

Bayard Chandler Carlson

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STAFF POSITION

Twin Cities Spine Center

Spine Surgeon

EDUCATION

Twin Cities Spine Center

Minneapolis, MN

Mayo Clinic Orthopedic Surgery Residency

Rochester, MN

Northwestern University Feinberg School of Medicine

Chicago, IL

St. Olaf College

Northfield, MN

BA, Biology, Biomedical Studies Concentration

HONORS

2020	Mayo Clinic Orthopedic Residency Outstanding Achievement Award for Knowledge in Orthopedic Surgery
2020	Administrative Chief Resident, Mayo Clinic Orthopedic Residency
2018	Lincoln High School Hall of Fame
2015	Alpha Omega Alpha Honor Society, Feinberg School of Medicine
2015	Graduated Summa Cum Laude, Feinberg School of Medicine
2015	Phi Rho Sigma Dennis Award, Feinberg School of Medicine
2011	Graduated Summa Cum Laude, St. Olaf College
2011	Phi Beta Kappa, St. Olaf College
2007	Eagle Scout of the Year
2006	National Merit Scholar
2003	Eagle Scout

RESEARCH EXPERIENCE

- 2020-2021 **Research Assistant**
Twin Cities Spine Center
Preceptor: Timothy Garvey, MD
- 2015-2020 **Research Assistant**
Mayo Clinic, Department of Orthopedic Surgery
Preceptor: Rafael J. Sierra, MD
Preceptor: Brett A. Freedman, MD
Preceptor: A. Noelle Larson, MD
Preceptor: Paul M. Huddleston III, MD
- 2011-2015 **Research Assistant**
Northwestern University, Department of Urology
Preceptor: Chris Gonzalez, MD
- 2010-2011 **Research Assistant**
Avera Research Institute, Department of Basic Science
Preceptor: David Maddox, PhD
- 2009 **Research Assistant**
University of Chicago, Department of Human Genetics
Preceptor: Carole Ober, PhD

PEER-REVIEWED PUBLICATIONS

Yolcu YU, Zreik J, Alvi MA, Wanderman NR, **Carlson BC**, Nassr A, Fogelson JL, Elder BD, Freedman BA, Bydon M. Use of teriparatide prior to lumbar fusion surgery lowers two-year complications for patients with poor bone health. Clin Neurol Neurosurg. 2020 Sep 21;198:106244.

Carlson SW, Vargas-Hernandez JS, **Carlson BC**, Sierra RJ. Lack of bone-on-bone arthritis is not a strict contraindication for mobile-bearing unicompartmental knee arthroplasty. JBJS Open Access. 2020 Aug 19;5(3):e19.00058.

Carlson BC, Hines JT, Robinson WA, Sebastian AS, Greenwood-Quaintance KE, Patel R, Huddleston PM. Implant sonication versus tissue cultures for the diagnosis of spinal implant infection. Spine (Phil Pa 1976). 2020 May 1;45(9):E525-E532.

Robinson WA, **Carlson BC**, Poppendeck H, Wanderman NR, Bunta AD, Murphy S, Sietsema DL, Daffner SD, Edwards BJ, Watts NB, Tosi LL, Anderson PA, Freedman BA. Osteoporosis-related vertebral fragility fractures: a review and analysis of the American orthopaedic association's own the bone database. Spine (Phil Pa 1976). 2020 Apr 15;45(8):E430-E438.

Wanderman N, Robinson W, **Carlson B**, Bydon M, Currier B, Huddleston P, Nassr A, Freedman A. Tranexamic acid in thoracic and lumbar fusions and perioperative blood loss. *Clin Spine Surg.* 2019 Dec;32(10):E462-468.

Yolcu Y, Alvi M, Wanderman N, **Carlson B**, Sebastian A, Bydon M, Freedman B. Effect of teriparatide use on bone mineral density and spinal fusion: a narrative review of animal models. *Int J Neurosci.* 2019 Aug;129(8):814-820.

Carlson BC, Robinson WA, Wanderman NR, Sebastian AS, Nassr A, Freedman BA, Anderson PA. A review and clinical perspective of the impact of osteoporosis on the spine. *Geriatr Orthop Surg Rehabil.* 2019 Jul 17;10:2151459319861591.

Wyles CC, Vargas-Hernandez JS, Carlson SW, **Carlson BC**, Sierra RJ. Single-dose perioperative antibiotics do not increase the risk of surgical site infection in unicompartmental knee arthroplasty. *J Arthroplasty.* 2019 Jul;34(7S):S327-S330.

Wanderman NR, Alvi M, Yolcu Y, **Carlson B**, Sebastian A, Bydon M, Freedman B. Is teriparatide beneficial to spinal fusion surgery in the older patient—a narrative review. *Clin Spine Surg.* 2019 Jun;32(5): 182-190.

Robinson WA, **Carlson BC**, Freedman BA, Sebastian AS. Retropharyngeal steroid use in anterior cervical discectomy and fusion. *Clin Spine Surg.* 2019 Feb;32(1):1-3.

Robinson WA, Hevesi M, **Carlson BC**, Schulte S, Petfield JL, Freedman BA. Spinal fusions in active military personnel: who gets a lumbar spinal fusion in the military and what impact does it have on service member retention? *Mil Med.* 2019 Jan 1;184(1-2):e156-e161.

Carlson BC, Milbrandt TA, Larson AN. Quality, safety and value in pediatric spine surgery. *Orthopedic Clinics of North America*, 2018. Oct;49(4):491-501.

Wanderman N, **Carlson B**, Robinson W, Bydon M, Yaszemski M, Huddleston P, Freedman B. Does recombinant human bone morphogenic protein 2 affect perioperative blood loss following lumbar and thoracic spinal fusions. *Asian Spine J.* 2018 Oct;12(5):880-886.

Carlson BC, Desy NM, Johnson JD, Trousdale RT, Leunig M, Ganz, R, Sierra RJ. Modern surgical treatment of recurrent posterior hip dislocations or subluxations. *J Bone Joint Surg Am.* 2018 Jun 20;100(12): 1056-1063.

Carlson BC, Robinson WA, Wanderman NR, Nassr AN, Huddleston PM 3rd, Yaszemski MJ, Currier BL, Jeray KJ, Kirk KL, Bunta AD, Murphy S, Patel B, Watkins CM, Sietsema DL, Edwards BJ, Tosi LL, Anderson PA, Freedman BA. The American Orthopaedic Association's own the bone database: a national quality improvement project for the treatment of bone health in fragility fracture patients. *Osteoporosis Int*, 2018. Sep;29(9):2101-2109.

Wanderman NR, Drayer NJ, Tomov M, Reifsnnyder JM, **Carlson BC**, Robinson W, Kang DG, Freedman B. Postoperative seroma in posterior cervical fusions using RhBMP-2: a case series. *JBJS Case Connector*. 2018 Jul-Sep;8(3):e74.

Carlson BC, Bryan AJ, Carrillo-Villamizar NT, Sierra RJ. The utility of metal ion trends in predicting revision in metal-on-metal total hip arthroplasty. *J Arthroplasty*. 2017 Sep;32(9S):S214-S219.

Carlson BC, Hofer MD, Ballek N, Yang XJ, Meeks JJ, Gonzalez CM. Protein markers of malignant potential in penile and vulvar lichen sclerosus. *J Urol*. 2013 Aug;190(2):399-406.

Carlson B, Carlson WO, Baumgarten, KM. A transphyseal fracture of the nonossified proximal femoral epiphysis as a result of child abuse: a case report. *JBJS Case Connector*. 2012 Aug;2(3):e42 1-5.

Mckenzie M, **Carlson B**, Carlson WO. Evaluating hip pain in children. *South Dakota Journal of Medicine*. 2012 Aug;65(8):303-5, 307-8.

BOOK CHAPTERS

Freedman B, **Carlson BC**. Spine Trauma. Morrey BF, Morrey MC (eds): *Master Techniques in Orthopaedic Surgery*, 2e. Philadelphia, Wolters Kluwer, 2019, pp 413-422.

Dekutoski MB, Cassivi SD, Gokaslan ZL, Robinson W, **Carlson BC**, Freedman BA. Morrey BF, Morrey MC (eds): *Master Techniques in Orthopaedic Surgery*, 2e. Philadelphia, Wolters Kluwer, 2019, pp 355-368.

PRESENTATIONS/POSTERS

Kolz J, **Carlson B**, Houdek M, Rose P. Surgical treatment of primary mobile spine chordomas. Mid-America Orthopaedic Association, Bonita Springs FL, April 2020. Podium.

Vargas JS, Carlson SW, **Carlson BC**, Sierra RJ. BMI does not significantly influence survivorship of mobile-bearing unicompartmental knee arthroplasty at minimum 2 year follow-up. Minnesota Orthopedic Society, Minneapolis MN, May 2019. Podium.

Carlson SW, Vargas JS, **Carlson BC**, Sierra RJ. A lack of bone-on-bone arthritis is not a strict contraindication for mobile-bearing unicompartmental knee arthroplasty. Minnesota Orthopedic Society, Minneapolis MN, May 2019. Podium.

Wyles CC, Carlson SW, Vargas JS, **Carlson BC**, Sierra RJ. Single-dose perioperative antibiotics do not increase the risk of periprosthetic joint infection

in unicompartmental knee arthroplasty. Mid-America Orthopedic Association, April 2019. Podium.

Vargas JS, Carlson SW, **Carlson BC**, Sierra RJ. The lack of bone-on-bone contact in the medial compartment should not be a strict contraindication for mobile-bearing UKA. Mid-America Orthopedic Association, April 2019. Poster.

Carlson SW, Vargas JS, **Carlson BC**, Sierra RJ. A lack of bone-on-bone arthritis is not a strict contraindication for mobile-bearing unicompartmental knee arthroplasty. American Academy of Orthopaedic Surgeons, Las Vegas NV, March 2019. Podium.

Vargas JS, Carlson SW, **Carlson BC**, Sierra RJ. BMI greater than 30 does not significantly influence survivorship of mobile-bearing unicompartmental knee arthroplasty at minimum two-year follow-up. American Academy of Orthopaedic Surgeons, Las Vegas NV, March 2019. Poster.

Wyles CC, Carlson SW, Vargas JS, **Carlson BC**, Sierra RJ. Single-dose perioperative antibiotics do not increase the risk of periprosthetic joint infection in unicompartmental knee arthroplasty. American Association of Hip and Knee Surgeons, Dallas TX, November 2018. Poster.

Carlson BC, Hines JT, Robinson WA, Sebastian AS, Patel R, Huddleston PM. Implant sonication versus tissue culture for the detection of spinal implant infection. North American Spine Society, Los Angeles CA, September 2018. Poster.

Carlson BC, Robinson WA, Wanderman NR, Nassr AN, Freedman BA. Osteoporotic fractures of the spine compared to osteoporotic fractures of the distal radius. North American Spine Society, Los Angeles CA, September 2018. Poster Grand Rounds.

Carlson BC, Liu H, Stans AA, Shaughnessy WJ, Nassr AN, Milbrandt TA, Larson AN. CT-guided navigation versus intraoperative fluoroscopy for placement of S2-alar-iliac screws in complex pediatric spinal deformity. Minnesota Orthopaedic Society, Minneapolis MN, May 2018. Podium.

Robinson WA, **Carlson BC**, Nassr A, Freedman BA. Osteoporotic vertebral fragility fractures: a review and analysis of the American Orthopaedic Association's Own the Bone database. Mid-America Orthopaedic Association, San Antonio TX, April 2018. Poster.

Carlson BC, Robinson WA, Wanderman NR, Nassr A, Freedman BA. Is the American Orthopaedic Association's Own the Bone database a representative sample of patients presenting with osteoporotic fragility fractures—a comparative analysis. Mid-America Orthopaedic Association, San Antonio TX, April 2018. Poster.

Carlson BC, Robinson WA, Wanderman NR, Wagner ER, Nassr A, Freedman BA. Osteoporotic fractures of the distal radius compared to osteoporotic

fractures of the spine: a review of patient risk factors and treatment disparities. Mid-America Orthopaedic Association, San Antonio TX, April 2018. Podium.

Robinson WA, **Carlson BC**, Nassr A, Freedman BA. Osteoporotic vertebral fragility fractures: a review and analysis of the American Orthopaedic Association's Own the Bone database. American Academy of Orthopaedic Surgeons, New Orleans LA, March 2018. Podium.

Robinson WA, **Carlson BC**, Wanderman NR, Nassr A, Freedman BA. Osteoporotic fractures of the distal radius: a review and analysis of the American Orthopaedic Association's Own the Bone database. American Academy of Orthopaedic Surgeons, New Orleans LA, March 2018. Poster.

Carlson BC, Robinson WA, Wanderman NR, Nassr A, Freedman BA. Is the American Orthopaedic Association's Own the Bone database a representative sample of patients presenting with osteoporotic fragility fractures—a comparative analysis. American Academy of Orthopaedic Surgeons, New Orleans LA, March 2018. Poster.

Wanderman NR, Robinson W, **Carlson B**, Freedman BA. Tranexamic acid in thoracic and lumbar fusions and perioperative blood loss. ISSLS Annual Meeting 2018, Banff. Poster.

Wanderman NR, Robinson W, **Carlson B**, Freedman BA. Tranexamic acid in thoracic and lumbar fusions and perioperative blood loss. SOMOS Annual Meeting 2018, Phoenix. Podium.

Carlson BC, Bryan AJ, Carrillo-Villamizar NT, Sierra RJ. The utility of metal ion trends in predicting revision in metal-on-metal THA. Mid-America Orthopaedic Association, Amelia Island FL, April 2017. Podium.

Carlson BC, Desy NM, Johnson J, Trousdale RT, Leunig M, Ganz R, Sierra RJ. Periacetabular osteotomy can treat the structural disorder that predisposes to traumatic recurrent native hip instability. Mid-America Orthopaedic Association, Amelia Island FL, April 2017. Podium.

Wagner ER, Robinson W, Weston J, **Carlson BC**, Moran SL, Rizzo M. The impact of osteoporosis on proximal interphalangeal arthroplasty outcomes: a case-control matched cohort. American Association for Hand Surgery, Waikoloa HI, January 2017. Poster.

Carlson BC, Bryan AJ, Carrillo-Villamizar NT, Sierra RJ. A note to surgeons: biphasic trends in revision of ASR THA. American Association of Hip and Knee Surgeons, Dallas TX, November 2016. Poster.

Carlson BC, Bryan AJ, Carrillo-Villamizar NT, Sierra RJ. The utility of metal ion trends in predicting revision in metal-on-metal THA. American Association of Hip and Knee Surgeons, Dallas TX, November 2016. Poster.

Bachrach L, Nuss G, Thum DJ, **Carlson BC**, Stein DM, Gonzalez CM. Demographics, practice patterns, and complications of penile prosthesis implantation in a veteran's administration cohort. Chicago Urologic Charles B. Huggins Essay Contest, Chicago IL, January 2013. Poster.

Carlson BC, Callahan LB, Maddox DA. Food limitation reverses increased collagen (Col4a1) gene expression in the obese Zucker rat. American Society of Nephrology Kidney Week, Philadelphia PA, November 2011: 24873. Poster.

HOBBIES & INTERESTS

Conversational Spanish, avid musician, golf, downhill skiing