

## **STEPHANIE A. RUSSO, MD, PhD**

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Akron, OH 44308

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### **POSITIONS**

#### **Akron Children's Hospital**

Akron, OH

*Pediatric Hand and Peripheral Nerve Surgeon*

Sept. 2021 - Present

#### **University of Pittsburgh Medical Center Hamot Sports Medicine**

Erie, PA

*Team Physician* – High school football game coverage

Oct. 2016 - Nov. 2017

#### **Saucony, Inc.**

Lexington, MA

*Software Development Consultant* – Running biomechanics analysis and training

Aug. 2011 - Feb. 2013

### **ACADEMIC APPOINTMENTS**

#### **Cleveland State University**

Cleveland, OH

*Adjunct Faculty* – Department of Chemical and Biomedical Engineering

Mar. 2022 - Present

#### **Shriners Hospitals for Children**

Philadelphia, PA

*Assistant Investigator* – Scientific Staff

Jan. 2016 - Present

#### **University of Delaware**

Newark, DE

*Affiliate Assistant Professor* – Department of Kinesiology and Applied  
Physiology

Sept. 2016 - Aug. 2020

*Affiliate Assistant Professor* – Biomechanics and Movement Science Program

July 2015 - Aug. 2020

### **EDUCATION**

#### **Shriners Hospital for Children**

Philadelphia, PA

*Pediatric Hand and Upper Extremity Surgery Fellowship*

July 2021

#### **Washington University**

St. Louis, MO

*Hand, Nerve, and Microsurgery Fellowship*

July 2020

#### **University of Pittsburgh Medical Center – Hamot**

Erie, PA

*Orthopaedic Surgery Residency*

June 2019

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### **University of Delaware**

Newark, DE

*Doctor of Philosophy* – Biomechanics and Movement Science

May 2014

Dissertation: Assessment of scapulothoracic and glenohumeral function and conservative treatment approaches for children with brachial plexus birth palsy

Dissertation Committee: James Richards, Ph.D., Scott Kozin, M.D., Dan Zlotolow, M.D., Jill Higginson, Ph.D., and William Rose, Ph.D.

### **Drexel University College of Medicine**

Philadelphia, PA

*Doctor of Medicine*

May 2014

### **University of Delaware**

Newark, DE

*Honors Bachelor of Science with Distinction* – Exercise Science

May 2008

Concentration in Biomechanics and Motor Control

### **MEDICAL LICENSURE**

*Physician License* – Ohio

*Physician and Surgeon License* – Missouri

*Medical Physician and Surgeon License* – Pennsylvania

*American Board of Orthopaedic Surgery Part I*, Pass, July 2019

*American Board of Orthopaedic Surgery Part II*, Pass, July 2023

*USMLE Step 3*, Pass, September 2014

*USMLE Step 2 CK*, Pass, July 2013

*USMLE Step 2 CS*, Pass, April 2013

*USMLE Step 1*, Pass, August 2010

### **PUBLICATIONS**

#### ***Refereed Articles***

1. Richardson, RT, **SA Russo**, RS Chafetz, S Warshauer, EM Nice, JG Richards, DA Zlotolow, and SH Kozin. Evaluation of upper extremity reachable workspace in children with brachial plexus birth injury. *Journal of Hand Surgery*. In press.
2. Ferrin, P, B Hathaway, **SA Russo**, and BR Peters. Use of Supinator Motor Branches in Targeted Muscle Reinnervation of the Superficial Radial Nerve. *Plastic and Reconstructive Surgery Global Open*. In press.
3. Francoisse, CA, BR Peters, CM Curtin, CB Novak, **SA Russo**, K Tam, DT Ota, KC Stenson, JD Steeves, CR Kennedy and IK Fox. Comparing surgeries to restore upper extremity function in tetraplegia: Impact on function during the perioperative period. *Journal of Spinal Cord Medicine*. Epub online.
4. Antoon, SF, **SA Russo**, SH Kozin, and DA Zlotolow. Evaluation of Monteggia fracture outcomes: Acute to chronic. *Hand*. Epub online.

5. Francoisse, CA, **SA Russo**, R Skladman, LC Kahn, C Kennedy, KC Stenson, CB Novak, and IK Fox. Quantifying donor deficits following nerve transfer surgery in tetraplegia. *Journal of Hand Surgery*. 2022. 47(12): 1157-65.
6. Richardson, RT, **SA Russo**, MT Topley, RS Chafetz, SH Kozin, DA Zlotolow, and JG Richards. Assessment of approaches to estimate scapular orientation in children with brachial plexus birth injury. *Gait & Posture*. 2022. 98: 17-23.
7. Koshinski, JL, **SA Russo**, and DA Zlotolow. Brachial plexus birth injury: A review of neurology literature assessing variability and current recommendations. *Pediatric Neurology*. 2022. 136: 35-42.
8. **Russo, SA**, RS Chafetz, LM Rodriguez, CM Killelea, DA Zlotolow, SH Kozin, JP Gaughan, and JG Richards. Comparison of shoulder motion measured by visual estimate, goniometer, and motion capture. *Journal of Pediatric Orthopaedics*. 2022. 42(8): 443-50.
9. Richardson, RT, **SA Russo**, RS Chafetz, S Warshauer, E Nice, SH Kozin, DA Zlotolow, and JG Richards. Reachable workspace with real-time motion capture feedback to quantify upper extremity function: A study on children with brachial plexus birth injury. *Journal of Biomechanics*. 2022. 132: 110939.
10. Topley, MT, **SA Russo**, RS Chafetz, DA Zlotolow, SH Kozin, and JG Richards. Scapulothoracic and glenohumeral contributions to humerothoracic kinematics in single versus double tendon transfers in brachial plexus birth injury patients. *Journal of Hand Surgery*. 2022. 47(9): 897.e1-9.
11. Patterson, JMM, **SA Russo**, M El-Haj, CB Novak, and SE Mackinnon. Radial nerve palsy: Nerve transfer versus tendon transfer to restore function. *Hand*. 2022. 17(6): 1082-9.
12. **Russo, SA**, MT Topley, RT Richardson, JG Richards, RS Chafetz, EA Rapp van Roden, DA Zlotolow, MJ Mulcahey, and SH Kozin. Assessment of the relationship between Brachial Plexus Profile activity short form scores and modified Mallet scores. *Journal of Hand Therapy*. 2022. 35(1): 51-7.
13. Mohan, AS, **SA Russo**, and MA Pet. Early surgical intervention in amniotic band syndrome for upper extremity motor nerve palsies: A Case Report. *Hand*. 2022; 17(1): NP5-11.
14. Moore, AM, CR Bettlach, TT Tung, JM West, and **SA Russo**. Lower extremity nerve transfers to restore function in patients with acute flaccid myelitis: Case series of novel techniques. *Plastic and Reconstructive Surgery – Global Open*. 2021; 9(7): e3699.
15. **Russo, SA**, RT Richardson, JG Richards, EA Rapp van Roden, RS Chafetz, MT Topley, DA Zlotolow, and SH Kozin. Effect of glenohumeral reduction type combined with tendon transfer for brachial plexus injury on objective, functional, and patient-reported outcomes. *Journal of Hand Surgery*. 2021; 46(7): 624e1-11.
16. Peters, BR, A Van Handel, **SA Russo**, and AM Moore. Five reliable nerve transfers for the treatment of isolated upper extremity nerve injuries. *Plastic and Reconstructive Surgery*. 2021; 147(5): 830e-45e.
17. **Russo, SA**, JA DeLullo, Z Liu, JM Radley, DS Gloekler, RM Vellinga, Z Chaudry, and MK Mulcahey. Plunging dangerously: A quantitative assessment of drilling the clavicle. *Orthopedics*. 2021; 44(1): e36-42.

18. Peters, BR, **SA Russo**, JM West, AM Moore, and SA Schulz. Targeted muscle reinnervation for the management of pain in the setting of major limb amputation. *SAGE Open Medicine*. 2020; 8: 1-7.
19. Rodriguez, LM, C Bickley, **SA Russo**, D Barnes, M Gagnon, R Hamdy, and LN Veilleux. Perspectives on gait and motion analysis in the management of youth with arthrogryposis multiplex congenita. *American Journal of Medical Genetics*. 2019; 181(3): 404-9.
20. **Russo, SA**, CM Killelea, DA Zlotolow, SH Kozin, LM Rodriguez, RS Chafetz, and JG Richards. Scapular stabilization limits glenohumeral stretching in children with brachial plexus injuries. *Journal of Hand Surgery*. 2019; 44(1): 63.e1-9.
21. **Russo, SA**, SH Kozin, DA Zlotolow, KF Nicholson, and JG Richards. Motion necessary to achieve Mallet internal rotation positions in children with brachial plexus birth palsy. *Journal of Pediatric Orthopaedics*. 2019; 39(1): 14-21.
22. Rapp van Roden, EA, RT Richardson, **SA Russo**, WC Rose, KF Nicholson, RS Chafetz, PG Gabos, SA Shah, AF Samdani, and JG Richards. Analysis of shoulder complex function after posterior spinal fusion in adolescents with idiopathic scoliosis. *Journal of Pediatric Orthopaedics*. 2019; 39(1): e32-38.
23. Rapp van Roden, EA, RT Richardson, **SA Russo**, WC Rose, RS Chafetz, PG Gabos, SA Shah, AF Samdani, and JG Richards. Shoulder complex mechanics in adolescent idiopathic scoliosis and their relation to patient-perceived function. *Journal of Pediatric Orthopaedics*. 2018; 38(8): e446-54.
24. **Russo, SA**, DA Zlotolow, RS Chafetz, LM Rodriguez, DE Kelly, HJ Linamen, JG Richards, JD Lubahn, and SH Kozin. Efficacy of three therapeutic taping configurations for children with brachial plexus birth palsy. *Journal of Hand Therapy*. 2018; 31(3): 357-70.
25. **Russo, SA** and CL Dwyer. Dupuytren contracture updated. *AAOS Now*. 2018; 12(5): 20,22.
26. Richardson, RT, EA Rapp, RG Quinton, KF Nicholson, BA Knarr, **SA Russo**, JS Higginson, and JG Richards. Errors associated with utilizing prescribed scapular kinematics to estimate unconstrained, natural upper extremity motion in musculoskeletal modeling. *Journal of Applied Biomechanics*. 2017; 33(6): 469-73.
27. Rapp, EA, RT Richardson, **SA Russo**, WC Rose, and JG Richards. A comparison of two non-invasive methods for measuring scapular orientation in functional positions. *Journal of Biomechanics*. 2017; 61: 269-74.
28. **Russo, SA**, LM Rodriguez, SH Kozin, DA Zlotolow, RS Chafetz, CM Killelea, KF Nicholson, and JG Richards. Therapeutic taping for scapular stabilization in children with brachial plexus birth palsy. *American Journal of Occupational Therapy*. 2016; 70(5): 1-11.
29. **Russo, SA**, BJ Loeffler, DA Zlotolow, SH Kozin, JG Richards and S Ashworth. Limited glenohumeral horizontal adduction in children with brachial plexus birth palsy: A contributor to scapular winging. *Journal of Pediatric Orthopaedics*. 2015; 35(3): 240-5.
30. Martin, DM, DA Zlotolow, **SA Russo**, and SH Kozin. Comparison of compression screw and perpendicular clamp in ulnar shortening osteotomy. *Journal of Hand Surgery*. 2014; 39(8): 1558-64.

31. Nicholson, KF, **SA Russo**, RL Hulbert, KM Rowley, SH Kozin, DA Zlotolow and JG Richards. Evaluation the acromion marker cluster as a method for measuring scapular orientation in children with brachial plexus birth palsy. *Journal of Applied Biomechanics*. 2014; 31(1): 128-133.
32. **Russo, SA**, SH Kozin, DA Zlotolow, KF Thomas, RL Hulbert, JM Mattson, KM Rowley and JG Richards. Scapulothoracic and glenohumeral contributions to motion in children with brachial plexus birth palsy. *Journal of Shoulder and Elbow Surgery*. 2014; 23: 327-338.
33. Mattson, JM, **SA Russo**, WC Rose, KM Rowley and JG Richards. Identification of scapular kinematics using surface mapping: A validation study. *Journal of Biomechanics*. 2012; 45(12): 2176-2179.

### **Book Chapters**

1. **Russo, SA** and TH Tung. Injury and compression neuropathy in the lower extremity. SE Mackinnon (ed) In *Nerve Surgery*. New York, NY: Thieme; In press.
2. **Russo, SA** and JMM Patterson. Median nerve entrapment and injury. SE Mackinnon (ed) In *Nerve Surgery*. New York, NY: Thieme; In press.
3. **Russo, SA**. Kienbock's disease and other osteonecrosis of the pediatric carpus. JM Abzug, SH Kozin, and DA Zlotolow (eds) In *The Pediatric Upper Extremity*. New York, NY: Springer; In press.
4. Mulcahey, MJ, **SA Russo**, SH Kozin. Outcome measures. JM Abzug, SH Kozin, and DA Zlotolow (eds) In *The Pediatric Upper Extremity*. New York, NY: Springer; In press.
5. Lubahn, JD, JH Gu, **SA Russo**. Hand dislocations. JM Abzug, SH Kozin, and DA Zlotolow (eds) In *The Pediatric Upper Extremity*. New York, NY: Springer; In press.
6. **Russo, SA** and SH Kozin. Brachial Plexus Reconstruction. MR Schmitz and SR Thompson (eds) In *Complications in Orthopaedics: Pediatrics*. Philadelphia, PA: Springer; 2024; 179-184.
7. **Russo, SA** and SH Kozin. Scapulothoracic dyskinesis. S. Farr (ed) In *Congenital and Acquired Deformities of the Pediatric Shoulder Girdle*. Cham, Switzerland: Springer Nature; 2022; 183-196.
8. **Russo, SA**, JD Lubahn, and R Hoffmann. Endoscopic cubital tunnel release. JS Dines, R Van Riet, CL Camp, and T Mihata (eds) In *Tips and Techniques in Elbow Surgery*. Cham, Switzerland: Springer Nature; 2022; 213-217.
9. Linkugel, A, **SA Russo**, and AM Moore. Distal anterior interosseous nerve to ulnar motor nerve transfers. S Wiesel (ed) In *Operative Techniques in Orthopaedic Surgery* (3<sup>rd</sup> ed.). Philadelphia, PA: Wolter Kluwer; 2021: 3699-3704.
10. **Russo, SA** and JM Abzug. Supracondylar humerus fractures. JM Abzug, MJ Herman, and SH Kozin (eds) In *Pediatric Elbow Fractures*. New York, NY: Springer International Publishing; 2018: 37-64.
11. **Russo, SA**, JM Pahys and SH Kozin. Gymnastics injuries in adolescents. MS Kocher and RF LaPrade (eds) In *Let's Discuss: Adolescent Sports Injuries*. Rosemont, IL: American Academy of Orthopaedic Surgeons; 2016: 165-182.

## REFEREED ABSTRACTS

### *International Podium Presentations*

1. **Russo, SA**, RS Chafetz, S Warshauer, E Nice, JG Richards, DA Zlotolow, and SH Kozin. Motion analysis of the shoulder before and after tendon transfer. Proceedings of the Narakas Brachial Plexus Symposium, Berlin, Germany, May 2022.
2. **Russo, SA**, RT Richardson, JG Richards, RS Chafetz, DA Zlotolow, and SH Kozin. Reachable workspace in children with brachial plexus birth injuries. Proceedings of the Narakas Brachial Plexus Symposium, Berlin, Germany, May 2022.
3. Lovette, MM, **SA Russo**, RS Chafetz, J Landgarten, E Johnson, SH Kozin, and DA Zlotolow. Abduction and external rotation Mallet scores overestimated by clinicians. Proceedings of the Narakas Brachial Plexus Symposium, Berlin, Germany, May 2022.
4. **Russo, SA**, DA Zlotolow and SH Kozin. Scapulothoracic and glenohumeral function in children with brachial plexus birth palsy managed non-surgically. Proceedings of the Narakas Brachial Plexus Symposium, Barcelona, Spain, February 2016.
5. **Russo, SA**, SH Kozin, DA Zlotolow, KF Nicholson and JG Richards. Reaching behind the back requires glenohumeral internal rotation and extension. Proceedings of the Narakas Brachial Plexus Symposium, Barcelona, Spain, February 2016.
6. **Russo, SA**, DA Zlotolow, LM Rodriguez, SH Kozin, RS Chafetz and JG Richards. Scapular stabilization with therapeutic tape in children with brachial plexus birth palsy. Proceedings of the Narakas Brachial Plexus Symposium, Barcelona, Spain, February 2016.
7. **Russo, SA**, BJ Loeffler, DA Zlotolow, SH Kozin, JG Richards and S Ashworth. Limited glenohumeral horizontal adduction in children with brachial plexus birth palsy: A contributor to scapular winging. Proceedings of the Narakas Brachial Plexus Symposium, Montreaux, Switzerland, May 2013. Presented by Kevin Little, M.D.
8. Thomas, KF, **SA Russo**, SH Kozin, DA Zlotolow, RL Hulbert, KM Rowley and JG Richards. Evaluating the acromial marker cluster as a method for measuring scapular orientation in children with brachial plexus birth palsy. Proceedings of the Narakas Brachial Plexus Symposium, Montreaux, Switzerland, May 2013. Presented by Kevin Little, M.D.

### *National Podium Presentations*

1. Lovette, MM. J Bass, and **SA Russo**. Assessment of shoulder function and trumpeter posture: Brachial plexus birth injury and control groups. Proceedings of the American Association for Hand Surgery, Nassau, Bahamas, January 2024.
2. **Russo, SA**, EM Nice, RS Chafetz, DA Zlotolow, and SH Kozin. Motion analysis before and after shoulder tendon transfer in children with brachial plexus birth injuries. Proceedings of the American Society for Surgery of the Hand, Toronto, Ontario, Canada, October 2023.
3. Richardson, RT, **SA Russo**, MM Lovette, JG Richards, RS Chafetz, EM Nice, DA Zlotolow, and SH Kozin. Assessment of the relationship between reachable workspace and patient-reported outcomes.

Proceedings of the Gait and Clinical Movement Analysis Society, High Point, North Carolina, June 2023.

4. Richardson, RT, **SA Russo**, JG Richards, RS Chafetz, EM Nice, DA Zlotolow, and SH Kozin. Correlations between patient-reported outcomes and reachable workspace in children with brachial plexus birth injuries. Proceedings of the American Society for Peripheral Nerve, Miami, Florida, January 2023.
5. Lovette, MM, RS Chafetz, **SA Russo**, J Landgarten, E Johnson, SH Kozin, and DA Zlotolow. Shoulder motion overestimated from clinical Mallet scores. Proceedings of the Gait and Clinical Movement Analysis Society, The Woodlands, Texas (Virtual due to COVID-19), June 2022.
6. Richardson RT, **SA Russo**, RS Chafetz, S Warshauer, EM Nice, SH Kozin, DA Zlotolow, JG Richards. Assessment of upper extremity reachable workspace in children with brachial plexus birth injury. Proceedings of the Gait and Clinical Movement Analysis Society, The Woodlands, Texas (Virtual due to COVID-19), June 2022.
7. Richardson, RT, **SA Russo**, RS Chafetz, S Warshauer, EM Nice, SH Kozin, DA Zlotolow, and JG Richards. Evaluation of upper extremity reachable workspace in children with spastic hemiplegic cerebral palsy. Proceedings of the Gait and Clinical Movement Analysis Society, The Woodlands, Texas (Virtual due to COVID-19), June 2022.
8. **Russo, SA**, SH Kozin, and DA Zlotolow. Supinator to anterior interosseous nerve transfer to restore pinch and grasp for patients with tetraplegia. Proceedings of the American Society for Peripheral Nerve, Carlsbad, California, January 2022.
9. **Russo, SA**, E Johnson, RS Chafetz, S Combs, SH Kozin, and DA Zlotolow. 3D motion analysis of arthroscopic capsular release for older children with brachial plexus birth injuries. Proceedings of the American Society for Surgery of the Hand, San Francisco, California, October 2021.
10. Richardson, RT, **SA Russo**, RS Chafetz, S Warshauer, EM Nice, SH Kozin, DA Zlotolow, and JG Richards. Reachable workspace with real-time motion capture feedback to quantify upper extremity function. Proceedings of the American Society of Biomechanics, Atlanta, Georgia (Virtual due to COVID-19), August 2021.
11. Richardson, RT, **SA Russo**, RS Chafetz, S Warshauer, EM Nice, SH Kozin, DA Zlotolow, and JG Richards. Using real-time feedback with motion capture to measure upper extremity workspace: A preliminary evaluation. Proceedings of the Gait and Clinical Movement Analysis Society, West Chester, Pennsylvania (Virtual due to COVID-19), May 2021.
12. Richardson RT, **SA Russo**, MT Topley, RS Chafetz, SH Kozin, DA Zlotolow, and JG Richards. Assessment of approaches to estimate scapular orientation in children with brachial plexus birth injury. Proceedings of the Gait and Clinical Movement Analysis Society, (Virtual due to COVID-19), May 2021.
13. **Russo, SA**, CR Bettlach, J West, and AM Moore. Short-term outcomes of novel nerve transfers for shoulder external rotation in acute flaccid myelitis. Proceedings of the American Society for Peripheral Nerve, Koloa, Hawaii (Virtual due to COVID-19), January 2021.
14. Peters, BR, **SA Russo**, CR Kennedy, D Ota, KC Stenson, CB Novak, JD Steeves, C Curtin, IK Fox, and K Tam. Baseline and early differences following nerve and tendon transfers for restoration of

- upper extremity function in cervical level spinal cord injury. Proceedings of the American Society for Peripheral Nerve, Koloa, Hawaii (Virtual due to COVID-19), January 2021.
15. **Russo, SA**, BR Peters, CB Novack, J Vetter, and IK Fox. Evaluation of short-term deficits following brachialis nerve transfer. Proceedings of the American Association for Hand Surgery, Koloa, Hawaii (Virtual due to COVID-19), January 2021.
  16. **Russo, SA**, JG Richards, RS Chafetz, S Warshauer, DA Zlotolow, and SH Kozin. Impact of tendon transfers on shoulder motion in children with brachial plexus injuries. Proceedings of the American Society for Surgery of the Hand, Residents and Fellows Conference, San Antonio, Texas (Virtual due to COVID-19), October 2020.
  17. Chafetz, RS, **SA Russo**, J Landgarten, E Johnson, SH Kozin, and DA Zlotolow. Clinical determination of Mallet scores overestimates shoulder motion. Proceedings of the American Society for Surgery of the Hand, Residents and Fellows Conference, San Antonio, Texas (Virtual due to COVID-19), October 2020.
  18. **Richardson, RT**, **SA Russo**, RS Chafetz, SH Kozin, DA Zlotolow, and JG Richards. Preliminary assessment of a tool to measure upper extremity workspace using real-time feedback with motion capture. Proceedings of the Gait and Clinical Movement Analysis Society, West Chester, Pennsylvania, June 2020 (Cancelled due to COVID-19).
  19. **Richardson, RT**, **SA Russo**, MT Topley, RS Chafetz, SH Kozin, DA Zlotolow, and JG Richards. A comparison of methods to estimate scapular kinematics for brachial plexus birth injuries. Proceedings of the Gait and Clinical Movement Analysis Society, West Chester, Pennsylvania, June 2020 (Cancelled due to COVID-19).
  20. Topley, MT, **SA Russo**, RS Chafetz, JG Richards, DA Zlotolow, and SH Kozin. The effect of single versus double tendon transfer on humerothoracic internal rotation range of motion in brachial plexus birth injury patients. Proceedings of the American Society for Surgery of the Hand, Residents and Fellows Conference, Las Vegas, Nevada, September 2019.
  21. **Russo, SA**, MT Topley, RT Richardson, RS Chafetz, JG Richards, DA Zlotolow, and SH Kozin. Evaluation of shoulder external and internal rotation measures in children with brachial plexus birth injuries. Proceedings of the Gait and Clinical Movement Analysis Society, Frisco, Texas, March 2019.
  22. **Russo, SA**, RT Richardson, MT Topley, DA Zlotolow, SH Kozin, and JG Richards. Effect of closed versus surgical glenohumeral reduction on glenohumeral function in children with brachial plexus birth injuries. Proceedings of the American Society of Surgery for the Hand, Boston, Massachusetts, September 2018.
  23. **Topley, MT**, **SA Russo**, EA Rapp van Roden, RT Richardson, RS Chafetz, SH Kozin, DA Zlotolow, and JG Richards. Reliability of radiographic evidence of glenohumeral subluxation and the relationship to shoulder function. Proceedings of the American Society of Biomechanics, Rochester, Minnesota, August 2018.
  24. **Richardson, RT**, EA Rapp, MT Topley, RS Chafetz, **SA Russo**, DA Zlotolow, SH Kozin, and JG Richards. Glenohumeral joint congruity has minimal effect on humerothoracic motion in brachial plexus birth palsy. Proceedings of the Gait and Clinical Movement Analysis Society, Indianapolis, Indiana, May 2018.



25. Topley, M, **SA Russo**, RT Richardson, EA Rapp, DA Zlotolow, SH Kozin, and JG Richards. Functional versus perceived outcomes in brachial plexus birth palsy. Proceedings of the Pediatric Orthopaedic Society of North America, Austin, Texas, May 2018.
26. Chafetz, RS, **SA Russo**, LM Rodriguez, DA Zlotolow, SH Kozin, and JG Richards. Comparison of surgeon and therapist shoulder motion measurements to motion capture measurements. Proceedings of the American Society for Surgery of the Hand, San Francisco, California, September 2017.
27. **Russo, SA**, EA Rapp, SH Kozin, JG Richards, JD Lubahn, and DA Zlotolow. Shoulder rotation after anterior capsule release versus humeral osteotomy in children with brachial plexus birth palsy. Proceedings of the American Society for Surgery of the Hand, Residents and Fellows Conference, San Francisco, California, September 2017.
28. **Russo, SA**, CM Killelea, LM Rodriguez, RS Chafetz, SH Kozin, DA Zlotolow, and JG Richards. Evaluation of shoulder stretching with and without scapular stabilization in children with brachial plexus injuries. Proceedings of the Gait and Clinical Movement Analysis Society, Salt Lake City, Utah, May 2017.
29. **Russo, SA**, RS Chafetz, LM Rodriguez, CM Killelea, DA Zlotolow, SH Kozin, and JG Richards. Comparing measurements of shoulder motion by a physician, by an occupational therapist with a goniometer and by motion capture. Proceedings of the Gait and Clinical Movement Analysis Society, Salt Lake City, Utah, May 2017.
30. Rapp, EA, RT Richardson, **SA Russo**, WC Rose, and JG Richards. A comparison of two non-invasive methods for measuring scapular kinematics in functional positions. Proceedings of the Gait and Clinical Movement Analysis Society, Salt Lake City, Utah, May 2017.
31. Richardson, RT, BA Knarr, **SA Russo**, JS Higginson and JG Richards. Evaluation of the validity of utilizing a scapular rhythm to assess upper extremity motion in musculoskeletal modeling. Proceedings of the Gait and Clinical Movement Analysis Society, Memphis, Tennessee, May 2016.
32. **Russo, SA**, KF Nicholson, DA Zlotolow, SH Kozin and JG. Richards. Glenohumeral extension: An important factor for reaching behind the back. Proceedings of the Gait and Clinical Movement Analysis Society, Portland, Oregon, March 2015.
33. **Russo, SA**, KF Nicholson, SH Kozin, DA Zlotolow, LM Rodriguez, RS Chafetz, CM Killelea, T Zachry and JG Richards. Benefits of scapular taping for scapular stabilization in children with brachial plexus birth palsy. Proceedings of the Gait and Clinical Movement Analysis Society, Portland, Oregon, March 2015.
34. **Russo, SA**, KF Nicholson, SH Kozin, DA Zlotolow and JG Richards. Scapulothoracic and glenohumeral movement patterns in children with brachial plexus birth palsy treated non-surgically. Proceedings of the Gait and Clinical Movement Analysis Society, Newark, DE, June 2014.
35. Martin, DE, DA Zlotolow, **SA Russo** and SH Kozin. Comparison of compression screw and perpendicular clamp in ulnar shortening osteotomy. Proceedings of the American Academy of Orthopaedic Surgeons, New Orleans, Louisiana, March 2014.

36. Thomas, KF, **SA Russo**, RL Hulbert, KM Rowley, SH Kozin, DA Zlotolow and JG Richards. General linear models for estimating static scapular orientation in children with brachial plexus birth palsy. Proceedings of the Gait and Clinical Movement Analysis Society, Cincinnati, Ohio, May 2013.
37. **Russo, SA**, SH Kozin, JM Mattson, KF Thomas and JG Richards. Scapular contribution to shoulder motion in subjects with brachial plexus palsy. Proceedings of the Gait and Clinical Movement Analysis Society, Ann Arbor, Michigan, May 2012.

#### *National Podcast Presentation*

1. **Russo, SA**, KF Nicholson, DA Zlotolow, SH Kozin and JG Richards. Scapulothoracic and glenohumeral movement patterns in children with brachial plexus birth palsy treated non-surgically. Proceedings of the American Society for Surgery of the Hand, Boston, Massachusetts, September 2014.

#### *National Poster Presentations*

1. **Russo, SA**, MM Lovette, RT Richardson, EM Nice, RS Chafetz, DA Zlotolow, and SH Kozin. Close-to-body reachable workspace in children with brachial plexus birth injuries. Proceedings of the American Society for Peripheral Nerve, Nassau, Bahamas, January 2024.
2. **Russo, SA**, RT Richardson, JG Richards, RS Chafetz, S Warshauer, SH Kozin, and DA Zlotolow. Assessment of relationship between reachable workspace and patient-reported outcomes in children with cerebral palsy. Proceedings of the American Association for Hand Surgery, Miami, Florida, January 2023.
3. Hoffman, RA, C Conroy, L Jacobson, **SA Russo**, DA Zlotolow. Brachial plexus birth injury: A review of Neurosurgery literature assessing variability and current recommendation. Proceedings of the American Society for Peripheral Nerve, Miami, Florida, January 2023.
4. **Russo, SA**, **B Lipa**, R Goldberg, SH Kozin, and DA Zlotolow. Nerve transfer to restore pinch and grasp for patients with tetraplegia. Proceedings of the American Congress of Rehabilitation Medicine, Chicago, Illinois, November 2022.
5. Richardson, RT, **SA Russo**, RS Chafetz, JG Richards, SH Kozin, and DA Zlotolow. Evaluation of reachable workspace in children with brachial plexus birth injuries. Proceedings of the American Society for Surgery of the Hand, Boston, Massachusetts, October 2022.
6. Richardson, RT, **SA Russo**, RS Chafetz, JG Richards, SH Kozin, and DA Zlotolow. Deficits in upper extremity reachable workspace in children with spastic hemiplegic cerebral palsy. Proceedings of the American Society for Surgery of the Hand, Boston, Massachusetts, October 2022.
7. **Russo, SA**, **SH Kozin**, and DA Zlotolow. Supinator to anterior interosseous nerve transfer for patients with tetraplegia. Proceedings of the Howard H. Steel Assembly, Orlando, Florida, December 2021.
8. **Russo, SA**, RT Richardson, JG Richards, RS Chafetz, DA Zlotolow, and SH Kozin. Reachable workspace measured with realtime feedback in children with brachial plexus birth injuries. Proceedings of the American Society for Surgery of the Hand, San Francisco, California, October 2021.

9. **Russo, SA**, E Johnson, RS Chafetz, S Combs, SH Kozin, and DA Zlotolow. 3D motion analysis of arthroscopic capsular release for older children with brachial plexus birth injuries. Proceedings of the American Society for Surgery of the Hand, Residents and Fellows Conference, San Francisco, California, October 2021.
10. **Russo, SA**, **RS Chafetz**, S Warshauer, JG Richards, J Landgarten, DA Zlotolow, and SH Kozin. Impact of tendon transfers on shoulder motion in children with brachial plexus injuries. Proceedings of the Gait and Clinical Movement Analysis, West Chester, Pennsylvania (Virtual due to COVID-19), May 2021.
11. **Russo, SA**, CR Bettlach, and AM Moore. Lower extremity nerve transfers to restore function in patients with acute flaccid myelitis: Two-year outcomes. Proceedings of the American Society for Peripheral Nerve, Koloa, Hawaii (Virtual due to COVID-19), January 2021.
12. **Russo, SA**, JG Richards, RS Chafetz, S Warshauer, DA Zlotolow, and SH Kozin. Impact of tendon transfers on shoulder motion in children with brachial plexus injuries. Proceedings of the American Society for Surgery of the Hand, San Antonio, Texas (Virtual due to COVID-19), October 2020.
13. Chafetz, RS, **SA Russo**, J Landgarten, E Johnson, SH Kozin, and DA Zlotolow. Clinical determination of Mallet scores overestimates shoulder motion. Proceedings of the American Society for Surgery of the Hand, San Antonio, Texas (Virtual due to COVID-19), October 2020.
14. **Richardson, RT**, **SA Russo**, MT Topley, RS Chafetz, SH Kozin, DA Zlotolow, and JG Richards. A comparison of methods to estimate scapular kinematics for brachial plexus birth injuries. Proceedings of the American Society of Biomechanics, Atlanta, Georgia (Virtual due to COVID-19) , August 2020.
15. **Russo, SA**, MT Topley, RT Richardson, RS Chafetz, DA Zlotolow, and SH Kozin. Shoulder abduction changes external and internal rotation measures in children with brachial plexus birth injuries. Proceedings of the American Society for Surgery of the Hand, Las Vegas, Nevada, September 2019.
16. **Richardson, RT**, **SA Russo**, MT Topley, RS Chafetz, SH Kozin, DA Zlotolow, and JG Richards. A Patient-Specific Linear Model Approach to Estimate Scapular Kinematics for Brachial Plexus Birth Injuries. Proceedings of the Gait and Clinical Movement Analysis Society, Frisco, Texas, March 2019.
17. Richardson, RT, **SA Russo**, RS Chafetz, SH Kozin, DA Zlotolow, and JG Richards. Glenohumeral joint congruity has minimal effect on glenohumeral motion in brachial plexus birth injuries. Proceedings of the American Society for Surgery of the Hand, Boston, Massachusetts, September 2018.
18. Paul, JT, **SA Russo**, SH Kozin, and DA Zlotolow. Brachial plexus birth injuries are poorly represented in the general pediatric literature. Proceedings of the American Society for Surgery of the Hand, Boston, Massachusetts, September 2018.
19. **Topley, MT**, **SA Russo**, EA Rapp van Roden, RT Richardson, RS Chafetz, SH Kozin, DA Zlotolow, and JG Richards. Reliability of radiographic evidence of glenohumeral subluxation and the relationship to shoulder joint motion. Proceedings of the American Society of Biomechanics, Rochester, Minnesota, August, 2018.

20. Richardson, RT, EA Rapp, RS Chafetz, **SA Russo**, DA Zlotolow, SH Kozin, and JG Richards. Impact of glenohumeral joint congruity on shoulder function in brachial plexus birth palsy. Proceedings of the Gait and Clinical Movement Analysis Society, Salt Lake City, Utah, May 2017.
21. Rapp, EA, **SA Russo**, RT Richardson, WC Rose, and JG Richards. Evaluation of two non-invasive measures of scapular orientation in adolescents. Proceedings of the International Pediatric Orthopaedic Society, Orlando, Florida, December 2016.
22. **Russo, SA**, SH Kozin, JD Lubahn, DA Zlotolow, LM Rodriguez and DE Kelly. Evaluation of three therapeutic taping approaches for scapular winging in children with brachial plexus birth palsy. Proceedings of the American Society for Surgery of the Hand, Residents and Fellows Conference, Austin, Texas, September 2016.
23. Richardson, RT, R Quinton, BA Knarr, **SA Russo**, JS Higginson and JG Richards. A comparison of model-predicted muscle activations with electromyography during shoulder abduction. Proceedings of the American Society of Biomechanics, Raleigh, North Carolina, August 2016.
24. **Russo, SA**, SH Kozin, DA Zlotolow, and JG Richards. Natural history of scapulothoracic and glenohumeral function in children with brachial plexus birth palsy. Proceedings of the Orthopaedic Research Society, Orlando, Florida, March 2016.
25. **Russo, SA**, SH Kozin, DA Zlotolow, LM Rodriguez, RS Chafetz, and JG Richards. Efficacy of therapeutic taping for scapular winging in children with brachial plexus birth palsy. Proceedings of the American Society for Surgery of the Hand, Seattle, Washington, September 2015.
26. **Russo, SA**, KF Nicholson, SH Kozin, DA Zlotolow and JG Richards. Glenohumeral extension in children with brachial plexus birth palsy: An important factor for reaching behind the back. Proceedings of the American Society for Surgery of the Hand, Boston, Massachusetts, September 2014.
27. Martin, DE, **SA Russo**, DA Zlotolow and SH Kozin. Comparison of compression screw and perpendicular clamp in ulnar shortening osteotomy. Proceedings of the American Society for Surgery of the Hand, Boston, Massachusetts, September 2014.
28. **Russo, SA**, BJ Loeffler, DA Zlotolow, SH Kozin, JG Richards and S Ashworth. Limited glenohumeral horizontal adduction in children with brachial plexus birth palsy: A contributor to scapular winging. Proceedings of the American Society for Surgery of the Hand, Residents and Fellows Conference, San Francisco, California, October 2013.
29. Thomas, KF, **SA Russo**, RL Hulbert, KM Rowley and JG Richards. Evaluating the acromial marker cluster as a method for measuring scapular orientation in children with brachial plexus birth palsy. Proceedings of the Gait and Clinical Movement Analysis Society, Cincinnati, Ohio, May 2013.
30. Mattson, JM, **SA Russo** and JG Richards. Identification of scapular kinematics using surface mapping. Proceedings of the Gait and Clinical Movement Analysis Society, Bethesda, Maryland, April 2011.
31. Mahoney, M, **SA Russo**, M Varnell, AM Jaczynski, MC Jacofsky and D Jacofsky. Lower extremity EMG during stair ascent following TKA with four different surgical approaches. Proceedings of the Orthopaedic Research Society Annual Meeting, New Orleans, Louisiana, March 2010.

32. **Russo, SA** and TD Royer. Treadmill walking: Potential for improved symmetry. Proceedings of the Gait and Clinical Movement Analysis Society Annual Meeting, Richmond, Virginia, April 2008.

### *Regional Podium Presentations*

1. **Lovette, MM**, J Bass, and **SA Russo**. Hand to mouth position versus feeding task positions in typically developing children. Proceedings of the Midwest American Society of Biomechanics Meeting, Cleveland, Ohio, September 2023.
2. **Russo, SA**, JA DeLullo, Z Liu, **DS Gloekler**, RM Vellinga, Z Chaudry, JM Radley, and MK Mulcahey. Plunging dangerously: A quantitative assessment of drilling the clavicle. Proceedings of the Eastern Orthopaedic Association, Miami Beach, Florida, October 2017.
3. **Russo, SA**, JA DeLullo, Z Liu, **DS Gloekler**, RM Vellinga, Z Chaudry, JM Radley, and MK Mulcahey. Plunging dangerously: A quantitative assessment of drilling the clavicle. Proceedings of the Cleveland Clinic New Technology in Upper Extremity Surgery Conference, Cleveland, Ohio, June 2017.

## PRESENTATIONS

### *Invited Presentations*

1. **Russo, SA**. Surgical techniques for high ulnar nerve injuries. Instructional Course Lecture: Maximizing Success Following Nerve Transfer, American Society of Surgery of the Hand, Minneapolis, Minnesota, September 2024.
2. **Russo, SA**. Arthrogyrosis: Hand in hand, Association of Surgical Technologists Pennsylvania State Assembly, Erie, Pennsylvania, March 2024.
3. **Russo, SA** and AM Krahe. Thoracic outlet syndrome: Diagnosis and management, Sports Medicine Update: Building Young Athletes – Safe and Healthy, Akron Children’s Hospital, Akron, Ohio, March 2024.
4. **Russo, SA**. Selective denervation for spasticity management, Jornada Quirugica International en apoyo a Pacientes con Paralisis de Plexo Braquial asociado al Nacimiento, Guadalajara, Mexico, February 2024.
5. **Russo, SA**. Sholder biomechanics and 3D motion capture in children with brachial plexus birth injuries, Jornada Quirugica International en apoyo a Pacientes con Paralisis de Plexo Braquial asociado al Nacimiento, Guadalajara, Mexico, February 2024.
6. **Russo, SA**. Evaluation and management of brachial plexus birth injuries. Instruction Course Session: Management of Brachial Plexus Birth Injuries, American Society for Peripheral Nerve, Nassau, Bahamas, January 2024.
7. **Russo, SA**. Comprehensive history and physical exam, American Society for Surgery of the Hand Annual Meeting Pre-course: A Comprehensive Approach to the Care of the Adult and Pediatric Brachial Plexus Patient, Toronto, Canada, October 2023.
8. **Russo, SA**. Lessons from 3D motion capture in children with brachial plexus birth injuries, Congreso Internacional Reconstruccion Compleja de hombre y transferencias, Guadalajara, Mexico, May 2023.

9. Engles, DE and **SA Russo**. Arthrogyrosis: Upper extremity surgical management, Arthrogyrosis Multiplex Congenita Support, Inc. Annual Meeting, Columbus, Ohio, July 2023.
10. **Russo, SA**. Relationship between patient-reported outcomes and objective outcome measures in children with brachial plexus birth injuries, Congreso Internacional Reconstruccion Compleja de hombre y transferencias, Guadalajara, Mexico, May 2023.
11. **Russo, SA**. Motion analysis lab: Current utility and future applications for surgery, Texas Society for Hand Therapy Annual Educational Conference, The Woodlands, Texas, April 2023.
12. **Russo, SA**. Development and implementation of an upper extremity reachable workspace tool, Biomedical Engineering Seminar, Cleveland State University, February 2023.
13. **Russo, SA**. The spectrum of nerve transfers in 2023: What's possible. Symposium: Nerve Transfers for the Everyday Surgeon, American Association for Surgery of the Hand, Miami, Florida, January 2023.
14. **Russo, SA**. Peripheral nerve surgery: Brachial plexus injuries and beyond. Grand Rounds, Akron Children's Hospital, July 2022.
15. **Russo, SA**. 3D motion capture in children with brachial plexus birth injuries: What we have learned and where we are going. Keynote Lecture, World Society for Reconstructive Microsurgery, Cancun, Mexico, June 2022.
16. **Richardson, RT**, **SA Russo**, **J Long**, and **RS Chafetz**. Advances in upper extremity motion capture for clinical assessment, Breakfast Session, Gait and Clinical Movement Analysis Society Annual Meeting, Virtual due to COVID-19, June 2021.
17. **Russo, SA**. Motion capture of the shoulder: Development and clinical applications, Center for Human-Machine Systems Seminar, Cleveland State University, March 2021.
18. **Russo, SA**. Nerve injuries and nerve transfers, Doctors Demystify the Upper Extremity Nerve Anatomy for Occupational Therapists and Physical Therapists, St. Louis, Missouri, October 2019.
19. **Russo, SA**. Nerve grafting versus nerve transfers for brachial plexus birth injuries, Plexus Nexus Meeting, Las Vegas, Nevada, September 2019.
20. **Russo, SA**. Experience developing a residency orthopedic mission trip, Pennsylvania Orthopaedic Society Spring Scientific Meeting, Erie, Pennsylvania, May 2017.
21. **Russo, SA** and **RS Chafetz**. Shoulder motion capture assessment: Development and implementation, Shriners Motion Analysis Laboratories Network, Video Conference, September 2016.
22. **Russo, SA** and **SH Kozin**. Upper extremity assessment, measurements and outcomes: Tools for success, Breakfast Roundtable, Gait and Clinical Movement Analysis Society Annual Meeting, Newark, Delaware, June 2014.
23. **Russo, SA**. Shoulder kinematics in children with brachial plexus birth palsy, Guest lecture to KAAP350: Basic Concepts in Kinesiology, University of Delaware, Newark, Delaware, November 2011.

24. **Russo, SA**. Constructing segment coordinate systems and performing two- and three-dimensional transformations, Guest lecture to KAAP427/627: Biomechanical Methods, University of Delaware, Newark, Delaware, September 2011.

#### *Peer Reviewed Presentations*

1. **Russo, SA**. Osteomyelitis, Residents and Fellows Case Presentation, International Pediatric Orthopaedic Symposium, Orlando, Florida, December 2016.

#### *Local Research Symposium Presentations*

##### Podium Presentations

1. **Russo, SA**, RT Richardson, MT Topley, DA Zlotolow, SH Kozin, and JG Richards. Effect of closed versus surgical glenohumeral reduction on glenohumeral function in children with brachial plexus birth injuries. Research Days, University of Pittsburgh Medical Center – Hamot, Erie, Pennsylvania, April 2019.
2. **Russo, SA**, RS Chafetz, LM Rodriguez, DA Zlotolow, SH Kozin, and JG Richards. Comparison of surgeon and therapist shoulder motion measurements to motion capture measurements. Research Days, University of Pittsburgh Medical Center – Hamot, Erie, Pennsylvania, April 2018.
3. **Russo, SA**, CM Killelea, LM Rodriguez, RS Chafetz, SH Kozin, DA Zlotolow, and JG Richards. Evaluation of shoulder stretching with and without scapular stabilization in children with brachial plexus injuries. Research Days, University of Pittsburgh Medical Center – Hamot, Erie, Pennsylvania, April 2017.
4. **Russo, SA**, LM Rodriguez, DA Zlotolow, SH Kozin, RS Chafetz, and JG Richards. Efficacy of therapeutic taping for scapular winging in children with brachial plexus birth palsy. Research Days, University of Pittsburgh Medical Center - Hamot, Erie, Pennsylvania, April 2016.
5. **Russo, SA**, KF Nicholson, DA Zlotolow, SH Kozin and JG. Richards. Glenohumeral extension: An important factor for reaching behind the back. Research Days, University of Pittsburgh Medical Center - Hamot, Erie, Pennsylvania, April 2015.

##### Poster Presentations

1. Rapp, EA, **SA Russo**, RT Richardson, WC Rose, and JG Richards. Evaluation of two non-invasive measures of scapular orientation in adolescents. Research Days, University of Pittsburgh Medical Center – Hamot, Erie, Pennsylvania, April 2017.
2. **Russo, SA**, SH Kozin, DA Zlotolow, and JG Richards. Natural history of scapulothoracic and glenohumeral function in children with brachial plexus birth palsy. Research Days, University of Pittsburgh Medical Center - Hamot, Erie, Pennsylvania, April 2016.
3. **Russo, SA**, SH Kozin, DA Zlotolow and JG Richards. Scapular contribution to shoulder motion in subjects with brachial plexus palsy. Center for Biomedical Engineering Research Symposium, University of Delaware, Newark, Delaware, April 2012.

4. **Russo, SA**, SH Kozin, DA Zlotolow and JG Richards. Scapular contribution to shoulder motion in subjects with brachial plexus palsy. Medical Student Research Day, Drexel University College of Medicine, Philadelphia, Pennsylvania, March 2012.
5. **Mattson, JM, SA Russo** and JG Richards. Identification of scapular kinematics using surface mapping. Center for Biomedical Engineering Research Symposium, University of Delaware, Newark, Delaware, May 2011.
6. **Russo, SA** and TD Royer. Treadmill walking: Potential for improved symmetry. Discovery Day, Drexel University College of Medicine, Philadelphia, Pennsylvania, October 2008.
7. **Russo, SA** and TD Royer. Treadmill walking: Potential for improved symmetry. Undergraduate Research Symposium, University of Delaware, Newark, Delaware, August 2007.

## GRANT SUPPORT

*Akron Children's Hospital Foundation*: Foundation Research Grant      January 2023 – December 2024  
 Reachable Workspace for Patients with Upper Extremity Impairments      \$29,050  
 Principal Investigator: **SA Russo**

*Akron Children's Hospital Foundation*: Foundation Research Grant      January 2023 – December 2024  
 Motion Capture to Assess Function in Typically Developing Children      \$25,985  
 Principal Investigator: **SA Russo**

*Shriners Hospitals for Children*: Clinical Research Grant      January 2022 – December 2024  
 Reachable Workspace to Assess Upper Extremity Function and Outcomes      \$344,552  
 Principal Investigator: SH Kozin  
 Co-Investigators: **SA Russo** (5%), RS Chafetz, RT Richardson, and DA Zlotolow

*Shriners Hospitals for Children*: Motion Analysis Developmental Grant      July 2019 – June 2021  
 Measurement of Upper Extremity Workspace using Real-time Feedback with      \$117,220  
 Motion Capture  
 Principal Investigator: SH Kozin  
 Co-Investigators: RS Chafetz, **SA Russo** (5%), RT Richardson, and DA Zlotolow

*Pediatric Orthopaedic Society of North America*: Research Start-Up Grant      June 2017 – May 2018  
 Scapular motion across the spectrum: Brachial plexus and youth pitchers      \$9,487  
 Co-Principal Investigators: **SA Russo** (10%) and SH Kozin  
 Co-Investigators: CCD Franklin, JG Richards, DA Zlotolow, JD Lubahn, KF Nicholson, RS Chafetz, and DE Kelly

*American Foundation for Surgery of the Hand*: Independent Outreach      June 2017 – May 2018  
 Missions Grant  
 Hamot Orthopedic Mission      \$10,000  
 Organizers: JD Lubahn and **SA Russo**

*Shriners Hospitals for Children*: Clinical Research Grant      January 2016 – December 2018  
 Impact of glenohumeral joint reduction on functional outcomes in brachial plexus      \$484,044  
 Principal Investigator: SH Kozin  
 Co-Investigators: JG Richards, **SA Russo** (5%), and DA Zlotolow



*American Foundation for Surgery of the Hand: Weiland Resident* January 2016 – December 2016  
Fast Track Grant

Capsular release versus humeral osteotomy: Effect on shoulder function \$6,000  
Principal Investigator: **SA Russo** (15%)

Mentor: SH Kozin

Co-Investigators: JG Richards, JD Lubahn, DA Zlotolow, RS Chafetz, and DE Kelly

*Orthopaedic Research and Education Foundation and Orthopaedic Research Society: Resident Research Grant* July 2015 – June 2016

Efficacy of therapeutic taping approaches for scapular winging in children with brachial birth palsy \$4,543

Principal Investigator: **SA Russo** (15%)

Mentor: SH Kozin

Co-Investigators: JG Richards, JD Lubahn, DA Zlotolow, RN Ramirez, RS Chafetz, KM Cooney and LM Rodriguez

## TEACHING EXPERIENCE

*Case Discussion Moderator* – Resident Review Course, Akron, OH 2022 - 2023

*Fourth Year Co-Facilitator* – Drexel University, Philadelphia, PA Spring 2014

- Selected as a small group facilitator for Physician and Patient course
- Worked with faculty facilitator to teach first year medical students patient interview and communication skills

*Tutor* – Academic Enrichment Center, University of Delaware, Newark, DE Fall 2007 - Spring 2008, Spring 2010 - Spring 2012

- Courses included Anatomy, Physiology, Calculus, General Chemistry

*Teaching Assistant* – University of Delaware, Newark, DE Spring 2011

Course: HESC420/620 Functional Human Anatomy

Instructor: David Barlow, Ph.D.

- Assisted undergraduate and graduate students with cadaveric dissections
- Prepared and proctored practical exams

*Med Scholars* – Drexel University, Philadelphia, PA Fall 2009 - Spring 2010

- Invited to teach Gross Anatomy review sessions for first year medical students

*Workshop Leader* – Department of Chemistry and Biochemistry, University of Delaware, Newark, DE Spring 2006 - Spring 2008

- Selected to facilitate Peer-Led Team Learning general chemistry problem sessions

## PROFESSIONAL SERVICE

### *Reviewing*

Journal of Hand Surgery Jan. 2023 - Present  
Journal of Pediatric Orthopaedics Sept. 2017 - Present

### *Mentoring*

*Research Advisor (Doctorate)* – Lauren Lottier, M.S., Cleveland State University, Cleveland, OH  
Currently working toward doctorate in biomedical engineering.

*Research Advisor (Masters)* – Madison Lovette, Cleveland State University, Cleveland, OH  
Motion analysis of feeding tasks: Brachial plexus versus control subjects. Completed May 2023.  
Currently working as Research Specialist at Cleveland Clinic in Cleveland, Ohio.

*Thesis Committee Member* – Matthew Topley, University of Delaware, Newark, DE  
Scapulothoracic and glenohumeral kinematics in single versus double tendon transfer in brachial plexus birth injury. Completed May 2019.  
Currently working toward doctorate in neuromotor science at Temple University in Philadelphia, Pennsylvania. Biomechanist for Major League Baseball Detroit Tigers.

*Dissertation Committee Member* – Elizabeth Rapp, M.S., University of Delaware, Newark, DE  
Impact of Trunk Deformity on Shoulder Function: Scapular Kinematics in Adolescents with Idiopathic Scoliosis. Completed December 2017.  
Currently a Managing Scientist at Exponent in Philadelphia, Pennsylvania.

*Thesis Committee Member* – Elizabeth Rapp, University of Delaware, Newark, DE  
A comparison of non-invasive methods for estimating scapular kinematics in typically developing adolescents. Completed December 2016.  
Completed doctoral studies at University of Delaware (above). Currently a Managing Scientist at Exponent in Philadelphia, Pennsylvania.

*Dissertation Committee Member* – R. Tyler Richardson, M.S., University of Delaware, Newark, DE  
Validity of scapular rhythm to assess unconstrained scapular kinematics. Completed May 2016.  
Completed postdoctoral studies at University of Delaware. Currently an Associate Professor at Pennsylvania State University – Harrisburg.

### ***Committee Service***

<i>Member, Bylaws Committee</i> Akron Children’s Hospital	2023 - Present
<i>Member, Young Leaders Program</i> American Society for Surgery of the Hand	2022
<i>Member, Adrian E. Flatt Residents and Fellows Conference Committee</i> American Society for Surgery of the Hand	2022 - Present
<i>Co-Chair, Motion Analysis Committee</i> Plexus Nexus	2017 - Present

### **PROFESSIONAL MEMBERSHIPS AND ORGANIZATIONS**

<i>Candidate Member</i> – American Association for Hand Surgery	2022 - Present
<i>Candidate Member</i> – Pediatric Orthopaedic Society of North America	2022 - Present
<i>Member</i> – American Society for Peripheral Nerve	2021 - Present

- Member* – Plexus Nexus 2017 - Present
- Candidate Member* – American Society for Surgery of the Hand 2016 - Present
- Candidate Member* – Ruth Jackson Orthopaedic Society 2014 - Present
- Associate Member* – Orthopaedic Research Society 2014 - Present
- Trainee Member* – American Academy of Orthopaedic Surgeons 2014 - 2021
- Member* – Gait and Clinical Movement Analysis Society 2011 - Present
- Member* – American Physician Scientists Association 2012 – 2013
- Member* – American Medical Association 2012 – 2013
- Member* – Orthopedic Interest Group, Drexel University, Philadelphia, PA Fall 2008 – Spring 2010, Fall 2012 – Spring 2014
- Participated in events including information about residency application process, post-match student panel, and careers in orthopedic subspecialties
- Member* – BIOMS United, University of Delaware, Newark, DE Spring 2010 – Spring 2012
- Program to enhance the career development of Biomechanics and Movement Science (BIOMS) graduate and doctoral students
  - Attended events including preparation for faculty appointment panel discussion, reference management software tutorial, and development of new collaborations and academic programs
- President and Founder* – Physical Medicine and Rehabilitation Interest Group Drexel University, Philadelphia, PA Fall 2009 - Spring 2010
- Established organization for students interested in learning about careers in physical medicine and rehabilitation
  - Organized group meetings with local physicians to discuss topics such as residency applications and subspecialties within the field
- Member* – Women’s Mentoring Program, American Medical Women’s Association, Drexel University, Philadelphia, PA Fall 2009 - Spring 2010
- Participated in mentoring program that paired medical students with female attending physicians

## **VOLUNTEER ACTIVITIES**

- ENGIN*, Akron, OH Spring 2023 - Present
- One-on-one mentoring for Ukrainians learning to speak English
- Hamot Orthopedic Mission*, Erie, PA Spring 2016 – Fall 2019
- One week volunteer medical mission trip to San Lucas Medical Center in Valladolid, Yucatan, Mexico
- Developed program that has been integrated into the Hamot orthopedic residency
  - Collaboration and coordination with international hospital staff and local volunteers
  - Inaugural annual mission completed in March 2017
  - Subsequent trips completed January 2018 and January 2019

*Gliding Stars*, Hamburg, NY; Cleveland OH Fall 2017 – Spring 2018, Spring 2023  
Adaptive ice-skating program for children and adults with disabilities

*The Perry Initiative*, Philadelphia, PA; Newark, DE; Orlando, FL; Erie, PA Spring 2013 - Present  
Outreach program for young women interested in careers in orthopedic surgery and bioengineering

- Assist with programs designed to give students hands on experience in surgical technique and engineering experiments, as well as an introduction to the importance of networking with peers and mentors in a professional setting
- Worked with Dr. Corinna Franklin to begin a Perry Initiative program for high school students in Erie, PA in April 2017 and April 2019 with plan for biennial events

*Health Clinic*, Philadelphia, PA Fall 2009 - Spring 2010, Spring 2013 - Spring 2014  
Free health clinic for women and children staying at the Eliza Shirley House homeless shelter

- Partner with first and second-year medical students to obtain history and physical exam and present the patient to the attending physician

*Dress for Success*, Philadelphia, PA Fall 2009 - Spring 2010  
Program that provides career assistance and professional attire for disadvantaged women

- Assisted with personal shopping/suit fitting for the clients
- Assisted with maintenance of inventory organization

*Big/Little Program*, Drexel University College of Medicine, Philadelphia, PA Fall 2009 - Spring 2010  
Mentoring program that partners first and second year medical students

- Mentored a first-year medical student to help with the transition to medical school and subsequent years of study

*Jump into Reading*, Eliza Shirley House, Philadelphia, PA Fall 2008 - Spring 2010  
Program to introduce homeless children to the value of reading and education

- Participated in reading sessions with the children staying at Eliza Shirley House shelter

## HONORS AND AWARDS

*Editor's Choice Publication* – Journal of Hand surgery October 2022  
Quantifying donor deficits following nerve transfer surgery in tetraplegia

*Best Paper Award* – Gait and Clinical Movement Analysis Society May 2021  
Assessment of approaches to estimate scapular orientation in children with brachial plexus birth injury

*Adrian E. Flatt Award* – American Foundation for Surgery of the Hand October 2020  
Scholarship awarded to top pediatric/congenital Residents and Fellows conference abstract

*Oral Presentation Award* – UPMC Hamot Annual Research Day April 2019

*Oral Presentation Award* – UPMC Hamot Annual Research Day April 2018

*AAOS/OREF/ORS Clinician Scholar Career Development Program* September 2017  
Competitive training program for development of orthopedic clinician scientists

*American Society for Surgery of the Hand and American Foundation for Surgery of the Hand Annual Meeting Scholarship* September 2017  
Competitive stipend for expenses to attend the American Society for Surgery of the Hand annual meeting

<i>Oral Presentation Award</i> – UPMC Hamot Annual Research Day	April 2017
<i>Poster Presentation Award</i> – UPMC Hamot Annual Research Day	April 2017
<i>American Society for Surgery of the Hand and American Foundation for Surgery of the Hand Annual Meeting Scholarship</i>	September 2016
Competitive stipend for expenses to attend the American Society for Surgery of the Hand annual meeting	
<i>Oral Presentation Award</i> – UPMC Hamot Annual Research Day	April 2016
<i>Poster Presentation Award</i> – UPMC Hamot Annual Research Day	April 2016
<i>Julian M. Bruner Fast Track Award</i> – American Foundation for Surgery of the Hand	January 2016
Monetary award honoring the most meritorious Resident Fast Track grant application	
<i>Oral Presentation Award</i> – UPMC Hamot Annual Research Day	April 2015
<i>Student Travel Scholarship</i> – Gait and Clinical Movement Analysis Society	June 2014
Competitive stipend for travel and registration expenses for the 2014 annual conference	
<i>Professional Development Award</i> – University of Delaware, Newark, DE	May 2013
Competitive grant for travel expenses – to attend the Gait and Clinical Movement Analysis Society 2013 annual conference	
<i>Student Travel Scholarship</i> – Gait and Clinical Movement Analysis Society	May 2013
Competitive stipend for travel and registration expenses for the 2013 annual conference	
<i>Clinical Peer Mentor</i> – Advisory Program, Drexel University, Philadelphia, PA	Fall 2012 - Spring 2013
Selected to mentor a group of medical students as they complete the pre-clinical years of medical school	
<i>Student Travel Scholarship</i> – Gait and Clinical Movement Analysis Society	May 2012
Competitive stipend for travel and registration expenses for the 2012 annual conference	
<i>University Graduate Fellowship</i> – University of Delaware, Newark, DE	Fall 2011 - Spring 2012
Competitive doctoral student assistantship that provides full tuition and stipend for one year	
<i>Dean's List</i> – University of Delaware, Newark, DE	2004-2008
<i>1743 Distinguished Scholar</i> – University of Delaware, Newark, DE	2004-2008
Competitive, merit-based scholarship that provides full tuition for four years of study	
<i>Science and Engineering Scholar</i> – University of Delaware, Newark, DE	Summer 2007
Competitive stipend for living expenses to complete research experience at University of Delaware	
<i>Russell Fellow</i> – University Honors Program, University of Delaware, Newark, DE	Fall 2005 - Spring 2007
Selected to mentor freshman during their adjustment to college life, as well as plan educational programs and social programs for students living in the honors freshman dorms	
<i>General Honors Award</i> – University of Delaware, Newark, DE	Spring 2006

Recognition of success in honors coursework following the first two years of study

### **ADDITIONAL EXPERIENCE**

*Software Development* – Proficient: LabVIEW; Familiar: Matlab

*Software Experience* – Proficient: Cortex, EvaRT, OrthoTrak, Nexus, SPSS, EndNote, Microsoft Office;  
Familiar: OpenSim, SAS

*Attendee* – Palliative Surgery after Obstetrical Paralysis, Barcelona, Spain, November 2022

*Attendee* – Pediatric Upper Extremity Pre-Course, Philadelphia Hand Surgery Symposium, Hand  
Rehabilitation Foundation, Philadelphia, Pennsylvania, March 2019

*Attendee* – Resident Leadership Forum, American Orthopaedic Association, Boston, Massachusetts, June  
2018

*Attendee* – Pediatric Upper Extremity Pre-Course, Philadelphia Hand Surgery Symposium, Hand  
Rehabilitation Foundation, Philadelphia, Pennsylvania, March 2018

*Attendee* – Pediatric Upper Extremity Pre-Course, Philadelphia Hand Surgery Symposium, Hand  
Rehabilitation Foundation, Philadelphia, Pennsylvania, March 2016

*Attendee* – Orthopaedic Research Society/Orthopaedic Research and Education Foundation Grant Writing  
Course, Orlando, Florida, March 2016

*Attendee* – AO Basic Course, Atlanta, Georgia, February 2016

*Attendee* – Pediatric Upper Extremity Pre-Course, Philadelphia Hand Surgery Symposium, Hand  
Rehabilitation Foundation, Philadelphia, Pennsylvania, March 2014

*Attendee* – Assessment and Treatment of Shoulder Disorders, Summit Professional Education,  
Wilmington, Delaware, January 2011