

NOLAN M WESSELL, MD



ACADEMIC APPOINTMENTS

2018 - Present **Assistant Professor**
Department of Orthopedic Surgery
University Of Colorado School Of Medicine
Aurora, CO

EDUCATION AND TRAINING

2020 - Present **University of Colorado – Denver**
Denver, CO
Masters in Business Administration Program

2017 - 2018 **University of Colorado School of Medicine**
Department of Orthopedic Surgery
Aurora, CO
Orthopaedic Spine Surgery Fellow

2016 - 2017 **Henry Ford Health System**
Department of Orthopaedic Surgery
Detroit, MI
Administrative Chief Resident

2012 - 2017 **Henry Ford Health System**
Department of Orthopaedic Surgery
Detroit, MI
Orthopaedic Surgery Residency

2008 - 2012 **Wayne State University School of Medicine**
Detroit, MI
Doctor of Medicine
Graduated with Honors

2003 - 2006 **University of Wisconsin**
Madison, WI
Bachelor of Science - Biochemistry
Graduated with Honors

1999 - 2003 **Stevens Point Area Senior High**
Stevens Point, WI
High School Diploma
Graduated as Valedictorian

HONORS AND AWARDS

May 2021	Colorado Magazine Top Doctors - Orthopedic Surgeon
May 2021	International Society for the Advancement of Spine Surgery Young Surgeon Grant Award
May 2017	Nominee - Henry Ford Health System Resident of the Year
June 2016	American Orthopaedic Association (AOA) Resident Leaders Forum Inductee
June 2016	Michigan Orthopaedic Society Annual Meeting - Best Paper Award
February 2016	2 nd Place, Henry Ford Health System Medical Education Research Symposium
January 2016	Mid-America Orthopaedic Association Educational Grant Recipient
May 2015	1 st Place, Detroit Academy of Orthopaedic Surgeons Resident Research Symposium
May 2015	3 rd Place, Detroit Academy of Orthopaedic Surgeons Resident Research Symposium
February 2015	3 rd Place, Henry Ford Health System Medical Education Research Symposium
April 2014	Edward D. Henderson, MD Physicians-In-Training Research Award
2011-2012	O. B. Weed Scholarship - Wayne State University School of Medicine
October 2011	Alpha Omega Alpha Medical Honor Society
2010 - 2011	Wayne State University School of Medicine - Year III Comprehensive Honors
2009 - 2010	Prentis Foundation Medical Scholarship - Wayne State University School of Medicine
2008 - 2009	Wayne State University School of Medicine - Year I Comprehensive Honors
2009	Iber Health Education Scholarship - Community Foundation of Central Wisconsin
2005	Dean's List - University of Wisconsin
2003	William F. Vilas Scholarship - University of Wisconsin

PROFESSIONAL MEMBERSHIPS

2022 - present	Fellow of the American Academy of Orthopedic Surgeons
2021 - present	International Society for the Advancement of Spine Surgery
2020 - present	AOA Emerging Leaders Program
2018 - present	Colorado Orthopedic Society
2012 - present	American Academy of Orthopaedic Surgeons
2014 - present	North American Spine Society
2017 - present	American Orthopedic Association
2011 - present	Alpha Omega Alpha Medical Honor Society
2015 - 2018	Mid-America Orthopaedic Association
2014 - 2018	Detroit Academy of Orthopaedic Surgeons
2009 - 2017	Orthopaedic Research Society

LEADERSHIP POSITIONS & COMMITTEES

2021 - present	University of Colorado School of Medicine - Junior Faculty Committee Subcommittee on Wellness, Resilience and Work-Life Balance
2020 - present	UC Health Highlands Ranch Hospital Spine Steering Committee
2020 - present	Colorado Orthopedic Society - Executive Board Member
2019 - present	CU Medicine Department of Orthopedic Surgery - Resident Selection Committee
2018 - present	CU Medicine Department of Orthopedic Surgery - Spine Fellowship Selection Committee
2018 - present	UC Health Highlands Ranch Hospital Orthopedic Service Line Committee
2018 - 2019	UC Health Multidisciplinary Opioid/Pain Management Committee
2018 - 2019	UC Health Highlands Ranch Hospital Orthopedic Planning Committee

LICENSURES AND CERTIFICATIONS

July 2022	American Board of Orthopaedic Surgery Part II - Passed Board Certified July 2022
September 2017	American Board of Orthopaedic Surgery Part I - Passed
2017 - present	Colorado Medical License
2012 - 2017	Michigan Educational Medical License
2010, 2012, 2014 2016, 2018	Basic and Advanced Cardiac Life Support
2013	Fundamentals of Critical Care Support
2013	USMLE Step III
2011	USMLE Step II Clinical Skills (CS)
2011	USMLE Step II Clinical Knowledge (CK)
2010	USMLE Step I

PROFESSIONAL DEVELOPMENT

October 2020	American Orthopedic Association (AOA) Emerging Leaders Forum Virtual Due to COVID-19
July 2020	University of Colorado - Communicating as a Leader Denver, CO
March 2020	OrthoFix M6-C Training Course Denver, CO
November 2019	Cervical Spine Research Society Annual Meeting New York, NY
April 2018	Medacta USA ALIF Training Course San Francisco, CA
October 2017	Mobi-C Surgeon's Training Course Denver, CO
March 2017	American Academy of Orthopaedic Surgeons Annual Meeting San Diego, CA

November 2016	Medscape Physician Business Academy Virtual
June 2016	American Orthopedic Association (AOA) Resident Leaders Forum Seattle, WA
April 2016	Mid-America Orthopaedic Association Annual Meeting Bonita Springs, FL
December 2015	Cervical Spine Research Society Annual Meeting San Diego, CA
April 2015	Michigan Orthopaedic Society Annual Trauma Symposium Plymouth, MI
April 2015	The Atlas Forum, Resident & Fellows Spine Course Dallas, TX
March 2015	AANA Fundamentals in Arthroscopy Course Chicago, IL
June 2014	AO Basic Fracture Course La Jolla, CA
June 2013	Michigan Orthopaedic Society Annual Meeting Mackinac Island, MI

PEER-REVIEWED PUBLICATIONS

1. **Wessell NM**, Kleck C, Ou-Yang D, Goldstein CL, Burger E, Patel V. The University of Colorado Virtual Physical Exam for Spine Surgeons: A Preliminary Study. *Orthopedics*. 2022 Jan-Feb; 45(1); e7-e10. PMID: 34846242
2. **Wessell, NM**; Wolverson, E; Ross, P; Akiyama, M; Lindley, E; Patel, VV. Opioid Prescription Monitoring in Pre- and Post-Operative Sacroiliac Joint Fusion Patients. *International Journal of Spine Surgery* Accepted March 2021.
3. Lindsay Welton, BA; Brandi Krieg, BS; Deepa Trivedi, BS; Rahwa Netsanet, BS; **Nolan Wessell, MD**; Andriy Noschenko, PhD; Vikas Patel, MD. Comparison of Adverse Outcomes Following Placement of Superior Interspinous Spacer Device versus Laminectomy and Laminotomy. *International Journal of Spine Surgery*. 2021 Feb; 15(1): 153-160. PMID: 33900969.
4. David Ou-Yang, MD. Mark Moldavsky, MS; **Nolan Wessell, MD**; Mariano Titanti; Erika Matheis; MS; Brandon S. Bucklen, PhD; Vikas Patel, MD. Evaluation of Spinous Process Tethering at the Proximal End of Rigid Constructs: In Vitro Range of Motion and

- Intradiscal Pressure at Instrumented and Adjacent Levels. *International Journal of Spine Surgery*. 2020 Aug; 14(4):571-579. PMID: 32986580.
5. Ayers, Reed; Patel, Vikas; Burger, Evalina; Cain, Christopher; Ou-Yang, David; **Wessell, Nolan**; Kleck, Christopher. Corrosion of Titanium Spinal Explants is Similar to That Observed in Oil Field Line Pipe Steel: Evidence of Microbial-Influenced Corrosion In Vivo. *Orthopedics*. 2020 Jan 1; 43(1): 62-67. PMID: 31958342.
 6. Frisch, Nicholas B; **Wessell, Nolan M**; Jildeh, Toufic; Greenstein, Alexander; Guthrie, S. Trent. Early-stage Chronic Kidney Disease Increases Hip Fracture Mortality. *Journal of Surgical Orthopaedic Advances*. 2018 Fall; 27(3):226-230. PMID: 30489248
 7. Frisch, Nicholas B; **Wessell, Nolan M**; Charters, Michael A; Greenstein, Alexander; Guthrie, S. Trent. Hip Fracture Mortality: Differences Between Intertrochanteric and Femoral Neck Fractures. *Journal of Surgical Orthopaedic Advances*. 2018 Spring; 27(1): 64-71. PMID: 29762119.
 8. **Wessell, Nolan M**; Halanski, Matthew A; Martus, Jeffrey E; Snyder, Brian; Truong, Walter. What's New in Pediatric Spine Growth Modulation and Implant Technology. *Journal of Pediatric Orthopaedics*. 2018 Jan; 38(1): e3-e13. doi: 10.1007/s00256-017-2592-y. PMID: 27403917
 9. Frisch, Nicolas B; **Wessell, Nolan M**; Taliaferro, Kevin; Van Holsbeeck, Marnix; Silverton, Craig D. Ultrasound Findings in Asymptomatic Patients with Modular Metal on Metal Total Hip Arthroplasty. *Skeletal Radiology*. 2017 May; 46(5): 641-649. doi: 10.1007/s00256-017-2592-y. PMID: 28204856
 10. Frisch, Nicholas B; **Wessell, Nolan M**; Charters, Michael A; Cann, Brett; Greenstein, Alexander; Silverton, Craig D. Effect of Body Mass Index on Blood Transfusion in Total Hip and Knee Arthroplasty. *Orthopedics*. 2016 May 12; 1-6. doi: 10.3928/014774477-20160509-04. PMID: 27172370.
 11. Frisch, Nicholas B; **Wessell, Nolan M**; Van Holsbeeck, Marnix; Silverton, Craig D. Ultrasound Findings in Asymptomatic Patients with Dual Taper Modular Total Hip Arthroplasty. *Orthopaedic Proceedings*. 2016 May; 98-B (Supp 7): 141.
 12. **Wessell, Nolan M**; Khalil, Jad G; Zavatsky, Joe; Ghacham, Wael; Bartol, Stephen P. Verification of Nerve Decompression Using Mechanomyography. *The Spine Journal*. 2016 Feb 29. doi: 10.1016/j.spinee.2016.02.025. PMID: 26940191
 13. Charters, Michael A; Frisch, Nicholas B; **Wessell, Nolan M**; Dobson, Christopher; Les DVM, Clifford M; Silverton, Craig D. Rivaroxaban versus Enoxaparin for Venous Thromboembolism Prophylaxis after Hip and Knee Arthroplasty. *Journal of Arthroplasty*. 2015 Jul; 30(7): 1277-1280. doi 10.1016/j.arth.2015.02.009. PMID: 25724111
 14. Frisch NB; **Wessell NM**; Charters MA; Sikora-Klak J; Yu S; Dobson C; Jeffries JJ; Silverton CD; Laker M. Predictors and Complications of Blood Transfusion in Total Hip and Knee

Arthroplasty. *Journal of Arthroplasty*, 2014 Sep; 29 (9 Suppl): 189-192. doi: 10.1016/j.arth.2014.03.048. PMID: 25007727

15. Stockwell, PJ; **Wessell, NM**; Reed, DR; Kronenwetter-Koepel, TR; Reed, KD; Turchi, TR; Meece, JK. A Field Evaluation of Four Larval Mosquito Control Methods in Urban Catch Basins. *Journal of the American Mosquito Control Association*, 2006 Dec; 22(4): 666-71. PMID: 17304935

TEXTBOOK CHAPTERS

1. **Wessell, NM**. "Initial Evaluation of the Adult Spinal Deformity Patient". in: *Comprehensive Guide to Adult Spine Deformity*. Scheduled Publication 2021

ORAL PRESENTATIONS

1. Kleck, Christopher; Ayers, Reed; Patel, Vikas; Ou-Yang, David; **Wessell, Nolan**; Cain, Christopher; Burger, Evalina. *Multiple Clinical Causes for Metallosis in Spine Instrumentation: A Single Center Study*.
October 2020 EuroSpine 2020 (Virtual)
Annual Meeting - Vienna, Austria
2. **Wessell, Nolan M**; Ross, Phillip; Akiyama, Michelle; Lindley, Emily; Patel, Vikas. *Opioid Prescription Monitoring in Pre- and Post-Operative Sacroiliac Joint Fusion Patients*
October 2020 EuroSpine 2020 (Virtual)
Annual Meeting - Vienna, Austria

February 2020 International Society for the Advancement of Spine Surgery
Annual Meeting - San Juan, Puerto Rico

May 2020 American Bone and Joint Surgeons (ABJS)
Annual Meeting - Sea Island, GA
(Canceled due to COVID)
3. Ayers, Reed; Patel, Vikas; Burger, Evalina; Cain, Christopher; Ou-Yang, David; **Wessell, Nolan**; Kleck, Christopher. *A Comparative Analysis of Bone Strain in Pullout vs Toggle Pedicle Screw Testing*
February 2020 International Society for the Advancement of Spine Surgery
Annual Meeting - San Juan, Puerto Rico
4. Calabrese, David; Burger, Evalina; Patel, Vikas; Cain, Christoph; Ou-Yang, David; **Wessell, Nolan**; Noschenko, Andriy; Kleck, Christopher. *Life Is Not Necessarily a Kyphosing Event: Evaluation of Sagittal Parameters of Standing Full Body Radiographs in Asymptomatic Volunteers over Decades of Life*
February 2020 International Society for the Advancement of Spine Surgery
Annual Meeting - San Juan, Puerto Rico

5. **Wessell, Nolan M;** Ghacham, Wael; Khalil, Jad G; Zavatsky, Joseph; Bartol, Stephen P. *Verification of Nerve Decompression Using Mechanomyography.*

April 2016	AO Spine Global Spine Congress & World Forum for Spine Research Annual Meeting - Dubai, UAE
March 2016	Congress of Neurological Surgeons Spine Summit 2016 Annual Meeting - Orlando, FL
November 2015	Society for Minimally Invasive Spine Surgery (SMISS) Global Forum - Las Vegas, NV

6. Frisch, Nicolas B; Taliaferro, Kevin; **Wessell, Nolan M;** Ananthasubramaniam, Karthikeyan; Brooks, Kristin; Silvertan, Craig D. *Prevalence of Metal Ion Induced Subclinical Cardiomyopathy in Modular Metal on Metal Total Hip Arthroplasty.*

February 2016	2 nd Place - Henry Ford Health System Medical Education Research Symposium - Detroit, MI
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7. Frisch, Nicolas B; **Wessell, Nolan M;** Taliaferro, Kevin; Van Holsbeeck, Marnix; Silvertan, Craig D. *Ultrasound Findings in Asymptomatic Patients with Dual Taper Modular Total Hip Arthroplasty.*

April 2016	Mid-America Orthopaedic Association Annual Meeting - Bonita Springs, FL
February 2016	Henry Ford Health System Medical Education Research Symposium - Detroit, MI
October 2015	International Society for Technology in Arthroplasty (ISTA) Annual Congress - Vienna, Austria

8. **Nolan Wessell, MD;** Nicholas Frisch, MD|MBA; Michael Charters, MD; Ed Peterson, PhD; Alex Greenstein, BS; Brett Cann, BS; Craig Silvertan, DO. *Impact of Body Mass Index on Blood Transfusion in Total Hip and Knee Arthroplasty.*

October 2015	International Society for Technology in Arthroplasty (ISTA) Annual Congress - Vienna, Austria
May 2015	1 st Place - Detroit Academy of Orthopaedic Surgeons Resident Research Symposium - Birmingham, MI
February 2015	3 rd Place - Henry Ford Health System Medical Education Research Symposium - Detroit, MI

9. Wael Ghacham, MD; **Nolan Wessell, MD;** Stephen Bartol, MD|MBA. *Assessment of Nerve Root Decompression by Mechanomyography.*

May 2015	Detroit Academy of Orthopaedic Surgeons (DAOS) Resident Research Symposium - Birmingham, MI
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Annual Meeting - Melbourne, Australia

4. **Wessell, Nolan M;** Welton, Lindsay; Krieg, Brandi; Trivedi, Deepa; Netsanet, Rahwa; Noschenko, Andriy; Patel, Vikas. *Comparison of Adverse Outcomes Following Placement of Interspinous Spacer (ISS) versus Laminectomy and Laminotomy.*
February 2020 International Society for the Advancement of Spine Surgery
Annual Meeting - San Juan, Puerto Rico

5. Calabrese, David; Noshchenko, Andriy; Burger, Evalina L; Patel, Vikas V; Ou-Yang, David C; Cain, Christopher MJ; **Wessell, Nolan M;** Kleck, Christopher J. *Life is Not Necessarily a Kyphosing Event: Evaluation of Sagittal Parameters of Standing Full Body Radiographs in Asymptomatic Volunteers Over Decades of Life*
February 2020 Orthopedic Research Society (ORS)
Annual Meeting - Phoenix, AZ

May 2019 Inaugural Orthopedic Research Symposium
University of Colorado - Denver, CO

6. **Wessell, Nolan M;** Ghacham, Wael; Bartol, Stephen. *Pre-Insertion Pedicle Screw Testing Using Mechanomyography.*
October 2016 North American Spine Society (NASS)
Annual Meeting - Boston, MA

7. Frisch, Nicolas B; Taliaferro, Kevin; **Wessell, Nolan M;** Ananthasubramaniam, Karthikeyan; Brooks, Kristin; Silverton, Craig D. *Prevalence of Metal Ion Induced Subclinical Cardiomyopathy in Modular Metal on Metal Total Hip Arthroplasty.*
March 2018 American Academy of Orthopaedic Surgeons (AAOS)
Annual Meeting - New Orleans, LA

October 2016 International Society for Technology in Arthroplasty (ISTA)
Annual Meeting - Boston, MA

April 2016 Mid-America Orthopaedic Association (MAOA)
Annual Meeting - Bonita Springs, FL

8. Frisch, Nicolas B; Taliaferro, Kevin; **Wessell, Nolan M;** Silverton, Craig D. *Cobalt Chromium Ratios in Dual Taper Modular Total Hip Arthroplasty.*
October 2016 International Society for Technology in Arthroplasty (ISTA)
Annual Meeting - Boston, MA

April 2016 Mid-America Orthopaedic Association (MAOA)
Annual Meeting - Bonita Springs, FL

9. **Wessell, Nolan M;** Ghacham, Wael; Khalil, Jad G; Zavatsky, Joseph; Bartol, Stephen P. *Verification of Nerve Decompression Using Mechanomyography.*
April 2016 International Society for the Advancement of Spine Surgery
Annual Meeting - Las Vegas, NV

VIDEO PRODUCTIONS

1. **Wessell, Nolan M.** *Orthopedic Telemedicine and the Virtual Physical Exam.* University of Colorado School of Medicine, VuMedi Website. April 2020.
2. **Wessell, NM.** *Cervical Radiculopathy & Treatment.* University of Colorado School of Medicine, Department of Orthopedic Surgery Website.
3. **Wessell, Nolan M;** Jabara, Justin; Taliaferro, Kevin; Buraimoh, Ayodele; Jung, Edward; Bartol, Stephen. *Percutaneous Placement of Pedicle Screws with Mechanomyography Testing.* AAOS Video Library. March 2017.
4. Taliaferro, Kevin; Jabara, Justin; **Wessell, Nolan M;** Jung, Edward; Bartol, Stephen. *Direct Lateral Interbody Fusion Using MMG (Mechanomyography) Nerve Mapping.* AAOS Video Library. March 2017.

ONGOING RESEARCH

1. **Wessell, Nolan M;** Jabara, Justin; Ghacham, Wael; Bartol, Stephen. *Pre-Insertion Pedicle Screw Testing Using Mechanomyography.* In progress.
2. Frisch, Nicolas B; Taliaferro, Kevin; **Wessell, Nolan M;** Ananthasubramaniam, Karthikeyan; Brooks, Kristin; Silverton, Craig D. *Prevalence of Metal Ion Induced Subclinical Cardiomyopathy in Modular Metal on Metal Total Hip Arthroplasty.* In progress.

MENTORSHIP

Clinical

Orthopedic Spine Surgical Fellows

James Farrell, MD	2021 - 2022
Ali Zarezadeh, MD	2021 - 2022
Jose H. Jimenez, MD, MS	2020 - 2021
Eren Kuris, MD	2019 - 2020
Shahbaaz Sabri, MD	2019 - 2020
William McClellan, MD	2018 - 2019

Research

Medical Students

Emily Wolverton	2019 - 2021
Lindsay Welton	2019 - 2020
Brandi Kreig	2019 - 2020
Phillip Ross	2017 - 2018

EMPLOYMENT EXPERIENCE

2009 - 2011 **Research Assistant**
Bone & Joint Center

Henry Ford Hospital Department of Orthopaedic Surgery, Detroit, MI
Advisor: Clifford M. Les, DVM, PhD, MRCVS

2007 - 2008

Research Technician

Howard Hughes Medical Institute
University of Wisconsin - Madison, Madison, WI
Advisor: Paul G. Ahlquist, PhD.

2005

Research Intern

Marshfield Clinic Research Foundation
Marshfield Clinic - Clinical Research Center, Marshfield, WI
Advisor: Jennifer K. Meece, PhD.

2004

Undergraduate Research Assistant

University of Wisconsin Department of Animal Health & Biomedical
Sciences, Madison, WI
Advisor: Judd Aiken, PhD.

VOLUNTEER AND ADMINISTRATIVE SERVICE

2014 - 2015

Henry Ford Hospital House Staff Council
Orthopaedic Surgery Representative

2008 - 2012

Orthopaedic Surgery Interest Group, Wayne State University
Co-Coordinator, 2009-2010

2008 - 2012

Amigos Medicos, Wayne State University
Beginner's Medical Spanish Language Instructor, 2009-2010
Research Director, 2009-2010

2008 - 2013

Wayne State Medical School Intramural Hockey Team

2008 - 2012

Surgery Interest Group, Wayne State University

2008 - 2012

American Medical Association

2008 - 2012

Michigan State Medical Society

2008 - 2012

Wayne County Medical Society

2008 - 2012

Wayne State University School of Medicine Interview Tour Guide

2008

Woodlands Church Medical Missions - Sumpango, Guatemala
Physician Extender

2004 - 2006

Meriter Hospital – Madison, WI
Physical Therapy Department Volunteer

PERSONAL INTERESTS

Cycling, Racquetball, Hockey, Golf, Wakeboarding, Barefoot Skiing, Ice Fishing & Hunting