

## **McLaren Flint Orthopaedics Resident Research 2018 – 2021**

### **Awards**

Matthew Mead:

2019 Best Resident Paper Michigan Orthopaedic Society Annual Scientific Meeting:  
The Return on Investment of Orthopaedic Fellowship Training: A Ten-Year Update,  
Matthew Mead, DO, Theresa Atkinson, PhD, Ajay Srivastava, MD, Norman Walter, MD

Angela Collins:

2019 POSNA Best QSVI Section Winner  
2019 SEMCME Second Place Oral Research Presentation  
2019 MSU FAME First Place Overall Oral Research Presentation  
2019 MSU FAME Second Place Overall Oral Research Presentation  
2018 MSU FAME First Place Orthopaedic Surgery Oral Research Presentation  
2018 SEMCME Third place Oral Research Presentation  
2018 MSU FAME: McLaren Flint Best Case Presentation  
2018 MSU FAME: McLaren Flint Best Project  
2018 Finalist McLaren Flint Resident Investigator of the Year

### **Journal Publications**

Sachwani-Daswani GR, Atkinson P, Haake RS, Mercer L. Modification of Stryker T5™ and Stryker Flyte® Personal Protection Surgical Helmets to Function as Powered Air-Purifying Respirators. Surg Innov. 2021 Aug;28(4):465-472. doi: 10.1177/1553350620967246. Epub 2020 Nov 1. PMID: 33135574.

Baes T, Ludwigsen D, Sardelli M, Atkinson P, Atkinson TS. Low-Cost Earmuff Shown to Significantly Reduce Cast-Saw Noise. Orthop Nurs. 2021 Jul-Aug 01;40(4):240-245. doi: 10.1097/NOR.0000000000000774. PMID: 34397979.

Adams N, Ludwigsen D, Baes T, Srivastava A, Atkinson P, Atkinson T. Orthopedic Surgical Helmet Systems Significantly Impair Speech Intelligibility. Orthopedics. 2021 Jul-Aug;44(4):208-214. doi: 10.3928/01477447-20210621-07. Epub 2021 Jul 1. PMID: 34292817.

Mead M, Atkinson T, Srivastava A, Walter N. The Return on Investment of Orthopaedic Fellowship Training: A Ten-year Update. J Am Acad Orthop Surg. 2020 Jun 15;28(12):e524-e531. doi: 10.5435/JAAOS-D-19-00276. PMID: 31688369.

Collins, AC, Miller, LE, Seeley A, Telehowski PM, Atkinson TS. Analysis of restraint use in pregnant versus non-pregnant populations involved in motor vehicle collisions. The American Journal of Surgery, In Press, published online: June 30, 2020.  
DOI:<https://doi.org/10.1016/j.amjsurg.2020.06.065>

Mead, M. , Baes, T., Dass, G., Multicentric Reticulohistiocytosis: Elective Excision of Symptomatic Hand Nodules With 1-Year Follow-Up. J Hand Surg Am . 2020 May;45(5):457.e1-e5. PMID: 31320232

Mead M, Caskey S, Walter N, Atkinson P, Atkinson T, Collins AC. Injury metrics are altered in spica-casted versus non-casted child ATDs in side-impact collisions with door intrusion. Traffic Inj Prev. 2020 May 13:1-6. doi: 10.1080/15389588.2020.1755969.

Ristow J, Cordeiro M, Boyle D, Telehowski P, Atkinson T. Factors influencing side air curtain deployment in rollover motor vehicle accidents. Traffic Inj Prev. 2020;21(5):303-307. doi: 10.1080/15389588.2020.1750606.

Cordeiro M, Caskey S, Frank C, Martin S, Srivastava A, Atkinson T. Hybrid triad provides fracture plane stability in a computational model of a Pauwels Type III hip fracture. Comput Methods Biomech Biomed Engin. 2020 Mar 11:1-8. doi: 10.1080/10255842.2020.1738404.

Ristow J, Mead M, Cordeiro M, Ostrander J, Atkinson T, Atkinson P. Pre-bending a dynamic compression plate significantly alters strain distribution near the fracture plane in the mid-shaft femur. Proc Inst Mech Eng H. 2020 May: 234(5):478-485. doi: 10.1177/0954411920903875.

Collins AC, Caskey S, Peck JB, Walter N, Atkinson TS, Atkinson PJ. Frontal Crash Injury Metrics are Below Mandated Limits for a Spica Casted Child Dummy in Currently Available Restraints. J Pediatr Orthop. 2020;40(5):e394-e400. doi: 10.1097/BPO.0000000000001477.

Mead M, Atkinson T, Srivastava A, Walter N. The Return on Investment of Orthopaedic Fellowship Training: A Ten-year Update. J Am Acad Orthop Surg. 2020 Jun 15;28(12):e524-e531. doi: 10.5435/JAAOS-D-19-00276.

Karl C. Roberts, MD Stephanie E. Moser, PhD Angela C. Collins, MD, PhD Alan Edwards, MD Kendall M. Dubois, MS Chad M. Brummett, MD. Prescribing and Consumption of Opioids After Primary, Unilateral Total Hip and Knee Arthroplasty in Opioid-Naive Patients J Arthroplasty. August 21, 2019. doi: <https://doi.org/10.1016/j.arth.2019.08.036>

Tarakji BA, Wynkoop AT, Srivastava A, O'Connor E, Atkinson TS. 2018. Improvement in depression and physical health following total joint arthroplasty. J. Arthroplasty. Aug 33(8): 2423-2427. DOI: <https://doi.org/10.1016/j.arth.2018.03.051>.

Caskey S, Hammond J, Peck J, Sardelli M, Atkinson T. 2018. The effect of booster seat use on pediatric injuries in motor vehicle frontal crashes. J Ped Orthop. Vol 38(7): e382-e386.DOI: <https://doi.org/10.1097/BPO.0000000000001189>.

Collins A, Wakeland EK, Raj P, Kim MS, Kim J, Tareen NG, Copley LA. The impact of *Staphylococcus aureus* genomic variation on clinical phenotype of children with acute hematogenous osteomyelitis *Heliyon*. 2018 Jun 29;4(6):e00674. doi: 10.1016/j.heliyon.2018.e00674. eCollection 2018 Jun.

Mead, M., Gumucio J., Awan T., Mendias C., Sugg K., Pathogenesis and Management of Tendinopathies in Sports Medicine. *Translational Sports Medicine*. 2018 Jan;1(1):5-13.PMID: 31131372

## **Conference Papers**

Baes T, Ludwigsen D, Sardelli M, Atkinson P, Atkinson T. Inexpensive earmuffs significantly reduce cast saw noise. Virtual Annual Mich Orthop Soc Mtg, June 2020 (Also presented in part at the Annual FAME meeting May 2020).

Collins A, McKean L, Ostrander J, Walter N, Atkinson P, Atkinson T. Crash testing of different seats for transportation of a rear-facing hip spica casted 1 year old. Virtual Annual Mich Orthop Soc Mtg, June 2020 (Also presented in part at the Annual FAME meeting May 2020).

Adams N, Tabrizi H, Cordeiro M, McMahan R, Srivastava A, Atkinson T. Early motion and stress if taper type vs “fit and fill” type short femoral stems. Virtual Annual Mich Orthop Soc Mtg, June 2020 (Also presented in part at the Annual FAME meeting May 2020).

Collins AC, McKean L, Ostrander J, Atkinson T, Atkinson P. Crash safety analysis of rear facing vehicular restraint systems for hip spica casted infants utilizing casted pediatric crash test dummies. SEMCME Virtual Resident Research Conference. May 15, 2020. Virtual Presentation.

Collins AC, Ostrander J, Walter N. Total radiation exposure in pediatric hip dysplasia patients following closed or open reduction and spica casting. Michigan Orthopaedic Society Annual Scientific Meeting Accepted Abstract. June 2020.

Baes T, Collins AC, Mead M, Ostrander J, Srivastava A. A unique case of acute forearm compartment syndrome caused by prolonged use of transcutaneous electrical nerve stimulation (TENS). Michigan Orthopaedic Society Annual Scientific Meeting Accepted Abstract. June 2020.

Baes T, Collins AC, Mead M, Ostrander J. A unique case of acute forearm compartment syndrome caused by prolonged use of transcutaneous electrical nerve stimulation (TENS). MSU FAME Virtual Forum. May 1, 2020.

McKean L, Ristow J, Tarakji B, Sardelli M. Should we screen for bilateral disease in patients with patellofemoral osteochondritis dissecans lesions of the knee: a case report. MSU Flint Area Medical Education 22nd Annual Community Research (FAME) Virtual Forum. May 1, 2020.

Mead M, Stewart, T, Srivastava A. Eyebrow sign: a novel radiographic finding useful for identification of medial pole osteoarthritis of the hip. MSU Flint Area Medical Education 22nd Annual Community Research (FAME) Virtual Forum. May 1, 2020.

Cordeiro M, Caskey S, Srivastava A, Martin S, Atkinson T. Hybrid Inverted Triad Provides Stability and High Load Capacity in Pauwels Type-3 Femoral Neck Fractures. Michigan Orthopaedics Society Scientific Conference, Traverse City, MI June 2019.

a. Presented in part: 21st MSU/FAME Community Research Forum, Flint MI, May 2019.

Orgel M, Seeley A, Colasanti C, Yorks A, Espinoza L, Dass G, Ostrander J, Atkinson T. Orthopaedic Trauma in Pregnant Women Exposed to Motor Vehicle Crashes. Michigan Orthopaedics Society Scientific Conference, Traverse City, MI June 2019.

a. Presented in part: 21st MSU/FAME Community Research Forum, Flint MI, May 2019.

Collins A, Mead M, Caskey S, Walter N, Atkinson T, Atkinson P, Hip spica casting alters occupant response for Side impact MVC. Michigan Orthopaedics Society Scientific Conference, Traverse City, MI June 2019.

a. Presented in part: 21st MSU/FAME Community Research Forum, Flint MI, May 2019.

Cordeiro M, Ristow J, Boyle D, Telehowski P, Atkinson T. Injury Rates in Rollover Crashes Involving Vehicles With Side Air Curtains. Michigan Orthopaedics Society Scientific Conference, Traverse City, MI June 2019.

a. Presented in part: 21st MSU/FAME Community Research Forum, Flint MI, May 2019.

Mead M, Walter N, Srivastava A, Atkinson T. The Return on Investment of Orthopaedic Fellowship Training Michigan Orthopaedics Society Scientific Conference, Traverse City, MI June 2019.

a. Presented in part: 21st MSU/FAME Community Research Forum, Flint MI, May 2019.

Mead M, Cordeiro M, Baquersad J, Atkinson T, Atkinson P. The influence of plate pre-bend on periosteal bone strains near the fracture plane. 21st MSU/FAME Community Research Forum, Flint MI, May 2019.

Frank C, Tarajki B, Hammond J, Fernandez D, Atkinson T, Atkinson P. C-spine biomechanics for asymmetric pin positioning for Gardner-Wells tongs. 21st MSU/FAME Community Research Forum, Flint MI, May 2019.

Collins AC, Caskey S, Peck J, Atkinson T, Walter N, Atkinson P. Safe Transport of Spica Casted Children is Possible: A Frontal Crash Test Analysis of Child Restraint Systems Using Casted Crash Test Dummies. Mid-America Orthopaedic Association Annual Meeting. Miramar Beach, Florida. April 10-14, 2019. Poster Presentation.

Peck J, Collins AC, Caskey S, Atkinson T, Walter N, Atkinson P. Safe transport of spica casted children is possible: A frontal crash test analysis of child restraint systems using casted crash test dummies. POSNA. Charlotte, NC. May 15-18, 2019.

Collins AC, Caskey S, Peck J, Atkinson T, Walter N, Atkinson P. Safe Transport of Spica Casted Children: A Frontal Crash Test Analysis of Child Restraint Systems Using Casted Crash Test Dummies. Orthopedics Today Annual Meeting. Waikoloa Village, Hawaii. January 13-17, 2019. Poster Presentation.

Collins AC. Research from a resident's perspective. SEMCME Research Workshop Series and Forum. Livonia, MI. October 2, 2019. Invited Speaker

Collins AC, Ostrander J, Baird G, Tompkins B. Total radiation exposure in pediatric patients undergoing closed or open reduction and spica casting for hip dysplasia. MSU FAME Research Forum. Flint, MI. May 10, 2019. Podium presentation.

Roberts K, Collins AC, McCardel B, Schultz K, Schaffer N, Tramer J, Carpenter C, Dubois K, Brummett C. Prescribing and consumption of initial opioid prescription after primary, unilateral total knee arthroplasty (TKA) and total hip arthroplasty (THA) in opioid naïve patients. American Academy of Orthopaedic Surgeons Annual Meeting. Las Vegas, Nevada. March 12-16, 2019.

McKean L, Orgel M, Willson S, Goitam B. A rare case of multi-drug resistant corynebacterium striatum after left hip hemiarthroplasty. MSU Flint Area Medical Education 21st Annual Community Research (FAME) Forum. May 1, 2019.

Cordeiro M, Kemker B, Ostrander J. An unusual case of a low energy tibial shaft fracture with an associated proximal tibiofibular dislocation. MSU Flint Area Medical Education 21st Annual Community Research (FAME) Forum. May 1, 2019.

Baes T, Owen J, Caskey S, Mosier-Laclair S. A case of bilateral ankle avascular necrosis secondary to thrombotic thrombocytopenia purpura treated with total ankle arthroplasty. MSU Flint Area Medical Education 21st Annual Community Research (FAME) Forum. May 1, 2019.

Frank C, Caskey S, Wilson T, Gebissa K, Mukkamala N, Martin S, Atkinson T. Influence of Fracture Angle on Fixation of a Pauwels Iii Femoral Neck Fracture Using a Dynamic Hip Screw. Michigan Orthopaedics Society Scientific Conference, Mackinac Island, MI June 2018.

a. Presented in part: 20th Annual MSU FAME Community Research Forum, May 2, 2018.

Jagtap S, Srinivasan A, Narang Y, Tabrizi H, Collins A, Walter N, Atkinson T, Atkinson P. Car Seat Options for Children With Hip Spica Casts. Michigan Orthopaedics Society Scientific Conference, Mackinac Island, MI June 2018.

a. Presented in part: 20th Annual MSU FAME Community Research Forum, May 2, 2018.

Collins A, Caskey S, Frank C, Peck J, Atkinson T, Walter N, Patrick Atkinson. Pediatric Transport After Spica Casting: A Crash Safety Analysis of Vehicular Restraint Systems Utilizing Casted Pediatric Crash Test Dummies. Michigan Orthopaedics Society Scientific Conference, Mackinac Island, MI June 2018.

a. Presented in part: 20th Annual MSU FAME Community Research Forum, May 2, 2018.

Tarajki B, Srivastava A, Atkinson T. Clinical Efficacy of Repeat Ultrasound Guided Hip Injection with Corticosteroids. Michigan Orthopaedics Society Scientific Conference, Mackinac Island, MI June 2018.

Collins A, Titsworth M, Kearney B, Miller M, Telehowski P, Atkinson T. Restraint Use and Injuries in Pregnant Women Involved in Motor Vehicle Crashes. Presented at 20th Annual MSU FAME Community Research Forum, May 2, 2018.

a. Presented in part: 2018 South Eastern MI Continuing Medical Education Research Forum

Collins AC, Caskey S, Mead M, Owen J, Walter N, Atkinson T, Atkinson P. Spica casting alters occupant response in frontal and side impact motor vehicle collisions. SEMCME Resident Research Conference. Dearborn, MI. May 22, 2018. Poster presentation.

Collins AC, Ostrander J, Baird G, Tompkins B. Total radiation exposure in pediatric patients undergoing closed or open reduction and spica casting for hip dysplasia. SEMCME Resident Research Conference. Dearborn, MI. May 22, 2018. Poster presentation.

Collins AC, Willson S. A novel case of early post-operative *Granulicatella adiacens* infection following total knee arthroplasty. Michigan Orthopaedic Society Annual Scientific Meeting. Mackinac Island. June 23, 2018. Poster Presentation.

Collins AC, Telehowski P, Atkinson T. Restraint use and injuries in pregnant women involved in motor vehicle crashes. SEMCME Resident Research Conference. Dearborn, MI. May 23, 2018. Podium presentation.

Mead M. Multicentric reticulohistiocytosis: Case report and review of literature. Oral Presentation at: MSU Flint Area Medical Education 20th Annual Community Research Forum, Flint, MI. May 2, 2018

## Media Coverage

Clement, Carter, narrator. "JPO May/June." JPO Podcast. Episode 29. June 8, 2020. <https://podcasts.apple.com/us/podcast/jpo-may-june-2020/id1464797241?i=1000477156900>

"Kettering University finds no best car seat for kids in body casts." By Lindsay Knake, Kettering University News, June 27, 2018. Available at: <https://news.kettering.edu/news/kettering-university-research-finds-no-best-car-seat-kids-body-casts>

"Research Partnership between McLaren Flint Physicians and Kettering University Engineers may Influence National Car Seat Standards." McLaren Flint News. April 25, 2018. Available at: [https://www.mclaren.org/flint/redesignnews/research\\_partnership\\_between\\_mclaren\\_flint\\_physici\\_2151.aspx](https://www.mclaren.org/flint/redesignnews/research_partnership_between_mclaren_flint_physici_2151.aspx)

"The safest car seat for children in a body cast." By Christina Burkhart, ABC 12, March 27, 2018. Available at: <https://www.abc12.com/content/misc/The-safest-car-seat-for-children-in-a-body-cast-478045283.html>

"Researchers at Kettering working to find safest car seat for kids in casts." By Zahra Ahmad, MLive, March 21, 2018. Available at: [https://www.mlive.com/news/flint/index.ssf/2018/03/kettering\\_tests\\_cast\\_crash\\_dum.html](https://www.mlive.com/news/flint/index.ssf/2018/03/kettering_tests_cast_crash_dum.html)

"Kettering uses crash test dummies to develop better car safety for kids." By Jake May, MLive, March 21, 2018. Available at: <https://www.mlive.com/expo/erry-2018/03/2bbe567b70/index.html>

"Orthopedic surgery residents test car seat safety for special needs children — 6 insights." By Shayna Korol. Becker's Spine Review, February 20, 2018. Available at: <https://www.beckersspine.com/orthopedic/item/39999-orthopedic-surgery-residents-test-car-seat-safety-for-special-needs-children-6-insights.html>

"Kettering, McLaren Hospital conduct research on safe car seats for special needs children." By Lindsay Knake, Kettering University News, February 2, 2018. Available at: <https://news.kettering.edu/news/kettering-mclaren-hospital-conduct-research-safe-car-seats-special-needs-children>