

Curriculum Vitae
David Cheng-Yu Ou-Yang, MD

Date 6/16/2025

Biographical Sketch

Associate Professor, Department of Orthopaedic Surgery
12631 E. 17th Ave, Academic Office 1, Room 4602, Mail Stop B202, Denver CO 80045
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Education

Undergraduate	September 1999-May 2003	B.Ch.E Chemical Engineering, University of Minnesota, Minneapolis
Graduate	June 2003-May 2005	Certificate in Core Concepts, University of Minnesota School of Public Health
Medical School	August 2005-May 2010	M.D., University of Minnesota, Minneapolis
Residency	June 2010-June 2015	Orthopaedic Surgery, University of Minnesota
Fellowship	August 2015-July 2016	Spine Surgery Fellowship, Department of Orthopedic Surgery, University of Colorado

Academic appointments

Associate Professor, University of Colorado Department of Orthopedic Surgery
July 2024-present

Assistant Professor, University of Colorado Department of Orthopedic Surgery
September 2016-July 2024

Associate Program Director, University of Colorado Orthopedic Spine Surgery Fellowship
January 2019-Present

Honors and Awards

Gustilo Research Resident Award - University of Minnesota Department of Orthopaedic Surgery
June 2015

Colonel Allan L. Bucknell Award for Excellence in Resident Education
June 2024

Professional Society Memberships

American Academy of Orthopaedic Surgeons
2010-Present

North American Spine Society
2016-Present

Personalized Spine Study Group
2019-Present

Western Orthopaedic Association
2023-Present

Major Committee and Service Responsibilities

Departmental

- Quality, Patient Safety and Outcomes Task Force, University of Colorado Department of Orthopedics
April 2019-Present
- Director of Quality Improvement, University of Colorado Department of Orthopedic Surgery, Spine Division
April 2019-Present
 - Project lead for all spine division process improvement and quality improvement initiatives/protocols including but not limited to:
 - Preoperative modifiable risk assessment protocol
 - Preoperative iron deficiency anemia optimization pathway
 - Preoperative ambulatory social work pathway
 - Preoperative nutrition optimization pathway
 - Preoperative physician directed weight loss pathway
 - Preoperative BMD optimization pathway
 - Preoperative diabetic management pathway
 - Preoperative mental health disorder management pathway
 - Preoperative palliative care/goals of care pathway
 - UCH Anesthesia and Spine Surgery Hemodialysis Pathway
 - Intraoperative blood product monitoring protocol
 - Post op bracing protocol
 - Post op VTE prophylaxis pathway
 - Post op early mobilization protocol
 - Spine infection management pathways

School of Medicine

- Residency Clinical Competency Committee, University of Colorado Department of Orthopedic Surgery
September 2019-Present
- Residency Program Evaluation Committee, University of Colorado Department of Orthopedic Surgery
September 2019-Present
- Spine Fellowship Clinical Competency Committee, University of Colorado Department of Orthopedic Surgery
September 2017-Present
- Spine Fellowship Program Evaluation Committee, University of Colorado Department of Orthopedic Surgery
September 2017-Present
- Annual Residency Interview, University of Colorado Department of Orthopedic Surgery
2019-Present

Hospital

- Quality Outcomes Committee
November 2019 – April 2022
 - Early postoperative mobilization initiative
 - Postoperative Bracing protocol
- Clinical Effectiveness and Patient Safety Committee
April 2022-Present
 - Mortality Steer
- Spine Infection Multidisciplinary Board of Advisors (SIMBA) – Cofounder
April 2021-Present
 - Osteodiscitis pathway
 - Spine surgical site infection pathway

Licensure and Board Certification

Medical License, Colorado, Active: 2015 – Present
American Board of Orthopaedic Surgery – Certified 7/24/2018 – 12/31/2028

Clinical Service

Spine Center, University of Colorado Hospital
Orthopedic Call Coverage, University of Colorado Hospital Spine Team
University of Colorado Hospital in-patient Spine Service

Certifications

CU Institute for Healthcare Quality, Safety & Efficiency Certificate Training Program 2020-2021 cohort

- Completed 12 month professional development program combining classroom sessions, coaching, and mentored enhancement of leadership teams who are charged with improving performance of care delivery systems.

American Orthopedic Association / USC Apex Leadership Certificate Program 2022 cohort

- Completed 10 month leadership training program developed for orthopedic surgeons by the AOA in partnership with USC Marshall School of Business Executive Education.

Teaching

University of Colorado School of Medicine – Medical Student Lectures

- Introduction to Orthopedics ORTH 6620 – “Introduction to Spine Surgery”
February 24, 2021
- Musculoskeletal & Integumentary System course - MSI Case Review
March 17, 2022 & March 24, 2022
- Musculoskeletal & Integumentary System course – “Lumbosacral Plexus”
March 28, 2022

University of Colorado Department of Orthopedics – Director of Resident and Fellow spine curriculum

- Develop, coordinate, lead spine component of residency core curriculum (12-14 lectures annually)
July 2019-Present
- Coordinate, lead, and procure sponsorship for biannual resident spine cadaver labs
July 2019-Present
- Developed curriculum and coordinate/lead weekly spine rotation resident/fellow didactics
July 2019-Present
- Developed curriculum and coordinate/lead monthly spine journal club, July 2019-Present

University of Colorado Department of Orthopedics – Clinical attending duties

- Supervision and bedside teaching of residents in spine clinic and OR – 30+ hours/week
2016-Present
- Supervision and bedside teaching of spine surgery fellows – 30+ hours/week
2016-Present

University of Colorado Department of Orthopedics – Spine Division Conferences

- Coordinate and lead monthly joint Orthopedic/Neurosurgical Spine Morbidity and Mortality conference
July 2020-Present
- Coordinate and lead weekly complex spine conference for preop evaluation and surgical planning of deformity, tumor, and infection cases
July 2020-Present

University of Colorado Department of Orthopedics – Innovative Syllabus

- Created patient education handouts for most common spine pathologies and surgeries (40 handouts), uploaded to CU orthopedics website
- Recorded patient education videos for common spine pathologies and surgeries, uploaded to CU orthopedics website.
- Created Video Resource for radiographic parameter measurements used by research students, residents, and fellows.

External courses

National:

- Miller Review Course Part II – Faculty 2019 – Present
- AAOS Instructional Course Lecture – “Navigation Options for Spinal Surgeons: State of the Art 2022” – Faculty
March 22, 2022

- AAOS Instructional Course Lecture – “Navigation Options for Spinal Surgeons: State of the Art 2023” – Faculty
March 10, 2023
- AAOS Instructional Course Lecture – “Treatment of Spine Infections” – Faculty
Mar 9, 2023
- Medirex Spinal Deformity Solutions Course – Faculty Feb 21-22, 2019
- Medirex Life After Fellowship Course – Faculty - May 9-10, 2019
- Seaspine Fellows & Residents Course – Faculty - February 29, 2020
- Seaspine Residents & Fellows Course – Course Chair - November 6, 2021
- Seaspine Advanced Fellows Course – Course Chair - May 7, 2022
- Seaspine Advanced Fellows Course – Course Chair - May 19-20, 2023
- Medtronic Data and AI in Spine Symposium – Faculty - February 11-12, 2022
- Medtronic Future Spine Leaders Course – Faculty - June 10-11, 2022
- CU Orthopedic Department Grand Rounds Series - “Sagittal Plane Malalignment: Concepts, Radiographic Evaluation, and a Contemporary Approach to Surgical Planning”
Sept 7, 2022
- University of Kentucky HealthCare Grand Rounds – “Spinal Deformity: Practical Use of Radiographic Parameters” Aug 21, 2024

International:

- International Society of Orthopedic Surgery and Traumatology (SICOT) – “Machine learning and AI in Spine” - Invited speaker
September 15-18, 2021
- International Extreme Sports Medicine Congress - “Spine Injuries in the Extreme Sports Athlete: What if I can’t feel my feet?” - Invited speaker 2018, 2022
- Spine: Base to Summit – “How Data and AI Influence My Practice” – Invited Speaker
January 14, 2023
- West Coast Fellows Conference – “Using Data to Improve Reliability in Spine Surgery” – Invited Speaker
April 7, 2023

Fellows

- Andrew Cleveland, 2016 – 2017
- Nicholas Schroeder, 2016 – 2017
- Nolan Wessell, 2017 – 2018
- Aaron Stevenson, 2018 – 2019
- William McClellan, 2018 – 2019

- Eren Kuris, 2019 – 2020
- Abdul Shahbaaz, 2019 – 2020
- Jose Jimenez, 2020 – 2021
- Ali Zarezadeh, 2021 – 2022
- J.P. Farrell, 2021 – 2022
- John Whitaker, 2022 – 2023
- Felicity Fisk, 2022 – 2023
- Keemia Soraya Heidari, 2023-2024
- Brandon Bennett, 2023-2024
- Collin Walsh, 2024-2025
- Even Fene, 2024-2025

Formal resident mentor:

- Alan McGee – Practicing spine surgeon - Indiana. Spine Fellowship - Indiana Spine Group - passed ABOS part 1
- Parker Prusik – Spine Fellowship - Ohio State University - passed ABOS part 1
- Renzo Laynes – G4 pursuing spine fellowship

Medical Student rotations July 2019-Present

- ORTH 6620 Introduction to Spine Surgery
- IDPT 7050 Operative/Perioperative Care
- IDPT 8000 Foundations of Doctoring Phase IV Medical Students
- ORTH 8000 Orthopedic Surgery AI
- ORTH 8002 ORTH Adv Career Elective
- ORTH 8600 Research in Orthopedics

Medical Student Research Mentor

- Renzo Laynes (2019)
- Bradley Reeves (2020)
- Eric Marty (2021-2022)
- Brandy Krieg (2021-2022)
- Clayton Hoffman (2021-2023)
- Alex Ho (2021-2023)

Resident Research Mentor

- Francisco Rodriguez-Fontan
- Renzo Laynes
- Eric Marty

Web based journal articles

1. Ou-Yang D.C. Osteoarthritis of the Glenohumeral Joint: A Patient Education Tool. University of Minnesota digital conservancy website. 2009 May

Book Chapters

1. Ou-Yang DC, Y. P. (2015). Tendinopathies around the foot and ankle. In K. J. Doral MN, Sports Injuries: Prevention, Diagnosis, Treatment, and Rehabilitation (2 ed., pp. 1805-1818). Springer-Verlag Berlin Heidelberg.

2. York PJ, Ou-Yang D, Patel VV (2020) "Disorders of the Sacroiliac Joint" in Spine Secrets (3rd Ed.)
3. Ou-Yang, DC, Y.P. (2024) Radiographic Parameters in Adult Spinal Deformity. In Comprehensive Guide to Adult Spinal Deformity (pp. 96-116.) Cambridge Scholars Publishing
4. 4 additional book chapters completed, accepted for publication

Peer Reviewed Journal Articles

1. Shin JS, **Ou-Yang DC**, Gioe TJ. Parameniscal cyst with associated extensive proximal tibial bone erosion: a case report and literature review. JBJs Case Connect, 2014 Jun 11;4(2):e46.
2. **Ou-Yang DC**, York PJ, Kleck CJ, Patel VV. Diagnosis and Management of Sacroiliac Joint Dysfunction. J Bone Joint Surg Am. 2017 Dec 6;99(23):2027-2036.
3. Schroeder N, Noschenko A, Burger E, Patel V, Cain C, **Ou-Yang DC**, Kleck C. Pelvic Incidence Changes Between Flexion and Extension. Spine Deform. 2018 Nov – Dec; 6(6): 753-761.
4. Ayers R, Patel V, Burger E, Cain C, **Ou-Yang DC**, Wessell N, Kleck C. 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.
5. Rodriguez-Fontan F, Reeves BJ, Noshchenko A, **Ou-Yang DC**, Kleck CJ, Cain C, Burger-Van der Walt E, Patel VV. Strap Stabilization for Proximal Junctional Kyphosis Prevention in Instrumented Posterior Spinal Fusion. Eur Spine J. 2020 June 29 (6):1287-1296.
6. **Ou-Yang DC**, Moldavsky M, Wessell N, Brooks DM, Titanti M, Matheis, Bucklen B, Patel V. 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. Int J Spine Surg. 2020 Aug;14(4):571-579.
7. Rodriguez-Fontan F, Reeves BJ, Noshchenko A, **Ou-Yang DC**, Kleck CJ, Cain C, Burger-Van der Walt E, Patel VV. Answer to the Letter to the Editor of O. Ersen concerning "Strap stabilization for proximal junctional kyphosis prevention in instrumented posterior spinal fusion" by Rodriguez-Fontan F, et al. Eur Spine J. 2020 Sep;29(9): 2407.
8. Branche K, Netsanet R, Noshchenko A, Burger E, Patel V, **Ou-Yang DC**, Kleck CJ. Radius of Curvature in Patient-Specific Short rod Constructs Versus Standard Pre-Bent Rods. Int J Spine Surg. 2020 Dec; 14(6): 944-948.
9. Ayers R, Noschenko A, **Ou-Yang DC**, Burger E, Patel V, Kleck CJ. Laser Marking of Spine Rods Is Strongly Associated With Risk of Clinical Rod Failure. J Am Acad Orthop Surg. 2022 Jan 15;30(2):e252-e263.
10. Wessell NM, Kleck C, **Ou-Yang DC**, Goldstein CL, Burger E, Patel V. The University of Colorado Virtual Physical Examination for Spine Surgeons: A Preliminary Study. Orthopedics. 2022 Jan-Feb;45(1):e7-e10.
11. **Ou-Yang DC**, Burger EL, Kleck CJ. Pre-Operative Planning in Complex Deformities and Use of Patient-Specific UNiD™ Instrumentation. Global Spine J. 2022 Apr;12(2_suppl):40S-44S.

12. Martin CT, Holton KJ, Elder BD, Fogelson JL, Mikula AL, Kleck CJ, Calabrese D, Burger EL, **Ou-Yang DC**, Patel VV, Kim HJ, Lovecchio F, Hu SS, Wood KB, Harper R, Yoon ST, Ananthakrishnan D, Michael KW, Schell AJ, Lieberman IH, Kisinde S, DeWald CJ, Nolte MT, Colman MW, Phillips FM, Gelb DE, Bruckner J, Ross LB, Johnson JP, Kim TT, Anand N, Cheng JS, Plummer Z, Park P, Oppenlander ME, Sembrano JN, Jones KE, Polly DW. Catastrophic acute failure of pelvic fixation in adult spinal deformity requiring revision surgery: a multicenter review of incidence, failure mechanisms, and risk factors. *J Neurosurg Spine*. 2022 Sep 2:1-9.
13. **Ou-Yang DC**, Kleck CJ, Ackert-Bicknell CL. Genetics of Intervertebral Disc Degeneration. *Curr Osteoporos Rep*. 2023 Feb;21(1):56-64.
14. Delcont MR, **Ou-Yang DC**, Burger EL, Patel VV, Wessell NM, Kleck CJ. Alternative Uses of O-Arm and Stealth Navigation Technology Over 10 Years: The University of Colorado Experience. *Orthopedics*. 2023 Mar-Apr;46(2):e89-e97.
15. Polly D, Mundis G, Eastlack R, Leveque JC, Elder BD, Martin C, Kent R, Snowden R, Kim HJ, Sembrano J, Herzog J, Lieberman I, Matheus V, Buchholz A, Franke J, Lee R, Shaffrey C; **SILVIA Investigator Group**. Randomized Trial of Augmented Pelvic Fixation in Patients Undergoing Thoracolumbar Fusion for Adult Spine Deformity: Initial Results from a Multicenter Randomized Trial. *World Neurosurg*. 2024 Feb 2:S1878-8750(24)00177-3. doi: 10.1016/j.wneu.2024.01.156. Epub ahead of print. PMID: 38310950.
16. Aretakis AC, Farrell JP, **Ou-Yang DC**, Kleck CJ. Intraoperative fat embolism syndrome associated with implantation of titanium sacroiliac joint fusion implants: a report of two cases. *J Spine Surg*. 2024 Mar 20;10(1):144-151. doi: 10.21037/jss-23-87. Epub 2024 Jan 18. PMID: 38567009; PMCID: PMC10982924.
17. Awad ME, Griffin NA, Epperson AB, Alfonso NA, **Ou-Yang DC**. 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). doi: 10.2106/JBJS.RVW.24.00068. PMID: 39226392.
18. Drexelius K, Kuris EO, Sater A, Burger EL, **Ou-Yang DC**, Patel VV, Kleck CJ. The impact of patient-specific spine rods on spinopelvic parameters after short segment degenerative lumbar fusions. *J Spine Surg*. 2025 Mar 24;11(1):65-73. doi: 10.21037/jss-24-75. Epub 2025 Feb 27. PMID: 40242816; PMCID: PMC11998052.
19. Sabri SA, Laynes RA, Hoffman CJ, Chavarria JC, Prusick PJ, Weesner RE, Stringer N, Farrell JP, Gimarc D, Lowry MK, Patel V, **Ou-Yang D**, Burger-Van Der Walt E, Kleck CJ. Implications of lumbosacral transitional anatomy on vertebral numbering: evaluation of 3147 adult full-length spine radiographs. *Neurosurg Focus*. 2025 Jun 1;58(6):E13. doi: 10.3171/2025.3.FOCUS2555. PMID: 40450886.

Multimedia Publications

1. American Academy of Orthopedic Surgeons Physical Exam Multimedia Application (knee, cervical spine, lumbar spine, manual muscle testing). 2013-2014.

Oral Presentations

1. Patel VV, **Ou-Yang DC**, Moldavsky M, Mariano T, Matheis EA, Bucklen BS. A Biomechanical Evaluation of a Potential PJK Treatment Option Utilizing a Reduction Band Tether of the Spinous Process at the Proximal Adjacent Level. *EuroSpine 2016. Berlin, Germany, October 5-7, 2016*.

2. **Ou-Yang DC**, Bucklen B, Moldavsky M, Patel V. A Biomechanical Evaluation of a Potential PJK Treatment Option Utilizing a Reduction Band Tether of the Spinous Process at the Proximal Adjacent Level. *North American Spine Society 31st Annual Meeting. Boston, MA, October 26-29, 2016.*
3. **Ou-Yang DC**, Yson S, Sembrano J. Transforaminal lumbar Interbody Fusion: Comparison Between Open Unilateral, Open Bilateral and MIS Techniques Performed at a Veterans Affairs Medical Center. *Annual Meeting of the International Society for the Advancement of Spine Surgery (ISASS). Boca Raton, Florida, April 12-14, 2017.*
4. Jesse MK, Kleck CJ, **Ou-Yang DC**, Glueck D, Lind K, Petersen B, Williams A, Patel VV 3D Morphologic Assessment of Normal and Abnormal SI Joints and the Implications in the Development of Pain Syndromes. *Annual Meeting of the International Society for the Advancement of Spine Surgery (ISASS). Boca Raton, Florida, April 12-14, 2017.*
5. Fontan FR, Reeves B, Noshchenko A, **Ou-Yang DC**, Kleck C, Cain C, Burger EL, Patel VV: "Strap Stabilization Use in Posterior Instrumented Spinal Fusion for Proximal Junctional Kyphosis Prevention: A Retrospective Cohort Study," Poster Presentation, *ORS 2018 Annual Meeting, New Orleans, Louisiana, March 10-13, 2018.*
6. Kleck CJ, Branche K, Netsanet R, Noschenko A, Burger E, Patel V, **Ou-Yang DC**. Radius of curvature in patient-specific short rod constructs versus standard pre-bent rods. *2019 Spine Society of Australia 30th Annual Scientific Meeting (SSA). Brisbane, Australia, April 5-7, 2019*
7. Pott M, Ayers R, Akiyama M, Baldini T, Wuthrich Z, McClellan W, Cain C, Patel VV, Burger E, **Ou-Yang DC**, Wessell N. "A Comparative Analysis of Bone Strain in Pullout vs Toggle Pedicle Screw Testing", *16th Annual Meeting of The International Society for the Advancement of Spine Surgery (ISASS). San Juan, Puerto Rico, February 26-28, 2020.*
8. Calabrese D, Noshchenko A, Burger E, Patel VV, **Ou-Yang DC**, Cain C, Wessell N. "Life is Not Necessarily a Kyphosing Event: Evaluation of Sagittal Parameters of Standing Full Body Radiographs in Asymptomatic Volunteers over Decades of Life", *16th Annual Meeting of The International Society for the Advancement of Spine Surgery (ISASS). San Juan, Puerto Rico, February 26-28, 2020.*
9. Sabri, S, Patel VV, **Ou-Yang, DC**, Kleck, CJ. DJK and Revision Rates in Multilevel Posterior Cervical Fusions Terminating at the Cervicothoracic Junction. *41st SICOT Orthopaedic World Congress. Virtual, Sep 16, 2021.*
10. Kleck CJ, Delcont M, Burger EL, **Ou-Yang, DC**. The use of predictive modeling to determine post-operative thoracic kyphosis and pelvic tilt in adult spinal deformity surgery. *56th Annual Meeting of the Scoliosis Research Society (SRS). St. Louis, Missouri, September 26, 2021.*
11. Sabri S, Patel VV, **Ou-Yang DC**, Kleck CJ. DJK and Revision Rates in Multilevel Posterior Cervical Fusions Terminating at the Cervicothoracic Junction. *NASS 36th Annual Meeting. Boston, Massachusetts, September 29 – Oct 2, 2021.*
12. **Ou-Yang DC**, Delcont M, Burger EL, Kleck CJ. The use of predictive modeling to determine post-operative thoracic kyphosis and pelvic tilt in adult spinal deformity surgery. *NASS 36th Annual Meeting. Boston, Massachusetts, September 29 – Oct 2, 2021.*
13. Laynes R, **Ou-Yang DC**, Kleck CJ, Sabri S. A Novel Vertebral Numbering System for Identifying Congenital Anomalies of the Spine Using Full-Spine Radiographs with the EOS Imaging System. *NASS 36th Annual Meeting. Boston, Massachusetts, September 29 – Oct 2, 2021.*

14. Patel VV, Laynes R, Weesner R, Sabri S, **Ou-Yang DC**, Kleck CJ, Burger EL. A Novel Vertebral Numbering System for Identifying Congenital Anomalies of the Spine Using Full-Spine Radiographs with the EOS Imaging System. *Annual Meeting of The Association of Bone and Joint Surgeons (ABJS)*, Sep. 29 – Oct. 2, 2021.
15. Ayers R, **Ou-Yang DC**, Burger EL, Ackert-Bicknell CL, Kleck CJ. Metallosis observed in spine instrumentation revision is strongly associated to titanium presence in tissues as well as patient diagnosed infection status. *Annual Meeting of American Academy of Orthopedic Surgeons 2022. Chicago, Illinois, March 21-26, 2022.*
16. Hoffman C, Sherwani Z, Patel VV, Sabri S, **Ou-Yang DC**, Kleck CJ. Range of Horizontal Gaze Following Multilevel Posterior Cervical Fusion Across the Cervicothoracic Junction. *Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship 2022. Aurora, CO, Oct 5, 2022.*
17. Hoffman C, Sherwani Z, Patel VV, Sabri S, **Ou-Yang DC**, Kleck CJ. Range of Horizontal Gaze Following Multilevel Posterior Cervical Fusion Across the Cervicothoracic Junction. *ISASS 2023. San Francisco, CA, June 3, 2023.*
18. Passias P, Tretiakov P, Kleck CJ, **Ou-Yang DC**, Burger E, Aminian A, Fernandez M, King A, Devito D, Nuccio A, Personalized Spine Study Group. Does Custom Instrumentation Reduce the Risk of Implant Failure in Adult Cervical, Spinal Deformity, or Degenerative Lumbar Pathology Patients?: A Multi-Center Predictive Analysis. *SRS 2023. Seattle, WA, September 6-9, 2023.*
19. Hoffman C, Nocek M, Sherwani Z, Patel VV, Sabri S, **Ou-Yang DC**, Kleck CJ. Range of Horizontal Gaze Following Multilevel Posterior Cervical Fusion Across the Cervicothoracic Junction. *IMAST 2024. San Diego, CA, Apr. 10-14, 2024.*
20. Bennett B, Ujkashi, A, Delcont M, Kellett T, Marty E, Wipf C, **Ou-Yang DC**, Kleck CJ. Impact of Navigated Radiofrequency Ablation (RFA) on Spinal Tumors. *ISASS 2024. Miami, FL, Apr. 26-28, 2024.*
21. Huang J, Laynes R, Bennett B, Kleck CJ, **Ou-Yang DC**. Spine alignment parameters and thoracolumbar burst fracture management. 2024 James S. Miles Lectureship. Aurora, CO, June 27, 2024.
22. Hoffman C, Nocek M, Sherwani Z, Patel VV, Sabri S, **Ou-Yang DC**, Kleck CJ. Range of Horizontal Gaze Following Multilevel Posterior Cervical Fusion Across the Cervicothoracic Junction. *NASS 2024. Chicago, IL, Sept. 25-28, 2024.*
23. Pogue M, Kleck CJ, **Ou-Yang DC**, Kent RS, Leveque JC, Hah R, SPSG Group. Pelvic Incidence and Sagittal Balance Changes between Flexion and Extension. *American Academy of Orthopaedic Surgeons 2025 Annual Meeting. San Diego, CA, March 10-14, 2025.*
24. Kleck CJ, Burger EL, Patel VV, **Ou-Yang DC**, Kuris E, Sater A, Keeter C, Drexelius K, Lindsay H. The Impact of Patient-Specific Short Rods on Spinopelvic Alignment and Clinical Outcomes After Degenerative Lumbar Fusion. *SICOT 2025 45th Annual Meeting. Madrid, Spain, September 3–5, 2025.*

25. Kleck CJ, Patel VV, Hoffman C, Sabri SA, **Ou-Yang DC**, Nocek M, Sherwani Z, Noshchenko A. Range of Horizontal Gaze Following Multilevel Posterior Cervical Fusion Across the Cervicothoracic Junction. *EUROSPINE Annual Meeting 2025*. Copenhagen, Denmark, October 22–24, 2025.

Poster Presentations

1. Patel V, Rodriguez-Fontan F, Reeves B, **Ou-Yang DC**, Calabrese D, Ayers R, Noshchenko A, Kleck C, Cain C, Burger-Van Der Walt. Strap stabilization for prevention of proximal junctional kyphosis in posterior spinal fusion. *SICOT, Cape Town, South Africa, November 29 – December 2, 2017*.
2. Chavarria JC, Belton MD, **Ou-Yang DC**, Kleck, CJ. Acute paraspinal Compartment Syndrome Following Non-Spinal Orthopedic Surgery. *University of Colorado Resident Research Day, Denver, CO, June 21 2018*.
3. Delcont M, **Ou-Yang, DC**, Kleck, CJ. An Algorithmic Approach to the Treatment of Spine Infections: Retrospective Review of Patients Treated at a Single Institution with Case Examples. *41st SICOT Orthopaedic World Congress. Virtual, Sep 16, 2021*.
4. Kleck CJ, Laynes, R, Weesner R, Sabri S, Patel VV, **Ou-Yang, DC**. A novel vertebral numbering system for identifying congenital anomalies of the spine using full-sine radiographs with the EOS imaging system. *EUROSPINE 2021. Vienna (Virtual), October 6-8, 2021*.
5. Ayers R, Akiyama M, Pott M, Wessell N, **Ou-Yang DC**, Kleck CJ. A Comparative Analysis of Bone Strain in Pullout vs. Toggle Pedicle Screw Testing. *Rocky Mountain American Society of Biomechanics Annual Meeting 2021. Virtual. Feb. 13-16, 2021*.
6. Ayers R., Akiyama M., Pott M., Wessell NM, **Ou-Yang, DC**, Kleck CJ. A comparative Analysis of Bone Strain in Pullout versus Toggle Pedicle Screw Testing. *45th Annual Meeting American Society of Biomechanics 2021 -Rocky Mountain Section, Virtual, Aug. 10-13, 2021*.
7. Wessell N, Kleck CJ, **Ou-Yang DC**, Goldstein C, Patel VV, Burger EL. The University of Colorado Virtual Physical Exam for Spine Surgeons – A Preliminary Study. *Annual Meeting of the North American Spine Society (NASS), Boston, MA, Sep. 29- Oct. 2, 2021*.
8. Sabri S, Laynes R, Weesner R, Hoffman C, Stringer N, Chavarria J, Prusick P, Gimarc D, Jesse M, Patel V, **Ou-Yang DC**, Kleck CJ. Two-dimensional Imaging of the Spine Using the EOS System is a Valid Tool for Detection of Congenital Anomalies of the Spine. Accepted for poster presentation at: *University of Colorado at Anschutz 3rd Annual Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship; 2021 Nov 10; Aurora, CO*.
9. Hoffman C, Sherwani Z, Patel VV, Sabri S, **Ou-Yang DC**, Kleck CJ. Range of Horizontal Gaze Following Multilevel Posterior Cervical Fusion Across the Cervicothoracic Junction. *Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship 2022. Aurora, CO, Oct 5, 2022*.
10. Ho A, Zarezadeh A, Ayers R, Sabri S, **Ou-Yang DC**, **Kleck CJ**. The Effect of Posterior Instrumentation Design on Lumbar Lordosis: An Anatomic Evaluation. *Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship. Aurora, CO, Oct. 25, 2023*.

11. Ujkashi A, Kellett T, Marty E, Wipf C, **Ou-Yang DC**, Lanning R, Kleck CJ. Impact of Navigated Radiofrequency Ablation (RFA) on Spinal Tumors. *Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship*. Aurora, CO, Oct. 25, 2023.
12. Zarezadeh A, Layne J, **Ou-Yang DC**, Kleck CJ. Two-Level Pedicle Subtraction Osteotomy for Adult Spinal Deformity – Evaluation of Safety, Efficacy, and Complications. *Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship*. Aurora, CO, Oct. 25, 2023.
13. Burger E, Passias P, Tretiakov P, Kleck CJ, **Ou-Yang DC**, Aminian A, Fernandez M, King A, Devito D, Nuccio A, Personalized Spine Study Group. Does Custom Instrumentation Reduce the Risk of Implant Failure in Adult Cervical, Spinal Deformity, or Degenerative Lumbar Pathology Patients?: A Multi-Center Predictive Analysis. *Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship*. Aurora, CO, Oct. 25, 2023.
14. Hutchings M, Rodgers M, Albright J, Kleck CJ, **Ou-Yang DC**, Burger E, Wessell N, Patel VV, Ackert-Bicknell C, Ayers R. Structured Light Scanning and Colorimetric Characterization to Differentiate Wear and Corrosion on Spinal Explants. *Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship*. Aurora, CO, Oct. 25, 2023.
15. Hoffman C, Sherwani Z, Patel VV, Sabri S, **Ou-Yang DC**, Kleck CJ. Range of Horizontal Gaze Following Multilevel Posterior Cervical Fusion Across the Cervicothoracic Junction. *CSRS 2023*. Las Vegas, NV, Nov. 30, 2023.
16. Pogue M, Kleck CJ, **Ou-Yang DC**, Kent RS, Leveque JC, Hah R, SPSG Group. Pelvic Incidence and Sagittal Balance Changes between Flexion and Extension. *SICOT 44th Annual Meeting*. Belgrade, Serbia. Sept 25-27, 2024.
17. Sabri S, Zarezadeh A, Wipf C, Ujkashi A, Kellett T, Marty E, **Ou-Yang DC**, Kleck CJ. Impact of Navigated Radiofrequency Ablation (RFA) on Spinal Tumors. *SICOT 44th Annual Meeting*. Belgrade, Serbia. Sept 25-27, 2024.
18. Ho A, Zarezadeh A, Ayers R, Sabri S, **Ou-Yang DC**, Kleck CJ. The Effect of Posterior Instrumentation Design on Lumbar Lordosis: An Anatomic Evaluation. *SICOT 44th Annual Meeting*. Belgrade, Serbia. Sept 25-27, 2024.
19. Pogue M, Kleck CJ, **Ou-Yang DC**, Kent RS, Leveque JC, Hah R, SPSG Group. Pelvic Incidence and Sagittal Balance Changes between Flexion and Extension. *Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship*. Aurora, CO, Oct. 23, 2024.
20. Hoffman C, Nocek M, Sherwani Z, Patel VV, Sabri S, **Ou-Yang DC**, Kleck CJ. Range of Horizontal Gaze Following Multilevel Posterior Cervical Fusion Across the Cervicothoracic Junction. *Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship*. Aurora, CO, Oct. 23, 2024.
21. Sater A, Kuris EO, Drexelius K, **Ou-Yang DC**, Burger E, Kleck CJ. Analysis of Radiographic Parameters Reveals Differences in Outcomes When Comparing Patient-Specific Short Rod Constructs to Conventional Rods in Lumbar Fusions for Degenerative Disease. *Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship*. Aurora, CO, Oct. 23, 2024.

22. Pogue M, Ayers R, **Ou-Yang DC**, Ackert-Bicknell C. Does Omega-3 Fatty Acid Supplementation Impact Risk for Spondylosis or Intervertebral Disc Disease? Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship. Aurora, CO, Oct. 23, 2024
23. Burger E, Pogue M, Kleck CJ, **Ou-Yang DC**, Ackert-Bicknell C, Bicknell B. Pelvic Incidence and Sagittal Balance Changes between Flexion and Extension. ISASS 2025. Miami, FL, Apr. 10-12, 2025.
24. Sater A, Kuris EO, Drexelius K, **Ou-Yang DC**, Burger E, Kleck CJ. The Impact of Patient-Specific Short Rods on Spinopelvic Alignment and Clinical Outcomes after Degenerative Lumbar Fusion. ISASS 2025. Miami, FL, Apr. 10-12, 2025.
25. Burger EL, Kleck CJ, **Ou-Yang DC**, Ackert-Bicknell C, Pogue M, Bicknell B, Keeter C. The Effect of Pelvic Incidence on Sagittal Vertical Axis Following Thoracolumbar Adult Spinal Deformity Surgery. SICOT 2025 45th Annual Meeting. Madrid, Spain, September 3–5, 2025.
26. Burger EL, Patel VV, Noshchenko A, Kleck CJ, **Ou-Yang DC**, Hoffman C, Sabri SA. Range Of Horizontal Gaze Following Multilevel Posterior Cervical Fusion Across the Cervicothoracic Junction. SICOT 2025 45th Annual Meeting. Madrid, Spain, September 3–5, 2025.
27. Burger EL, Hoffman C, Laynes R, **Ou-Yang DC**, Patel VV, Kleck CJ, Sabri SA, Lowry MK, Weesner R, Chavarria J, Prusick P, Stringer N, Gimarc D, Farrel JP. Implications Of Lumbosacral Transitional Anatomy On Vertebral Numbering: Evaluation Of 3147 Adult Full-Length Spine X-Rays. SICOT 2025 45th Annual Meeting. Madrid, Spain, September 3–5, 2025.
28. Kleck CJ, **Ou-Yang DC**, Pogue M, Ackert-Bicknell C, Bicknell B. The Effect of Pelvic Incidence on Sagittal Vertical Axis Following Thoracolumbar Adult Spinal Deformity Surgery. EUROSPINE Annual Meeting 2025. Copenhagen, Denmark, October 22–24, 2025.
29. **Ou-Yang DC**, Pogue M, Kleck CJ, Ackert-Bicknell C, Bicknell B. The Effect of Pelvic Incidence on Sagittal Vertical Axis Following Thoracolumbar Adult Spinal Deformity Surgery. NASS 2025 40th Annual Meeting. Denver, CO, November 14–16, 2025.

Grant Support - Co-Investigator:

1. **3Spine, 2021-2026** - Clinical trial titled “An Interventional, Multi-Center Investigation of Single-Level Transforaminal Lumbar Interbody Fusion (TLIF) Stabilized with Pedicle Screws”, PI Patel, Co-Investigator, \$353,835
2. **Personalized Spine Study Group, Denver, Colorado 2021-Present** – Study group devoted to ongoing research and evaluation of pediatric and adult spine patients undergoing surgical treatment utilizing newly developed planning techniques, intra-operative patient specific implants, and post-operative outcomes follow-up, PI Kleck, Co-Investigator, \$842,488
3. **SI-Bone, 2021-Present** – Sacroiliac joint stabilization in long fusion to the pelvis: randomized controlled trial (SILVIA), PI Kleck, Co-Investigator, \$110,675

4. **Synergy Disc Replacement, 2021-Present** – A multi-center, prospective, historically controlled pivotal trial comparing the safety and effectiveness of the synergy disc to anterior cervical discectomy and fusion in patients with one-level symptomatic cervical degenerative disc disease (DDD), PI Kleck, Co-Investigator, \$124,407
5. **OrthoFix Inc. 2015-Present** - Retrospective observational study of patients who have undergone lumbar fusion surgery with adjunctive use of the Orthofix Spinal-Stim® Device, PI Patel, Co-Investigator, \$18,900
6. **Orthofix, 2015-2018** - Odontoid: Safety and Efficacy of Pulsed Electromagnetic Fields (Cervical-Stim) as an Adjunct to Enhance Union, Industry, PI Patel, Co-Investigator, \$10,433
7. **SI Bone impl-** Study of bone growth in the Sacroiliac Joint after minimally invasive surgery with titanium ants ceding to Aspire IRB, PI Patel, Co-Investigator, \$22,451
8. **Mainstay Medical, 2017-2020** - ReActiv8 Implantable Neurostimulation System for Chronic Low Back Pain, PI Patel, Co-Investigator, \$206,202
9. **Pfizer, Inc. 2017-2020** - A Phase 3, Placebo-Controlled, Randomized, Observer-Blinded Study to Evaluate the Efficacy, Safety, and Tolerability, of a *Clostridium Difficile* Vaccine in Adults 50 Years of Age and Older, PI Patel, Co-Investigator, \$116,728
10. **Pfizer, Inc., 2022** A Phase 3, Placebo-Controlled, Randomized, Observer-Blinded Study to Evaluate the Efficacy, Safety, and Tolerability, of a *Clostridium Difficile* Vaccine in Adults 50 Years of Age and Older, PI Patel, Co-Investigator, \$15, 440
11. **Orthofix Inc., 2014-2017** - A Retrospective Study Evaluation the Efficacy of the Orthofix Cervical-Stim® Bone Growth Stimulator in Patients that Have Undergone Cervical Fusion Surgery and are at high-risk for Non-fusion, Grant Renewal, PI Patel, Co-Investigator, \$83,457
12. **Mitsubishi Tanabe**, A Phase 2a, Randomized, Double-blind, Placebo-controlled Study to Assess the Efficacy and Safety of MT-3921 in Subjects with Acute Traumatic Cervical Spinal Cord Injury, PI, Kleck, Co-Investigator, \$4, 352
13. **UCD/COLOSEM**, Lower-Extremity Bony Alignment and Body Habitus Using EOS, PI Kleck, Co-Investigator, \$24, 798
14. **NuVasive** Prediction of Postoperative Global Sagittal Alignment Using Musculoskeletal Modeling – Validation Study, PI Witt-Jens, Co-Investigator, \$45,800
15. **Pfizer Inc., 2015-2018** - A Phase 2b, Randomized, Double-blind, Placebo-controlled Study to Evaluate the Safety and Efficacy of Staphylococcus, PI Patel, Co-Investigator, \$10,099
16. **Colorado Department of Public Health and Environment, 2016-2018** - A Double-Blind, Placebo-Controlled Crossover Study Comparing the Analgesic Efficacy of Cannabis versus Oxycodone, PI Lindley, Co-Investigator, \$743,122
17. **EOS**, Surgical outcomes on patients with congenital spinal anomalies: a retrospective study using EOS imaging (no sponsor), PI Kleck, Co-Investigator
18. **EOS**, Lower-Extremity Bony Alignment and Body Habitus Using EOS, \$24, 798, PI: Dr. Kleck, Co-Investigator
19. **OLIF**, Oblique lumbar interbody fusion (OLIF) approach for multilevel discectomy and fusion: clinical outcomes of a single surgeon cohort, PI Patel, Co-Investigator

20. **MENSA**, Use of MENSA to improve the diagnosis of causative infectious agent and monitor infection recovery in orthopedic spine infection, PI Ackert-Bicknell, Co-Investigator
21. Identification and characterization of genetic regulators of bone health that are unique to vertebral bone, PI Ackert-Bicknell, Co-Investigator

Spine Fellowship Grants:

1. OMeGA: Fellowship Grant in Spine Care, 2019-2020 –\$15,000
2. Globus: Fellowship Grant in Spine Care, 2019-2020 – \$75,000, 2020-2021 – \$60,000, 2021-2022 - \$60,000
3. Medtronic: Fellowship Grant in Spine Care, 2019-2020 – \$90,012
4. SeaSpine: Fellowship Grant in Spine Care, 2021-2022 – \$60,000, 2022-2023 - \$60,000
5. Medtronic: Complex Spine/Data & AI Fellowship, 2022-2023 – \$75,000
6. AO Spine North America: AOSNA Travel Fellowship Award, 2023-2024 - \$15,000
7. Medtronic: Spine Fellowship Program 2024-2025 - \$50,000
8. Orthofix, Inc.: Spine Fellowship Program 2024-2025 - \$64,000
9. AO Spine North America: Spine Fellowship Program 2025-2026 - \$15,000
10. Medtronic: Spine Fellowship Program 2025-2025 - \$50,000