

**Curriculum Vitae**  
**Saad Javeed, MD, MSCI**

**Date**

10/02/23

**Citizenship**

Pakistan and USA

**Address and contact**

660 S. Euclid Ave, St. Louis MO 63110  
804-931-2762  
jsaad@wustl.edu

**Current title**

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2023 – Present	Resident, General Surgery, <b>Washington University School of Medicine</b> , St Louis MO
2020 – 2023	Postdoctoral Fellow, Neurosurgery, <b>Washington University School of Medicine</b> , St Louis MO
2021 – 2023	MTPCI Postdoctoral Scholar, Institute of Clinical and Translational Sciences, <b>Washington University School of Medicine</b> , St Louis MO

**Education**

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2012 – 2017	<b>Sharif Medical and Dental College</b> , Lahore, Pakistan Bachelor of Medicine, Bachelor of Surgery (M.B.B.S) <ul style="list-style-type: none"><li>• Core clinical rotations in Sharif Medical City and Ittefaq Trust Hospital, Lahore</li><li>• Volunteer- Emergency department</li></ul>
2021 – 2023	<b>Washington University School of Medicine</b> , St Louis MO Master of Science in Clinical Investigation (MSCI) Candidate <ul style="list-style-type: none"><li>• Project: Biomarker discovery in Chronic Entrapment Neuropathy</li><li>• Primary Mentor: Dr. Wilson Ray</li><li>• Secondary Mentor: Dr. David Brogan</li></ul>

**Research**

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2020 – Present	<b>Ray Lab, Neurosurgery, Washington University School of Medicine</b> , St. Louis MO Postdoctoral Research Fellow Mentor: Dr. Wilson Z. Ray, M.D.  <u>Clinical:</u> <ul style="list-style-type: none"><li>• Nerve Transfers following cervical spinal cord injury. Developing indications, optimal timing, and treatment algorithm of nerve transfer surgery in tetraplegia.</li><li>• Spinal Cord Injury Clinical Outcomes Research</li><li>• Clinical outcomes and predictive modelling following spine surgery.</li><li>• Mobile health technology for spinal surgery outcomes.</li></ul> <u>Basic Science:</u> <ul style="list-style-type: none"><li>• Electrical stimulation to induce bone growth following bone fracture and spinal fusion.</li><li>• Objective Mechanomyography biomarkers in chronic entrapment neuropathy.</li><li>• Electrical stimulation to enhance nerve regeneration following peripheral nerve injury.</li></ul>
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Fall 2020

**Neurological Surgery, Mayo Clinic, Rochester MN**

Research Trainee

Mentor: Dr. Benjamin Elder, M.D. Ph.D.

- Evaluation of Bone mineral density using CT scan-based Hounsfield units and spinal fusion outcomes in osteoporosis
- Clinical research using administrative database.

## **Clinical experience**

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2023 – Present

**General Surgery, Washington University School of Medicine, St. Louis, MO**

Preliminary Resident – PGY1

Summer 2022

**Neurosurgery, Washington University School of Medicine, St. Louis, MO**

Sub-Internship

Summer 2019

**Neurosurgery, University of Miami Miller School of Medicine, Miami, FL**

Clinical Observership

Spring 2019

**Neurology, University of South Florida School of Medicine, Tampa, FL**

Clinical Observership

2018 – 2019

**Dominion Cardiovascular Specialists- Dr. Agha W Haider MD, PhD, Richmond, VA**

Clinical Elective leading to Medical Scribe

## **Leadership**

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2015 – 2017

**SMDC Literary and Debate Society**

Student President

- Organized Annual Trilingual Declamation Contest, photography, social gatherings, presided over meetings, gave presentations, arranged national and regional literary (scientific and humanities) conventions.

2016 – 2017

**Literata, a student magazine**

Chief Editor, Sciences and English

- Led the magazine publication team, edited science articles, abstracts, photos, and research.
- Initiated “Being SMDCite” chapter, that highlighted medical students, faculty, and staff.

2013 – 2017

**SMDC blood bank society**

Active member

- Organized annual blood drive. Outreach for blood collection from donors. Arranged donor blood for emergent cases.

## **Volunteering**

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2019 – 2020

**Ambulatory/OR Bon Secours Saint Francis Hospital, Richmond, VA**

2020 – 2021

**APPNA Free Clinic and Medical Camp, St. Louis, MO**

2021 – 2022

**COVID-19 Vaccine Clinic, Washington University School of Medicine, St. Louis, MO**

## **Examinations and Certifications**

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2018

USMLE Step 1- Passed, scored: 266 (97<sup>th</sup> percentile)

2019

USMLE Step 2 CK- Passed, scored: 270 (97<sup>th</sup> percentile)

2021

Clinical Skills– ECFMG Pathway 6

2021

ECFMG certified

## Skills/Didactic trainings

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Statistical Expertise (R programming)  
Translational research  
Ethical and Legal Issues in Research  
Introduction and Intermediate Statistics  
Designing Outcomes and Clinical Research  
Advanced Methods for Clinical Outcomes Research  
Development of Risk Prediction Models  
Mixed-methods study designs  
Grantsmanship

## Research collaborations

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Collaborator

- Global Burden of Disease (GBD) – Neurological disease chapter
- Spinal Cord Injury Model Systems (SCIMS) Study
- Praxis Spinal Cord Institute

## Editorial activities

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Peer reviewer

- Interdisciplinary Neurosurgery
- Journal of Investigative Surgery
- International Journal of Neuroscience
- Frontiers in Neurology

## Professional Memberships

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Neurosurgery Research Societies

- Congress of Neurological Surgeons
- American Association of Neurological Surgeons

Spine and Peripheral Nerve Research Societies

- Disorders of Spine and Peripheral Nerve Section
- North American Spine Society
- AO Spine North America
- American Society of Peripheral Nerve

## Research Support

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2021 – 2023 [Funded] DePuy-Synthes– Investigator Initiated Study– \$72,000  
**Mechanomyography: A Novel Biomarker of Entrapment Neuropathy**  
Trainee Investigator: Dr. Saad Javeed; Sponsor: Dr. Wilson Z. Ray and Dr. Matthew MacEwan

2021 – 2022 [Funded] National Center for Advancing Translational Sciences, JIT Core Usage Funding– \$5000  
**Enhanced Recovery after Spine Surgery: A Rapid Return to Normal Life**  
PI: Dr. Wilson Z. Ray; Co-I: Justin K. Zhang and Saad Javeed

2021 – 2022 [Funded] National Center for Advancing Translational Sciences, JIT Core Usage Funding– \$5000  
**The Effect of Socioeconomic Status on Patient-Reported Outcome Measures in Spine Surgery**  
PI: Dr. Brenton H. Pennicooke; Co-I: Justin K. Zhang and Saad Javeed

2022 – 2023 [Funded] National Center for Advancing Translational Sciences, JIT Core Usage Funding– \$5000  
**Effect of Frailty on Recovery Patterns following Spine Surgery**  
PI: Dr. Nitin Agarwal; Trainee Investigator: Dr. Saad Javeed

2023 – 2027 [Funded] DoD SCIRP– \$3,977,103  
**Nerve Transfers in High Tetraplegia to Improve Patient Function and Quality of Life**

PI: Dr. Wilson Z. Ray, Research Scientist: Dr. Saad Javeed

- 2023 – 2024 [Funded] Diversity, Equity, and Inclusion Scholar Project CNS Foundation– \$14,000  
**A Mixed Methods Analysis of Sociodemographic Inequities in Spinal Cord Injury Outcomes**  
PI: Dr. Jacob Greenberg, co-PI: Dr. Saad Javeed
- 2023 – 2024 [Funded] AO Spine North America, Young Investigator Grant– \$20,000 **Bioresorbable Electronic Implants to Enhance Spine Fusion**  
PI: Dr. Saad Javeed, Mentor: Dr. Wilson Z. Ray
- 2023 – 2024 [Funded] North American Spine Society, Young Investigator Grant– \$40,000 **Transient Bioelectronic Implants for Enhancing Bone Growth following Spine Fusion**  
PI: Dr. Saad Javeed, Mentor: Dr. Wilson Z. Ray
- 2023 – 2024 [Funded] National Center for Advancing Translational Sciences, JIT Core Usage Funding– \$5000  
**Impact of Mental Health on Patient-Reported Outcome Measures In Spine Surgery**  
PI: Dr. Daniel Hafez; Trainee Investigator: Dr. Saad Javeed
- 2024 – 2028 [Full grant under revision] NINDS NIH UG3/UH3– \$3,470,972  
**Electrical Stimulation Therapy for Enhancing Function After Nerve Transfer Surgery in Tetraplegia**  
PI: Dr. Wilson Z. Ray, Research Scientist: Dr. Saad Javeed
- 2024 – 2026 [Full grant invited] Craig L. Nielson SCIRTS Postdoctoral Fellowship Grant– \$58,020  
**Development and Validation of Decision Support for Upper Limb Surgery in Cervical Spinal Cord Injury**  
PI: Dr. Saad Javeed, Mentor: Dr. Wilson Z. Ray
- 2024 – 2025 [LOI under review] Lumbar Spine Research Society Grant– \$20,000  
**Enhancing Lumbar Fusion via Transient Bioelectronic Implants to Accelerate Bone Growth**  
PI: Dr. Wilson Z. Ray, co-PI: Dr. Saad Javeed

## Honors and Awards

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- 2016 Student Medical Volunteer Award, Sharif Medical City, Lahore
- 2016 Student President of Literary Society, Sharif Medical and Dental College, Lahore
- 2016 Best Abstract Portrait, Intercollegiate Medical College Photography Competition of Medical Arts, Lahore
- 2021 Journal Cover Illustration Award, JNS Spine, Volume 36: Issue 3 (Mar 2022)
- 2022 Best Abstract Presentation in Peripheral Nerve, AANS/CNS Disorders of Spine & Peripheral Nerve Section
- 2022 Top 10 abstract award, Cervical Spine Research Society, 22
- 2022 Best Clinical Research Poster, Peripheral Nerve Section, Congress of Neurological Surgeons, 22
- 2022 Best Basic Science Poster, DSPN Section, Congress of Neurological Surgeons, 22
- 2022 Best Peripheral Nerve Abstract Award, Congress of Neurological Surgeons, 22
- 2023 Top 10 manuscripts in Peripheral Nerve Surgery Award, Congress of Neurological Surgeons, 23

## Abstract Presentations

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1. **Javeed S**, Dibble CF, Khalifeh JM, Midha R, Yang LS, Juknis N, Ray WZ. Does preoperative electrodiagnosis aid in selecting nerve transfers in tetraplegia? Washington University School of Medicine Neurosurgery Research Symposium, January 2021.
2. Guerrero JR\*, **Javeed S\***, Dibble CF, Ray WZ, Faraji AH. Utility of MMG (mechanomyography) on intraoperative clinical decision making in peripheral nerve surgery. Congress of Neurological Surgeons Annual Meeting, Austin, TX, October 2021. **[Co-First Author]**
3. **Javeed S**, Dibble CF, Zhang JK, Greenberg JK, Faraji AH, Spinner RJ, Ray WZ. The Use of Mechanomyography in Quantifying Severity and Prognosis of Chronic Entrapment Neuropathy. Disorders of Spine and Peripheral Nerves

Meeting, Las Vegas, NV, February 2022.

4. **Javeed S**, Greenberg JK, Dibble CF, Zhang JK, Khalifeh JM, Ray WZ. Impact of Motor Recovery on Functional Independence in Tetraplegia: Implications for Upper Extremity Nerve Transfers. Disorders of Spine and Peripheral Nerves Meeting, Las Vegas, NV, February 2022.
5. **Javeed S\***, Dibble CF, Zhang JK, Greenberg JK, Khalifeh JM, Wilson TJ, Zager EL, Faraji AH, Mahan MA, Yang LJ, Midha R, Juknis N, Ray WZ. Impact of Nerve Transfers in Restoring Upper Extremity Function following Cervical Spinal Cord Injury. Disorders of Spine and Peripheral Nerves Meeting, Las Vegas, NV, February 2022. (**\*Best abstract presentation award**)
6. Birenbaum NK, **Javeed S**, Spees W, Yan Y, MacEwan MR, Song SK, Ray WZ. Diffusion Basis Spectrum Imaging (DBSI) for Tracking Axonal Regeneration following Peripheral Nerve Injury. Disorders of Spine and Peripheral Nerves Meeting, Las Vegas, NV, February 2022.
7. Zhang JK, Greenberg JK, **Javeed S**, Dibble CF, Khalifeh JM, Jain D, Dorward I, Santiago S, Molina CA, Pennicooke BH, Ray WZ. Predictors of Postoperative Segmental and Overall Lumbar Lordosis in MI-TLIF. Disorders of Spine and Peripheral Nerves Meeting, Las Vegas, NV, February 2022.
8. Dibble CF, Zhang JK, Greenberg JK, **Javeed S**, Khalifeh JM, Jain D, Dorward I, Santiago S, Molina CA, Pennicooke BH, Ray WZ. Comparison of Local and Regional Radiographic Outcomes in MI- vs. Open TLIF: A Propensity Score Matched Cohort. Disorders of Spine and Peripheral Nerves Meeting, Las Vegas, NV, February 2022.
9. Zhang JK, Greenberg JK, **Javeed S**, Dibble CF, Khalifeh JM, Jain D, Dorward I, Santiago S, Molina CA, Pennicooke BH, Ray WZ. Impact of Social Deprivation on Physical and Mental Health Outcomes in Patients Following Cervical Spine Fusion Surgery. Disorders of Spine and Peripheral Nerves Meeting, Las Vegas, NV, February 2022.
10. Greenberg JK, Zhang JK, **Javeed S**, Dibble CF, Khalifeh JM, Johnson G, Wong Alex, Jain D, Buchowski J, Dorward I, Santiago S, Molina CA, Pennicooke BH, Ray WZ. Association between Neighborhood-Level Socioeconomic Disadvantage and Patient-Reported Outcomes in Lumbar Spine Surgery. Disorders of Spine and Peripheral Nerves Meeting, Las Vegas, NV, February 2022.
11. Zhang JK, Jayasekera D, Greenberg JK, **Javeed S**, Dibble CF, Blum J, Jakes R, Sun P, Song SK, Ray WZ. Diffusion Basis Spectrum Imaging (DBSI) Prognosticates Outcomes for Cervical Spondylotic Myelopathy after Surgery. Disorders of Spine and Peripheral Nerves Meeting, Las Vegas, NV, February 2022.
12. Huguenard AL\*, **Javeed S\***, Pugazenthi S, Limbrick DD, Zipfel GJ. Impact of Neurosurgery Research and Education Foundation Awards on Subsequent Grant Funding and Career Outcomes of Neurosurgeon-Scientists. American Association of Neurological Surgeons, Philadelphia, PA, April 2022. (**Selected for AANS plenary session**) [**\*Co-First Author**]
13. Zhang JK\*, Jayasekera D, Greenberg JK, **Javeed S**, Dibble CF, Blum J, Jakes R, Sun P, Song SK, Ray WZ. Development of non-invasive biomarkers for cervical spondylotic myelopathy. 63rd Annual National Student Research Forum, Galveston, TX. May 2022. (**\*Best abstract presentation**)
14. Zhang JK, Jayasekera D, Greenberg JK, **Javeed S**, Dibble CF, Blum J, Jakes R, Sun P, Song SK, Ray WZ. Classification and Prognostication of Cervical Spondylotic Myelopathy: A Multidimensional Approach. Association for Clinical and Translational Science, Chicago, IL. Apr 2022.
15. **Javeed S**, Greenberg JK, Zhang JK, Dibble CF, Khalifeh JM, Agarwal N, Ray WZ. The Impact of Frailty on Patient Reported Outcomes after Cervical Spine Surgery. Cervical Spine Research Society, San Diego, CA. Nov. 2022. [Podium Presentation]
16. **Javeed S**, Greenberg JK, Zhang JK, Dibble CF, Khalifeh JM, Ray WZ. Nerve Transfers in Spinal Cord Injury: Analysis of Factors Influencing Motor Recovery. Cervical Spine Research Society, San Diego, CA. Nov. 2022. [Selected for Podium Presentation] (**\*Top 10 abstract award**)
17. **Javeed S**, Greenberg JK, Zhang JK, Dibble CF, Khalifeh JM, Park Y, Ray WZ. A Clinical Prediction Rule for Upper

- Limb Functional Outcomes after Traumatic Cervical Spinal Cord Injury. Cervical Spine Research Society, San Diego, CA. Nov. 2022. [E-Poster]
18. Zhang JK, Sun P, Jayasekera D, Song C, Greenberg JK, **Javeed S**, Dibble CF, Blum J, Song C, Song S, Ray WZ. Diffusion basis spectrum imaging correlates with baseline severity and long-term clinical outcomes in cervical spondylotic myelopathy. Cervical Spine Research Society, San Diego, CA. Nov. 2022.
  19. Zhang JK, Jayasekera D, **Javeed S**, Greenberg JK, Blum J, Dibble CF, Sun P, Song S, Ray WZ. Diffusion basis spectrum imaging predicts comprehensive clinical outcomes following surgery for cervical spondylotic myelopathy. Cervical Spine Research Society, San Diego, CA. Nov. 2022.
  20. Zhang JK, Greenberg JK, **Javeed S**, Khalifeh J, Dibble CF, Jain D, Dorward I, Santiago P, Molina C, Pennicooke B, Ray WZ. Impact of social deprivation on physical and mental health outcomes in patients following cervical spine fusion surgery. Cervical Spine Research Society, San Diego, CA. Nov. 2022. (**\*Best E-Poster Award**)
  21. **Javeed S**, Greenberg JK, Dibble CF, Zhang J, Khalifeh JM, Wilson TJ, Zager EL, Faraji AH, Mahan MA, Midha R, Burks SS, Levi AD, Belzberg A, Yang LJ, Juknis N, Ray WZ. Functional Priorities in High Cervical Spinal Cord Injury: Implications for Upper Limb Nerve Transfer Surgery. Congress of Neurological Surgeons, San Francisco, CA. Oct. 2022. [Podium Presentation]
  22. **Javeed S**, Greenberg JK, Zhang JK, Dibble CF, Khalifeh JM, Liu Y, Wilson TJ, Yang LJ, Park Y, Ray WZ. Development of Clinical Decision Support for Upper Limb Peripheral Nerve Transfers in Traumatic Cervical Spinal Cord Injury. Congress of Neurological Surgeons, San Francisco, CA. Oct. 2022. (**\*Best Clinical Research Poster Award, Peripheral Nerve Section**)
  23. **Javeed S**, Birenbaum N, Dibble CF, Greenberg JK, Zhang J, Sydnor K, Faraji AH, Spinner RJ, Ray WZ. Mechanomyography Quantifies the Severity and Prognosis of Chronic Entrapment Neuropathy. Congress of Neurological Surgeons, San Francisco, CA. Oct. 2022. [E-Poster]
  24. **Javeed S**, Zhang JK, Greenberg JK, Dibble CF, Zellmer E, Moran D, Leuthardt EC, Ray WZ, MacEwan MR. Electroactive Spinal Instrumentation for Targeted Osteogenesis and Spine Fusion. Congress of Neurological Surgeons, San Francisco, CA. Oct. 2022. (**\*Best Basic Science Poster, DSPN Section**)
  25. Khaled T, Guerrero J, Garza JC, **Javeed S**, Dibble CF, Ray WZ, Faraji AH. Incorporating Intraoperative Mechanomyography to Peripheral Nerve Decompression Surgery. Congress of Neurological Surgeons, San Francisco, CA. Oct. 2022. [Podium Presentation]
  26. Zhang JK, **Javeed S**, Greenberg JK, Dinal J, Song C, Dibble CF, Blum J, Sun P, Song SK, Ray WZ. Diffusion basis spectrum imaging provides insights into cervical spondylotic myelopathy pathology. Congress of Neurological Surgeons, San Francisco, CA. Oct. 2022. [Podium Presentation]
  27. Zhang JK, **Javeed S**, Greenberg JK, Dinal J, Sun P, Blum J, Dibble CF, Song C, Song SK, Ray WZ. Utility of diffusion basis spectrum imaging in quantifying baseline disease severity and prognosis of cervical spondylotic myelopathy. Congress of Neurological Surgeons, San Francisco, CA. Oct. 2022. [Podium Presentation]
  28. Zhang JK, **Javeed S**, Dinal J, Greenberg JK, Dibble CF, Blum J, Sun P, Song SK, Ray WZ. Diffusion basis spectrum imaging predicts comprehensive clinical outcomes following surgery for cervical spondylotic myelopathy. Congress of Neurological Surgeons, San Francisco, CA. Oct. 2022. [Podium Presentation]
  29. Zhang JK, Greenberg JK, **Javeed S**, Jawad KM, Dibble CF, Jain D, Buchowski J, Dorward I, Santiago P, Molina CA, Pennicooke BH, Ray WZ. Impact of social deprivation on physical and mental health outcomes in patients following cervical spine fusion surgery. Congress of Neurological Surgeons, San Francisco, CA. Oct. 2022. [Poster Presentation]
  30. **Javeed S**, Greenberg JK, Zhang JK, Dibble CF, Khalifeh JM, Ray WZ. Nerve Transfers in Spinal Cord Injury: Analysis of Factors Influencing Motor Recovery. Congress of Neurological Surgeons, San Francisco, CA. Oct. 2022. [Podium Presentation] (**Selected for CNS General Scientific Session**) (**\*Best Peripheral Nerve Abstract Award**)
  31. **Javeed S**, Greenberg JK, Zhang JK, Dibble CF, Khalifeh JM, Ray WZ. Minimal Clinically Important Difference of

- the Disabilities of the Arm, Shoulder, and Hand in Degenerative Cervical Spine Disease. Congress of Neurological Surgeons, San Francisco, CA. Oct. 2022. [Poster Presentation]
32. Zhang JK, **Javeed S**, Greenberg JK, Song C, Song S, Ray WZ. Diffusion Basis Spectrum Imaging with Intra-Axonal Compartment Modeling to Improve Axonal Injury Sensitivity. Congress of Neurological Surgeons, San Francisco, CA. Oct. 2022. [Poster Presentation]
  33. Zhang JK, **Javeed S**, Greenberg JK, Dibble CF, Dinal J, Blum J, Song SK, Ray WZ Feasibility and Efficacy of Postoperative Diffusion Basis Spectrum Imaging to Evaluate Recovery after Surgery in Cervical Spondylotic Myelopathy. Congress of Neurological Surgeons, San Francisco, CA. Oct. 2022. [Podium Presentation]
  34. **Javeed S**, Birenbaum N, Dibble CF, Greenberg JK, Zhang J, Sydnor K, Faraji AH, Spinner RJ, Ray WZ. Mechanomyography: A Novel Adjunct for Treatment of Chronic Entrapment Neuropathy. American Society for Peripheral Nerve, Miami, FL. Jan. 2023. [Podium Presentation]
  35. Zhang JK, **Javeed S**, Greenberg JK, Dibble CF, Song S, Ray WZ. Diffusion basis spectrum imaging identifies clinically relevant disease phenotypes of cervical spondylotic myelopathy. AANS/CNS Section on Disorders of the Spine and Peripheral Nerves, Miami, FL. March 2023.
  36. Zhang JK, **Javeed S**, Greenberg J, Song C, Song S, Ray WZ. Diffusion Basis Spectrum Imaging with Intra-Axonal Compartment Modeling to Improve Axonal Injury Sensitivity. AANS/CNS Section on Disorders of the Spine and Peripheral Nerves, Miami, FL. March 2023.
  37. **Javeed S**, Zhang JK, Greenberg JK, Dibble CF, Ray WZ. Impact of Social Deprivation on the Outcomes of Cervical Spinal Cord Injury. Disorders of Spine and Peripheral Nerves Meeting, Miami, FL, March 2023. [Podium Presentation]
  38. **Javeed S**, Xu Y, Benedict B, Birenbaum N, Zhang JK, Greenberg JK, Dibble CF, Brogan D, Spinner RJ, MacEwan MR, Ray WZ. Muscle Accelerometry as a Novel Marker of Axonal Injury in Chronic Entrapment Neuropathy. Disorders of Spine and Peripheral Nerves Meeting, Miami, FL, March 2023. [Podium Presentation]
  39. **Javeed S**, Frumkin MR, Zhang JK, Xu Z, Zhang J, Benedict B, Botterbush K, Cao Z, Molina CA, Pennicooke BH, Agarwal N, Hafez D, Santiago P, Goodwin ML, Pallotta N, Gupta MC, Buchowski JM, Neuman B, Steinmetz M, Ghogawala Z, Kelly MP, Hall BL, Piccirillo JF, Lu C, Rodebaugh TL, Ray WZ, Greenberg JK. Correlation between Traditional Patient-Reported Outcome Measures and Daily Ecological Momentary Assessments in Lumbar Spine Surgery. Lumbar Spine Research Society, Chicago, IL, May 2023. [ePoster]
  40. Zhang JK, **Javeed S**, Greenberg JK, Blum J, Botterbush KS, Benedict B, Dibble CF, Sun P, Song SS, Ray WZ. Feasibility of postoperative diffusion weighted imaging to assess neural recovery in cervical spondylotic myelopathy. Cervical Spine Research Society, Las Vegas, NV, November 2023. [Oral Presentation]
  41. Zhang JK, **Javeed S**, Greenberg JK, Blum J, Botterbush KS, Benedict B, Dibble CF, Sun P, Song SS, Ray WZ. Diffusion weighted imaging metrics characterize postoperative clinical outcomes following surgery for cervical spondylotic myelopathy. Cervical Spine Research Society, Las Vegas, NV, November 2023. [Poster]
  42. **Javeed S**, Zhang JK, Greenberg JK, Benedict B, Botterbush, K, Dibble CF, Ray WZ. Impact of Social Deprivation on the Outcomes of Cervical Spinal Cord Injury. Cervical Spine Research Society, Las Vegas, NV, November 2023. [Poster]
  43. **Javeed S**, Greenberg JK, Zhang JK, Dibble CF, Benedict B, Botterbush, K, Khalifeh JM, Liu Y, Wilson TJ, Park Y, Ray WZ. Validation of Clinical Decision Support for Upper Limb Surgeries following Cervical Spinal Cord Injury. Cervical Spine Research Society, Las Vegas, NV, November 2023. [Poster]
  44. **Javeed S**, Benedict B, Salim Y, Botterbush, K, Zhang JK, Saleem S, Ray WZ. Greenberg JK, Impact of Mental Health on the Outcomes of Cervical Spine Surgery. Cervical Spine Research Society, Las Vegas, NV, November 2023. [Poster]
  45. **Javeed S**, Benedict B, Greenberg JK, Zhang JK, Botterbush, K, Saleem S, Ray WZ. Comparison of Electronic Frailty Metrics for Prognosis of Functional Outcomes of Spine Surgery. Congress of Neurological Surgeons, Washington, DC. Sept. 2023. [Poster]

46. **Javeed S**, Xu Z, Zhang J, Frumkin MR, Zhang JK, Benedict B, Botterbush K, Cao Z, Molina CA, Pennicooke BH, Agarwal N, Hafez D, Santiago P, Goodwin ML, Pallotta N, Gupta MC, Buchowski JM, Neuman B, Steinmetz M, Ghogawala Z, Kelly MP, Hall BL, Piccirillo JF, Lu C, Rodebaugh TL, Ray WZ, Greenberg JK. Association of daily biometric data with frailty in degenerative thoracolumbar spine disease. Congress of Neurological Surgeons, Washington, DC. Sept. 2023. [Poster]
47. **Javeed S**, Frumkin MR, Xu Z, Zhang J, Zhang JK, Benedict B, Botterbush K, Cao Z, Molina CA, Pennicooke BH, Agarwal N, Hafez D, Santiago P, Goodwin ML, Pallotta N, Gupta MC, Buchowski JM, Neuman B, Steinmetz M, Ghogawala Z, Kelly MP, Hall BL, Piccirillo JF, Lu C, Rodebaugh TL, Ray WZ, Greenberg JK. Reliability and Validity of Momentary Pain and Disability Assessments for Spine Surgery Patients. Congress of Neurological Surgeons, Washington, DC. Sept. 2023. [Poster]
48. **Javeed S**, Benedict B, Salim Y, Botterbush, K, Zhang JK, Saleem S, Rodebaugh T, Neuman B, Goodin B, Ray WZ, Greenberg JK, Impact of Mental Health on Preoperative Disease Severity and Postoperative Outcomes of Lumbar Spine Surgery. Congress of Neurological Surgeons, Washington, DC. Sept. 2023 [Poster]
49. **Javeed S**, Zhang JK, Greenberg JK, Benedict B, Botterbush, K, Dibble CF, Ray WZ. Influence of Social Deprivation on the Neurological and Functional Outcomes of Spinal Cord Injury. Congress of Neurological Surgeons, Washington, DC. Sept. 2023 [Poster]
50. **Javeed S**, Xu Y, Benedict B, Birenbaum N, Yan Ying, Zhang JK, Greenberg JK, Dibble CF, Brogan D, Spinner RJ, MacEwan MR, Ray WZ. Muscle Accelerometry as Biomarker of Axonal Dysfunction in Chronic Entrapment Neuropathy. Congress of Neurological Surgeons, Washington, DC. Sept. 2023 [Oral Presentation]
51. Greenberg JK, Frumkin MR, Xu Z, Zhang J, **Javeed S**, Zhang JK, Molina CA, Pennicooke BH, Hafez D, Ogunlade J, Pallotta N, Gupta MC, Buchowski J, Neuman B, Steinmetz M, Ghogawala Z, Hall B, Piccirillo JF, Kelly MP, Rodebaugh T, Lu C, Ray WZ. Multidimensional Mobile Health Evaluations Improve Predictions of Recovery from Lumbar Spine Surgery. Congress of Neurological Surgeons, Washington, DC. Sept. 2023 [Poster]
52. Zhang JK, **Javeed S**, Greenberg JK, Botterbush K, Benedict B, Song SK, Ray WZ. Feasibility of postoperative diffusion weighted imaging to assess neural recovery in cervical spondylotic myelopathy. Congress of Neurological Surgeons, Washington, DC. Sept. 2023 [Oral presentation]
53. Zhang JK, **Javeed S**, Greenberg JK, Song SK, Ray WZ. Diffusion weighted imaging metrics characterize postoperative clinical outcomes following surgery for cervical spondylotic myelopathy. Congress of Neurological Surgeons, Washington, DC. Sept. 2023 [Poster]
54. Zhang JK, **Javeed S**, Botterbush K, Benedict B, Ray WZ, Greenberg JK. Real-time assessments of physical and mental health correlate with social deprivation in patients undergoing lumbar spine surgery. Congress of Neurological Surgeons, Washington, DC. Sept. 2023 [Poster]

## Publications

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1. Alvi MA, Brown D, Yolcu Y, Zreik J, **Javeed S**, Bydon M, Cutsforth-Gregory JK, Graff-Radford J, Jones DT, Graff-Radford NR, Cogswell PM, Elder BD. Prevalence and Trends in Management of Idiopathic Normal Pressure Hydrocephalus in the United States: Insights from the National Inpatient Sample. *World Neurosurgery*. 2021;145:e38-e52. doi: <https://doi.org/10.1016/j.wneu.2020.09.012>.
2. TSAI, S. H. L., Alvi, M. A., Tazyeen, S., Yolcu, Y., **Javeed, S.**, Sebastian, A., ... & ELDER, B. D. (2021). Revision Anterior Cervical Discectomy and Fusion and Revision Cervical Arthroplasty Are Associated with Similar Outcomes: Real-World Analysis from a National Quality Registry. *Turkish Neurosurgery*, 31(6).
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