clinical Study	<b>\$32,672</b>
2025-2026	CU Orthopedics Seed Grant Program, <b>Principal Investigator</b> Biologically compatible volume-filling medical foam for local antibiotic delivery in fractures	<b>\$20,000</b>
2024-2025	Incrediwear (Industry Funded), Consultant In vitro evaluation of germanium fabrics to improve wound healing and eradicate infection	<b>\$56,700</b>
2024-2025	Incrediwear (Industry Funded), Consultant In vitro evaluation of germanium fabrics to reduce inflammation in an osteoarthritis model	<b>\$47,370</b>
2023	Colorado OEDIT Grant - Co-Investigator TraumaFoam: Developing an Innovative Wet Hydrogel Foam for Effective Pain Management, Antibacterial Protection, and Blood Clotting for Open Wound Recovery	<b>\$80,000</b>
2022-2024	JBJS Robert Bucholz Journal Club Support Grant	<b>\$3,450</b>
2021-Present	METRC TOBRA Study, Co-Principal Investigator – Multicenter Trial	
2021-Present	METRC SEXTANT Study, Co-Principal Investigator – Multicenter Trial	
2020-2023	OTA Research Grant, <b>Principal Investigator</b> Acute Application of Intrawound Antibiotic Powder in Open Extremity Fracture Wounds.	<b>\$79,991</b>

### **Publications [17]**

1. Efficacy of Topical Antibiotic Powder Application in the Emergency Department on Reducing Deep Fracture-Related Infection in Type III Open Lower Extremity Fractures: A Multi-Center Study. Accepted, pending publication in Journal of the American Academy of Orthopaedic Surgeons
2. Richman EH, Brinkman JC, Paul BR, Griffin N, **Alfonso N**. Trends in Medicare Utilization and Reimbursement for Intertrochanteric Femur Fractures: A 21-Year Review. Eur J Orthop Surg Traumatol. 2024 Nov 21;35(1):13.
3. Epperson AB, Awad ME, Gorman M, Loker K, **Alfonso NA**, Stoneback JW. Clinical Practice

Guidelines for Antimicrobial-loaded Cements and Beads in Orthopedic Trauma and Arthroplasty. *Eur J Orthop Surg Traumatol*. 2024 Nov 25;35(1):25.

4. Krieg B, Dayton M, **Alfonso N**. Re-revision Extensor Mechanism Reconstruction Because of Nonunion and Tendon Failure After Total Knee Arthroplasty. *Orthopedics*. 2024 Sep-Oct;47(5):e273-e276.
5. Sajid IM, Grayson W, John MP, Taylor S, Lauck BJ, Savage A, Awad ME, Chen AT, Hwang J, **Alfonso NA**, Mir H. Efficacy of Topical Antibiotic Powder Application in the Emergency Department on Reducing Deep Fracture-Related Infection in Type III Open Lower Extremity Fractures: A Multi-Center Study. *AAOS Now*, 9/9/24.
6. Awad ME, Griffin NA, Epperson AB, **Alfonso NA**, Ou-Yang D. Extended Postoperative Antibiotic Prophylaxis Is Associated with No Clinical Value and Higher Projected Cost Following Adult Spinal Surgery: A Stratified Meta-Analysis and Probability-Based Cost Projections. *JBJS Rev*. 2024 Sep 3;12(9).
7. Sinkler MA, Benedick A, Kavanagh M, **Alfonso N**, Vallier HA. Complications and Outcomes After Fixation of Lisfranc Injuries at an Urban Level 1 Trauma Center. *J Orthop Trauma*. 2024 May 1;38(5):e169-e174
8. Richman E, Richman O, Lee M, Qubain L, Heylmun L, Awad M, **Alfonso N**. Social Media and Digital Footprints in Orthopedic Trauma: An Analysis of 1465 Orthopedic Trauma Association Members. *J Orthop Trauma*. 2023 Aug 7.
9. Awad M, Chung J, Griffin N, Stoneback J, **Alfonso N**. Prophylactic Intrawound Antibiotics Significantly Reduce the Risk of Deep Infections in Fracture Fixation: Subgroup Metanalyses of the Type of Fracture, Antibiotics, and Organism. *J Orthop Trauma*. 2023;37:e400–e40
10. Belton M, Kelley N, Baldini T, Steward J, **Alfonso N**. Diagnosis of traumatic shoulder arthrotomies using saline load test with intra-articular pressure monitoring. *Eur J Orthop Surg Traumatol*. 2022 Oct 21
11. Flanagan C, Joseph N, Copp J, Romeo N, **Alfonso N**, Hirschfeld A. Weight-bearing status may influence rates of radiographic healing following reamed, intramedullary fixation of diaphyseal femur fractures. *OTA Int*. Aug 2021
12. Joseph NM, **Alfonso N**, Hirschfeld AG. Compartment syndrome following use of tissue plasminogen activator for frostbite in the setting of concomitant diaphyseal tibia fracture. *OTA Int*. 2020 Jun;3(2):e79
13. **Alfonso N**, Ryan W, Baldini T, Mauffrey C. Fixation of acetabular fractures with precontoured plates alone causes fracture malreduction. *J Orthop Trauma*. 2020 Feb;34(2):89-94.
14. Ryan W, **Alfonso N**, Baldini T, Joyce C, Reiter M, Mauffrey C. Precontoured quadrilateral surface acetabular plate fixation demonstrates increased stability when compared to pelvic reconstruction plates: a biomechanical study. *J Orthop Trauma*. 2019 Sep;33(9):e325-e330.
15. **Alfonso N**, Baldini T, Stahel P. A new fastener with improved bone-to-implant interface shows superior torque stripping resistance compared with the standard buttress screw. *J Orthop Trauma*. 2019 Apr;33(4):e137-e142.
16. Stahel P, **Alfonso N**, Henderson C, Baldini T. Introducing the “bone-screw-fastener” for improved screw fixation in orthopedic surgery: a revolutionary paradigm shift? *Patient Saf Surg*. 2017 Mar 20;11:6.
17. Mauffrey C, **Alfonso N**, Hake M, Heare A. Surgical technique: modified Stoppa approach is effective for fixing acetabular fractures from the front. *Orthopedics Today*. 2017 April.

## **Book Chapters**

1. **Alfonso N**, Mauffrey C. Osteoporotic distal femoral fractures: When to fix and how. Surgical and Medical Treatment of Osteoporosis: Principles and Practice. *CRC Press*. 2020.

## **Podium Presentations [17]**

1. Stoner A, Pezzanite L, **Alfonso N**, Dow S, McGilvray K. Multifunctional medical foam (MF) to enhance acute wound management in situ. *Special Operations Medical Association*. May 5-9, 2025, Raleigh, NC
2. Sajid IM, Grayson W, John MP, Taylor S, Lauck BJ, Savage A, Awad ME, Chen AT, Hwang J, **Alfonso NA**, Mir H. Efficacy of Topical Antibiotic Powder Application in the Emergency Department on Reducing Deep Fracture-Related Infection in Type III Open Lower Extremity Fractures: A Multi-Center Study. 112th Annual Meeting Clinical Orthopedic Society, 2024, Tampa, FL, USA. (First Place Oral Resident/Fellow Research Award) 2024 Annual Meeting Orthopaedic Trauma Association, Montreal, Canada
3. Scott T, Epperson AB, Rosa C, Awad ME, Gu S, Krieg B, **Alfonso NA**. Patient-Reported Cannabis Use is Associated with Shorter Hospital Stay and Higher Readmission Rate in Patients with Tibial Shaft Fracture Fixation *Student American Osteopathic Academy of Orthopedics 2024 Annual Spring Meeting, Las Vegas, NV*
4. Sajid IM, Grayson WM, John M, Lauck BJ, Zaidi Z, Savage A, Griffin N, Awad ME, Chen A, Hwang JS, **Alfonso N**, Mir HR; Assessing the Efficacy of Topical Antibiotic Powder Administration in the Emergency Department on Reducing Deep Surgical Site Infection in Type III Open Lower Extremity Fractures: A Multi-Center Study with Matched Historical Comparison. *AAOS 2024 Annual Meeting. San Francisco, CA*
5. **Alfonso N**, Carlini A, Castillo R, et al. Do Some Patients Benefit More From Vanco Powder? Heterogenous Treatment Effects in the VANCO Trial. *Orthopedic Trauma Association Annual Meeting. Seattle, WA, 2023 AAOS 2024 Annual Meeting. San Francisco, CA, 2024*
6. Awad M, Griffin N, **Alfonso N**, Ou-Yang D. Extended Postoperative Antibiotic Prophylaxis Is Associated with No Clinical Value and Higher Projected Cost Following Adult Spinal Surgery: A Stratified Meta-analysis and Probability-Based Cost Projections. *University of Colorado 5<sup>th</sup> Annual Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship*. Aurora, CO, 2023.
7. **Alfonso N**, Koerner J, Griffin N, Stoneback J, Gorman M, Mauffrey C. Acute Application of Intrawound Vancomycin and Tobramycin Powders in Open Extremity Fracture Wounds: A Pilot Randomized Controlled Trial. *AAOS Annual Meeting: OTA Specialty Day*. Las Vegas, NV, 2023
8. Griffin N, Awad ME, **Alfonso N**, Stoneback JW. Is a Sacroiliac Periosteal Avulsion (SIPA) Associated with Posterior Pelvic Fracture Instability in Pediatric Patients Less than 13 years Old? *Student American Osteopathic Academy of Orthopedics Fall Conference*. Chicago, IL, 2022
9. Griffin N, Awad ME, **Alfonso N**, Stoneback JW. Risk Factors for Recurrent Osteomyelitis When Undergoing Septic Nonunion Repair. A Neural Network and Multivariate Regression Analysis. *Student American Osteopathic Academy of Orthopedics Fall Conference*. Chicago, IL, 2022
10. Rakowski D, Awad ME, Griffin N, Stoneback JW, **Alfonso N**. Outcomes of Extra-articular Distal Femur Fracture Fixation: A Network Meta-analysis and Probability-based Projected Costs comparing Different Intramedullary Nailing and Plating Techniques. *Orthopedic Research and Education Foundation-Central West Region Resident Research Symposium*. 2022 - **OREF Top Presenters (3<sup>rd</sup> place) Award**
11. France T, Mares J, Gorman M, Griffin N, Awad ME, Stoneback JW, **Alfonso N**. A novel disaster

protocol and outcomes during the first peak of COVID-19 at a level one, orthopedic trauma center. *Orthopedic Research and Education Foundation-Central West Region Resident Research Symposium*. 2022.

12. Koerner JL, Enabulele E, Awad ME, Griffin N, Gorman M, Stoneback JW, **Alfonso N**. Acute Application of Intrawound Antibiotic Powder in Open Extremity Fracture Wounds (APOW). *Orthopedic Research and Education Foundation-Central West Region Resident Research Symposium*. 2022.
13. Koerner, Freeman, Stoneback, Gorman, Walton, Laborda, Enabulele, **Alfonso**. Bioburden and genetic analysis of bacteria in open fracture wounds. *3<sup>rd</sup> Annual Research Symposium and D'Ambrosia Diversity Lectureship*. Aurora, CO, 2021.
14. **Alfonso N**, Ryan W, Baldini T, Reiter M, Joyce C, Mauffrey C. Fixation of acetabular fractures with precontoured plates alone causes fracture malreduction. *Orthopaedic Trauma Association Annual Meeting* 2018.
15. Ryan W, **Alfonso N**, Baldini T, Reiter M, Joyce C, Mauffrey C. Precontoured quadrilateral surface acetabular plate fixation demonstrates increased stability when compared to pelvic reconstruction plates: a biomechanical study. *Orthopaedic Trauma Association Annual Meeting* 2018. *Western Orthopaedic Association annual meeting* 2018.
16. **Alfonso N**, Baldini T, Stahel P. Introducing a new orthopedic screw design that does not “strip” at the bone-implant interface: a cadaveric biomechanical study. *University of Colorado Annual Research Day*, 2018.
17. Belton M, Steward J, **Alfonso N**, Baldini T, Hak D. Diagnosis of traumatic shoulder arthrotomies using saline load test with intra-articular pressure monitoring. *Western Orthopaedic Association Annual Meeting* 2018.

### **Posters Presentations [18]**

1. Epperson AB; Awad ME; Gorman M; Stoneback JW; **Alfonso NA** Skin Dysbiosis Increases Risk of Complications Following Femoral Shaft Fractures *Western Orthopedic Association 2024 Annual Fall Meeting, August 7-10, 2024, Huntington Beach, CA*
2. Epperson AB, Awad ME, **Alfonso NA**, Stoneback JW. Clinical Practice Guidelines for Antimicrobial-Loaded Cements and Beads in the Treatment of Infected Devices in Orthopaedic Trauma: Institutional Experience. *Orthopaedic Research Society 70<sup>th</sup> Annual Meeting, February, 2024; Long Beach, CA E-poster presentation at the Medical Student Orthopedic Society 2024 Annual Meeting*
3. Awad ME, Zuscik M, Griffin N, Gorman MA, **Alfonso NA**. Gut Dysbiosis Increases the Risk of Infection and Complications after Acute Fixation of Closed Pilon Fractures as compared to Staged Fixation: A Stratified Propensity Score Matched Cohort Analysis. *CU Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship, Aurora, CO, 2023 AAOS 2024 Annual Meeting*. San Francisco, CA, 2024
4. **Alfonso NA**. Acute Application of Antibiotic Powder in Open Fracture Wounds (APOW): A Pilot Study. *Orthopedic Trauma Association Annual Meeting*. Seattle, WA, 2023
5. Griffin N, Awad ME, **Alfonso NA**, Stoneback JW. Is a Sacroiliac Periosteal Avulsion (SIPA) Associated with Posterior Pelvic Fracture Instability in Pediatric Patients Less than 13 years Old? *Orthopedic Research Society Annual Meeting*. Dallas, Tx, 2023
6. Griffin N, Awad ME, **Alfonso NA**, Stoneback JW. Risk Factors for Recurrent Osteomyelitis When Undergoing Septic Nonunion Repair. A Neural Network and Multivariate Regression Analysis.

*Orthopedic Research Society Annual Meeting*. Dallas, Tx, 2023

7. Griffin NA, Awad ME, **Alfonso NA**, Stoneback JW. Initial Intravenous Antibiotic Prophylaxis Regimens for Open Fractures: Meta Analysis and Evaluation of Current Protocols. *Orthopedic Research Society Annual Meeting*. Dallas, Tx, 2023
8. *University of Colorado 4<sup>th</sup> Annual Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship*. Aurora, CO, 2022.
9. Griffin NA, Awad ME, Chung J, Stoneback JW, **Alfonso NA**. Prophylactic Intrawound Antibiotics Significantly Reduce the Risk of Deep Infections in Fracture Fixation: Subgroup Meta-analysis of the Type of Fracture, Antibiotics, And Organism. *Orthopedic Research Society Annual Meeting*. Dallas, Tx, 2023 *University of Colorado 4<sup>th</sup> Annual Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship*. Aurora, CO, 2022.
10. Griffin NA, Awad ME, Stoneback JW, Gorman M, Koerner J, **Alfonso NA**. Acute Application of Antibiotic Powder in Open Fracture Wounds (APOW): A Pilot Project. *Orthopedic Research Society Annual Meeting*. Dallas, Tx, 2023 *University of Colorado 4<sup>th</sup> Annual Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship*. Aurora, CO, 2022.
11. Griffin NA, Awad ME, **Alfonso NA**, Stoneback JW. Post-operative Infection Outcomes in Short Vs Extended Antibiotic Prophylaxis and Associated Projected Cost Following Adult Spinal Surgery: A Stratified Meta-Analysis and Probability-based Cost Projection. *Orthopedic Research Society Annual Meeting*. Dallas, Tx, 2023
12. Griffin NA, Awad ME, Rakowski D, Stoneback JW, **Alfonso NA**. Outcomes of Extra-articular Distal Femur Fracture Fixation: A Network Meta-Analysis Comparing Different Fixation Techniques. *Orthopedic Research Society Annual Meeting*. Dallas, Tx, 2023 *University of Colorado 4<sup>th</sup> Annual Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship*. Aurora, CO, 2022.
13. Mares J, France T, Gorman M, Griffin N, Awad ME, Stoneback JW, **Alfonso N**. A novel disaster protocol and outcomes during the first peak of COVID-19 at a level one, orthopedic trauma center. *University of Colorado 4<sup>th</sup> Annual Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship*. Aurora, CO, 2022 - **Resident Scientific Poster Award**
14. **Alfonso N**, Cho, Tafur, Rascoe, Vallier. Outcomes of proximally locked vs unlocked cephalomedullary nails for low-energy intertrochanteric femur fractures. *Orthopaedic Trauma Association Annual Meeting*. 2021.
15. Benedick, Kavanagh, **Alfonso**, Vallier. Complications and outcomes after Lisfranc Injuries. *Orthopaedic Trauma Association Annual Meeting*. 2021.
16. Flanagan C, **Alfonso N**, Hirschfeld A. Non-weight bearing following intramedullary fixation of femoral diaphyseal fractures slows radiographic healing by 58% and may contribute to non-union risk. *Orthopaedic Trauma Association Annual Meeting*. 2020.
17. **Alfonso N**, Baldini T, Stahel P. Introducing a new orthopedic screw design that does not “strip” at the bone-implant interface: a cadaveric biomechanical study. *Western Orthopaedic Association Annual Meeting* 2018.
18. **Alfonso N**, Stahel P. Acute Management of Bilateral Femur Fractures: a case report. *University of Colorado Annual Research Day*. 2015.