

REGIONS TRAUMA CENTER

640 JACKSON ST, ST PAUL, MN 55101



Orthopaedic Research Update

December 2019

Publications

February 2019 — November 2019

Tatro JM, Schroder LK, Molitor BA, Parker ED, **Cole PA**. **Injury mechanism, epidemiology, and Hospital trends of scapula fractures: A 10-year retrospective study of the National Trauma Data Bank**. *Injury*. 2019 Feb;50(2):376-381. Epub 2019 Jan 14.

MacCormick LM, Chen F, Gilbertson J, Khan S, Schroder LK, Bechtold JE, **Cole PA**. **A Biomechanical Study Comparing Minimally Invasive Anterior Pelvic Ring Fixation Techniques to External Fixation**. *Injury*. 2019 Feb;50(2):251-255. Epub 2018 Jul 18.

Switzer JA, Schroder LK. **Mobile Outreach: An Innovative Program for Older Orthopedic Patients in Care Facilities**. *Geriatr Orthop Surg Rehabil*. 2019 Mar 10;10:2151459319826476.

Ward CM, Arnold MA, Emohare O. **Characterizing Bone Mineral Density Using Lumbar Spine Computed Tomography Attenuation in Patients With Distal Radius Fractures**. *Geriatr Orthop Surg Rehabil*. 2019 May 17;10:2151459319847408

Nauth A, Wasserstein D, Tornetta P, **Cole PA**, Obremskey WT, Attum B, Slobogean GP. **Patient Outcomes in Orthopaedic Trauma: How to Evaluate if Your Treatment Is Really Working?** *Journal of Orthopaedic Trauma*. 2019;33:S20-S24.

McMillan LJ, Parikh HR, **Cunningham BP**. **Acute Treatment of Open Foot and Ankle Fractures Using a Bioartificial Dermal Regeneration Template and Split-Thickness Skin Grafting: A Report of 2 Cases**. *JBJS Case Connect*. 2019 Apr-Jun;9(2):e0148.

Eggenberger E, Hildebrand G, Vang S, Ly A, **Ward C**. **Use of CT Vs. MRI for Diagnosis of Hip or Pelvic Fractures in Elderly Patients After Low Energy Trauma**. *Iowa Orthop J*. 2019;39(1):179-183.

Tranchida GV, Allen ST, Moen SM, Erickson LO, **Ward CM**. **Comparison of Volar and Dorsal Approach for PIP Arthroplasty**. *Hand (N Y)*. 2019 Jul 9: 1558944719861718

Chung KC, Malay S, Shauver MJ; Wrist and Radius Injury Surgical Trial Group (HealthPartners Investigators: Kalliainen LK, **Ward CM**, Fletcher JW, Heinrich CA, Pico KS, Mahajan AY, Hill BW, Vang S). **The Relationship between Hand Therapy and Long-Term Outcomes after Distal Radius Fracture in Older Adults: Evidence from the Randomized Wrist and Radius Injury Surgical Trial**. *Plast Reconstr Surg*. 2019 Aug;144(2):230e-237e.

Chung KC, Kim HM, Malay S, Shauver MJ; WRIST Group (HealthPartners Investigators: Kalliainen LK, **Ward CM**, Fletcher JW, Heinrich CA, Pico KS, Mahajan AY, Hill BW, Vang S). **Predicting Outcomes After Distal Radius Fracture: A 24-Center International Clinical Trial of Older Adults.** J Hand Surg Am. 2019 Sep;44(9):762-771.

Chung KC, Sasor SE, Speth KA, Wang L, Shauver MJ; WRIST Group (HealthPartners Investigators: Kalliainen LK, **Ward CM**, Fletcher JW, Heinrich CA, Pico KS, Mahajan AY, Hill BW, Vang S). **Patient satisfaction after treatment of distal radial fractures in older adults.** J Hand Surg Eur Vol. 2019 Oct 4:1753193419878981.

Cunningham BP, Obremskey WT, Bozic KJ. **Introduction: Value in Orthopaedic Trauma: Understanding, Measuring & Optimizing Value in Care Delivery.** J Orthop Trauma. 2019 Nov;33 Suppl 7:i.

Hayek KR, Parikh HR, McCreary DL, Westberg JR, Mirick G, Baynard T, Schmidt AH, **Cunningham BP**. **Cost Variation in Temporizing External Fixation of Tibial Plateau Fractures.** J Orthop Trauma. 2019 Nov;33 Suppl 7:S5-S10.

O'Hara NN, Mulliken A, Joseph K, Slobogean GP, Johal H, **Cunningham BP**, Olaya S, Levy J, Polak AN, Klazinga NS. **Valuing the Recovery Priorities of Orthopaedic Trauma Patients After Injury: Evidence From a Discrete Choice Experiment Within 6 Weeks of Injury.** J Orthop Trauma. 2019 Nov;33 Suppl 7:S16-S20.

Gorman TL, Albersheim M, Parikh HR, Flagstad IR, Okelana AB, Vang S, Johal H, **Cunningham BP**. **Does Value Matter in Orthopaedic Trauma?: A Survey of Orthopaedic Trauma Association Members.** J Orthop Trauma. 2019 Nov;33 Suppl 7:S21-S25.

Okelana AB, McMillan LJ, Kibble K, Parikh HR, Gorman C, Schaeffbauer H, **Cunningham BP**. **Variation in Implant Selection for Ankle Fractures: Identifying Cost Drivers.** J Orthop Trauma. 2019 Nov;33 Suppl 7:S26-S31.

McCreary DL, Dugarte AJ, Vang S, Plowman B, Williams BR, Parikh HR, **Cunningham BP**. **Patient-Level Value Analysis: An Innovative Approach to Optimize Care Delivery.** J Orthop Trauma. 2019 Nov;33 Suppl 7:S49-S52.

Parikh HR, O'Hara N, Levy JF, **Cunningham BP**. **Value Denominator: The Fundamentals of Costing for Orthopaedic Surgeons.** J Orthop Trauma. 2019 Nov;33 Suppl 7:S56-S61.

Cunningham BP, Bakker CJ, Parikh HR, Johal H, Swiontkowski MF. **Physician Behavior Change: A Systematic Review.** J Orthop Trauma. 2019 Nov;33 Suppl 7:S62-S72.

Presentations

April 2019 — November 2019



Kevin C. Chung, MD, MS; H. Myra Kim, ScD; Sunitha Malay, MPH; Melissa J. Shauver, MPH for the WRIST Group (HealthPartners Investigators: Kalliainen LK, **Ward CM**, Fletcher JW, Heinrich CA, Pico KS, Mahajan AY, Hill BW, Vang S). **The Wrist and Radius Injury Surgical Trial (WRIST): 12-month Outcomes from a Multicenter, International Randomized Clinical Trial.** American Association of Plastic Surgeons Annual Meeting. Baltimore, MD. April 2019. Podium Presentation



ASSH | *American Society
for Surgery of the Hand*

Kevin C. Chung, MD, MS; H. Myra Kim, ScD; Sunitha Malay, MPH; Melissa J. Shauver, MPH for the WRIST Group (HealthPartners Investigators: Kalliainen LK, **Ward CM**, Fletcher JW, Heinrich CA, Pico KS, Mahajan AY, Hill BW, Vang S). **The Wrist and Radius Injury Surgical Trial (WRIST): 24-month Outcomes from a 24-Center Multicenter, International Randomized Clinical Trial.** American Society for Surgery of the Hand Annual Meeting. Las Vegas, NV. September 2019. Podium Presentation

Kevin C. Chung, MD, MS; Sarah E. Sasor, MD; Kelly A. Speth, MS, Lu Wang, PhD, Melissa J. Shauver, MPH; for the WRIST Group (HealthPartners Investigators: Kalliainen LK, **Ward CM**, Fletcher JW, Heinrich CA, Pico KS, Mahajan AY, Hill BW, Vang S). **Patient Satisfaction after Treatment of Distal Radius Fractures: An Analysis of Outcomes from the 24-Center WRIST Randomized Clinical Trial.** American Society for Surgery of the Hand Annual Meeting. Las Vegas, NV. September 2019. Podium Presentation



MID-AMERICA ORTHOPAEDIC ASSOCIATION

[Wise KL](#), [Gorman TL](#), [Parikh HR](#), [McMillan LJ](#), [Vang S](#), Plowman B, Horst P, [Cunningham BP](#). **Variation of Inpatient Cost of Care in the Treatment of Isolated Geriatric Hip Fractures.** Mid America Orthopaedic Association Annual Meeting. Miramar Beach, FL. April 2019. Podium Presentation

[White M](#), [Wise K](#), [Parikh HR](#), [Vang S](#), [Ward CM](#), [Cunningham BP](#). **Cost Savings of Carpal Tunnel Release Performed In-Clinic Compared to an Ambulatory Surgery Center: Time-Driven Activity-Based Costing.** Mid America Orthopaedic Association Annual Meeting. Miramar Beach, FL. April 2019. Podium Presentation

[Stojanovic M](#), [Barker J](#), [Sidhu J](#), [Parikh H](#), [Marston SB](#). **Retrospective Analysis of a Modified One-Stage Revision Protocol Compared to a Traditional Two-Stage Revision for the Treatment of Periprosthetic Joint Infection.** Mid America Orthopaedic Association Annual Meeting. Miramar Beach, FL. April 2019. Podium Presentation



[Stojanovic M](#), [Barker J](#), [Sidhu J](#), [Parikh H](#), [Marston SB](#). **Retrospective Analysis of a Modified One-Stage Revision Protocol Compared to a Traditional Two-Stage Revision for the Treatment of Periprosthetic Joint Infection.** Minnesota Orthopaedic Society Annual Meeting. Minneapolis, MN. May 2019. Podium Presentation

[Okelana AB](#), [Parikh H](#), [McMillan L](#), [Kibble K](#), [Cunningham B](#). **Can Decreasing Implant Costs Increase Net Reimbursement for Surgically Treated Ankle Fractures?** Minnesota Orthopaedic Society Annual Meeting. Minneapolis, MN. May 2019. Poster Presentation

[Okelana AB](#), [Freking W](#), [Gorman T](#), [Parikh H](#), [Cunningham B](#). **Cost Variation in Temporizing External Fixation of Pilon Fractures: Is There Room to Improve?** Minnesota Orthopaedic Society Annual Meeting. Minneapolis, MN. May 2019. Podium Presentation

[Kibble K](#), [Peck S](#), [Gorman T](#), [Flagstad I](#), [Okelana B](#), [Parikh H](#), [Cunningham B](#). **Geriatric Femoral Neck Fractures: Hemiarthroplasty Implant Cost and Selection Trends from 2006-2018.** Minnesota Orthopaedic Society Annual Meeting. Minneapolis, MN. May 2019. Podium Presentation

[Kelly B](#), [McCreary D](#), [Parikh H](#), [McMillan L](#), [Vang S](#), Plowman B, [Cunningham B](#). Disproportionate Losses Observed in the Treatment of Medicare Patients with Intertrochanteric Femur Fractures. Minnesota Orthopaedic Society Annual Meeting. Minneapolis, MN. May 2019. Podium Presentation

[Casnovsky L](#), [Flagstad I](#), [Wise K](#), [Gorman T](#), [McMillan LJ](#), [Parikh HR](#), [Peck SC](#), [Horst P](#), [Cunningham BP](#). Does Implant Selection Affect the Inpatient Cost of Care for Geriatric Intertrochanteric Femur Fractures? Minnesota Orthopaedic Society Annual Meeting. Minneapolis, MN. May 2019. Poster Presentation

[McCreary D](#), [Hayek K](#), [Siljander B](#), [Kibble K](#), [Cunningham B](#). Time Driven Activity Based Costing (TD-ABC) to Identify Cost Drivers in the 30 Day Episode of Care for Bicondylar Tibial Plateau Fractures. Minnesota Orthopaedic Society Annual Meeting. Minneapolis, MN. May 2019. Poster Presentation

[Hayek K](#), [McCreary D](#), [Siljander B](#), [Kibble K](#), [Cunningham B](#). Cost Reduction for Knee Spanning External Fixation in the Staged Treatment of Tibial Plateau Fractures: A Practical Intervention. Minnesota Orthopaedic Society Annual Meeting. Minneapolis, MN. May 2019. Podium Presentation

[Flagstad I](#), [Pedri T](#), [Peck S](#), Westberg JR, [Parikh H](#), Schmidt A, [Cunningham B](#). Better Fracture Reduction in Patients Undergoing Early Definitive Fixation for Tibial Plateau Fractures with Acute Compartment Syndrome. Minnesota Orthopaedic Society Annual Meeting. Minneapolis, MN. May 2019. Podium Presentation

[Flagstad I](#), [MacCormick L](#), [Albersheim MS](#), [Heare A](#), [Parikh HR](#), Westberg JR, [Miguel J](#), Schmidt T, Simske N, Siy A, Lufrano R, Rodriguez-Buitrago A, Labrum J, Shaw N, Nadeau J, Lund E, Davis P, Connelly D, Atchison J, Mauffrey C, Hak D, Hahn J, Whiting P, Mir H, Schmidt A, Wagstrom E, Obremskey W, O'Toole R, Vallier H, [Cunningham BP](#). Outcomes of Single Stage vs Two Stage Bilateral Intramedullary Nail Fixation in Patients with Bilateral Femur Fractures. Minnesota Orthopaedic Society Annual Meeting. Minneapolis, MN. May 2019. Podium Presentation

[Flagstad I](#), [MacCormick L](#), [Albersheim MS](#), [Heare A](#), [Parikh HR](#), Westberg JR, Miguel J, Schmidt T, Simske N, Siy A, Lufrano R, Rodriguez-Buitrago A, Labrum J, Shaw N, Nadeau J, Lund E, Davis P, Connelly D, Atchison J, Mauffrey C, Hak D, Whiting P, Mir H, Schmidt A, Wagstrom E, Obremskey W, O'Toole R, Vallier H, [Cunningham BP](#). Factors Influencing Management of Bilateral Femur Fractures: A Multicenter Retrospective Cohort of Early vs Delayed Definitive Fixation. Minnesota Orthopaedic Society. Minneapolis, MN. May 2019. Podium Presentation

[Gorman T](#), [White M](#), [Parikh H](#), [Flagstad I](#), [Okelana B](#), Johal H, [Cunningham B](#). Value Based Care in Orthopaedic Trauma: Are Traumatologists Ready to Ride the Wave of Changing Economics? Minnesota Orthopaedic Society Annual Meeting. Minneapolis, MN. May 2019. Poster Presentation

[Bhatt E](#), Gorman T, Ghasem A, Vallier H, Obremskey W, Friess D, Sagi HC, Whiting P, Meinber E, Mauffrey C, Quinnan S, [Cunningham B](#). Multicenter Survey of Resident Professional Development and Understanding of the Business of Orthopaedics: Are Residents Ready For the Transition to Practice? Minnesota Orthopaedic Society Annual Meeting. Minneapolis, MN. May 2019. Podium Presentation

14° International Congress of Shoulder and Elbow Surgery BUENOS AIRES, ARGENTINA | September 17 to 20

Okelana B, Wise K, Parikh H, Reams M, Harrison A, Braman J, Craig, EV, Cunningham BP. **Time Driven Activity Based Costing for Rotator Cuff Repair**. International Society of Shoulder Elbow Surgeons. Buenos Aires, Argentina. July 2019.



[Wise K](#), [Peck S](#), [Casnovsky L](#), [Myeroff C](#). **Locked Plating of Geriatric Olecranon Fractures and Early Mobilization Leads to Low Fixation Failure in Patients Over the Age of 75**. International Geriatric Fracture Society Annual Meeting. Denver, CO. September 2019. Podium Presentation

[Kibble K](#), [Peck S](#), [Gorman T](#), [Flagstad I](#), [Okelana B](#), [Parikh H](#), [Cunningham BP](#). **Geriatric Femoral Neck Fractures: Hemiarthroplasty Implant Cost and Selection Trends from 2006-2018**. International Geriatric Fracture Society Annual Meeting. Denver, CO. September 2019. Podium Presentation



2019 OTA ANNUAL MEETING

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[Flagstad I](#), [Pedri T](#), [Peck S](#), Westberg JR, [Parikh H](#), Schmidt A, [Cunningham B](#). **Better Fracture Reduction in Patients Undergoing Early Definitive Fixation for Tibial Plateau Fractures with Acute Compartment Syndrome**. Orthopaedic Trauma Association Annual Meeting. Denver, CO. September 2019. Podium Presentation

[Flagstad I](#), [MacCormick L](#), [Albersheim MS](#), [Heare A](#), [Parikh HR](#), Westberg JR, [Miguel J](#), Schmidt T, Simske N, Siy A, Lufrano R, Rodriguez-Buitrago A, Labrum J, Shaw N, Nadeau J, Lund E, Davis P, Connelly D, Atchison J, Mauffrey C, Hak D, Hahn J, Whiting P, Mir H, Schmidt A, Wagstrom E, Obremsky W, O'Toole R, Vallier H, [Cunningham BP](#). **Outcomes of Single Stage vs Two Stage Bilateral Intramedullary Nail Fixation in Patients with Bilateral Femur Fractures**. Orthopaedic Trauma Association Annual Meeting. Denver, CO. September 2019. Podium Presentation

[Flagstad I](#), [MacCormick L](#), [Albersheim MS](#), [Heare A](#), [Parikh HR](#), Westberg JR, Miguel J, Schmidt T, Simske N, Siy A, Lufrano R, Rodriguez-Buitrago A, Labrum J, Shaw N, Nadeau J, Lund E, Davis P, Connelly D, Atchison J, Mauffrey C, Hak D, Whiting P, Mir H, Schmidt A, Wagstrom E, Obremsky W, O'Toole R, Vallier H, [Cunningham BP](#). **Factors Influencing Management of Bilateral Femur Fractures: A Multicenter Retrospective Cohort of Early vs Delayed Definitive Fixation**. Orthopaedic Trauma Association Annual Meeting. Denver, CO. September 2019. Podium Presentation

[Hayek KR](#), [McCreary DL](#), [Siljander B](#), [Kibble K](#), [Cunningham BP](#). **Cost Reduction for Knee Spanning External Fixation in the Staged Treatment of Tibial Plateau Fractures: A Practical Intervention**. Orthopaedic Trauma Association Annual Meeting. Denver, CO. September 2019. Poster Presentation

[Okelana AB](#), [McMillan LJ](#), [Kibble K](#), [Parikh HR](#), Gorman C, Schaeffbauer H, [Cunningham BP](#). **Variation in Implant Selection for Ankle Fractures: Identifying Cost-Drivers**. Orthopaedic Trauma Association Annual Meeting. Denver, CO. September 2019. Poster Presentation

[Gorman T](#), [Albersheim M](#), [Parikh HR](#), [Flagstad IR](#), [Okelana AB](#), [Vang S](#), Johal H, [Cunningham BP](#). **Value Based Care in Orthopaedic Trauma: Are Traumatologists Ready to Ride the Wave of Changing Economics?** Orthopaedic Trauma Association Annual Meeting. Denver, CO. September 2019. Poster Presentation



ANNUAL MEETING 2019
September 12-15 • Chicago



[Williams BR](#), [Lafferty PM](#). **The Development of Heterotopic Ossification Following Ankle Fracture Syndesmotic Screw Fixation.** Chicago, IL. American Orthopaedic Foot & Ankle Society Annual Meeting. Chicago, IL. Sept 2019. E-poster

AAHKS 2019 – American Association of Hip & Knee Surgeons Annual Meeting – Dallas

November 7, 2019 - November 10, 2019

[Wise K](#), [McCreary DL](#), Horst PK, Ring DC, Koenig KM, [Parikh HR](#), [Cunningham BP](#). **Factors Associated with a 2nd Opioid Prescription Fill in Total Knee Arthroplasty.** American Association of Hip and Knee Surgeons Annual Meeting. Dallas, TX. November 2019. Poster Presentation

[Parikh HR](#), [Kelly B](#), Huang DT, [Lindell J](#), Reams M, Pittman GT, [Cunningham BP](#). **Determining the Minimum Clinically Important Difference (MCID) in Total Knee Arthroplasty (TKA) using the Knee Osteoarthritis Outcome Score (KOOS).** American Association of Hip and Knee Surgeons Annual Meeting. Dallas, TX. November 2019. Poster Presentation

Book Chapters

2019

Reichel LM, Gilbertson JA, Schroder LK, Cole PA. **Scapula Fractures**. In: Chapman MW, James MA, eds. *Chapman's Comprehensive Orthopaedic Surgery: Four Volume Set. 4th ed. New Delhi: Jaypee Brothers Medical Publishers; 2019:pp. tbd.*

Myeroff C, McKee M. **Upper Extremity Periprosthetic Fractures**. In: Tornetta P, Ricci W, Ostrum RF, McQueen MM, McKee MD, Court-Brown CM. *Rockwood and Green's Fractures in Adults. 9th ed. Philadelphia: Wolters Kluwer; 2019.*

