

## **CURRICULUM VITAE**

**Noelle G. Moreau, PhD, PT**  
**Professor**  
**Department of Physical Therapy**  
**School of Allied Health Professions**  
**LSU Health Sciences Center**  
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### **Education and Training**

- 2008 Postdoc Washington University School of Medicine, St. Louis, MO, Department of Physical Therapy, Movement Science
- 2007 PhD Louisiana State University, Baton Rouge, LA, Department of Kinesiology, Motor Behavior/Biomechanics
- 1996 BS Louisiana State University Medical Center, Shreveport, LA, Physical Therapy

### **Professional Experience/Employment History**

- 2021-present Professor with tenure, School of Allied Health, Louisiana State University Health Sciences Center, Department of Physical Therapy, New Orleans, LA
- 2016-present Associate Professor, School of Medicine, Louisiana State University Health Sciences Center, Department of Cell Biology and Anatomy (Secondary Appointment), New Orleans, LA
- 2014-present Associate Professor with tenure, Louisiana State University Health Science Center, Department of Physical Therapy, New Orleans, LA.
- 2012-2014 Assistant Professor, Louisiana State University Health Sciences Center, Department of Physical Therapy, New Orleans, LA
- 2008-2012 Assistant Professor, Medical University of South Carolina, Department of Health Professions, Charleston, SC
- 2007-2008 Post-Doctoral Research Scholar, Washington University School of Medicine, Department of Physical Therapy, St. Louis, MO
- 2002-2006 Louisiana State Board of Regents Doctoral Fellow, Louisiana State University, Department of Kinesiology, Baton Rouge, LA
- 2000-2006 Adjunct Faculty, Louisiana State University Health Science Center, Department of Physical Therapy, Shreveport and New Orleans, LA (2005-2006).
- 2002-2004 Therapy Services Representative, Medtronic, Minneapolis, MN
- 1998-2002 Lead Physical Therapist and Research Therapist, Shriners Hospital for Children, Shreveport, LA

1996-1998 Physical Therapist, Tri-State Physical Therapy Rehab, Acute, and Outpatient Services, Shreveport, LA

### **Certification/Licensure**

2012-present Louisiana Board of Physical Therapy Examiners. License #03257

2008-2012 South Carolina Board of Physical Therapy Examiners. License #5851

1996-present Louisiana Board of Physical Therapy Examiners. License #03257

### **Professional Organization Memberships**

2012-present Louisiana Physical Therapy Association (LPTA)

2008-2012 South Carolina Physical Therapy Association (SCAPTA)

2007-present American Academy of Cerebral Palsy and Developmental Medicine (AACPDMD)

2004-present APTA Section on Pediatrics

1996-present American Physical Therapy Association (APTA)

1996-2008 Louisiana Physical Therapy Association (LPTA)

1999-present Gait and Clinical Movement Analysis Society (GCMAS)

### **Publications**

#### **Book Chapters**

Moreau, N.G. (2020) Muscle Performance in Children and Youth with Cerebral Palsy: Implications for Resistance Training. In Miller F, Bachrach S, Lennon N, O-Neil M (Eds.), *Cerebral Palsy 2<sup>nd</sup> Edition*. Cham: Springer International Publishing. [https://doi.org/10.1007/978-3-319-50592-3\\_164-1](https://doi.org/10.1007/978-3-319-50592-3_164-1)

Moreau, N. G. (2013). Muscle structural adaptation in cerebral palsy and relationship to function. In Ramey, S., Coker-Bolt, P., & DeLuca, S. (Eds.), *Handbook of Pediatric Constraint-Induced Movement Therapy (CIMT): A Guide for Occupational Therapy and Health Care Clinicians, Researchers, and Educators*. Bethesda, MD: American Occupational Therapy Association Press.

#### **Refereed Journal Articles**

Lieber, R & Moreau, NG. (2022) Effects of Voluntary Exercise on Muscle Structure and Function in Cerebral Palsy. Invited Short Review. *Dev.Med.Child Neurol.* (2022 Feb 10; online ahead of print) (PMCID in process).

Busboom, M., Corr, B., Reelfs, A., Trevarrow, M., Reelfs, H., Baker, S., Bergwell, H., Wilson, T., Moreau, N.G., Kurz, M.J. (2022) Therapeutic Lower Extremity Power Training Alters the Sensorimotor Cortical Activity of Individuals with Cerebral Palsy. *Arch. Rehabil. Res. Clin. Transl.*, 4(1):100180. PMCID: PMC8904886.

- Bergwell, H., Trevarrow, M., Corr, B., Baker, S., Reelfs, H., Wilson, T., Moreau, N.G., Kurz, M.J. (2022). Power Training Alters Somatosensory Cortical Activity of Individuals with Cerebral Palsy. *Annals of Clinical and Translational Neurology*. (2022 Mar 17; epub ahead of print) (PMCID in process).
- Pontiff ME, Li L, Moreau NG. (2021). Reliability and Validity of Three Clinical Methods to Assess Lower Extremity Muscle Power. *International Journal of Kinesiology & Sports Science.*, 9(1): 1-8.
- Colquitt, G., Li, L., Kendall, K., Kiely, K., Vogel, R. L., Caciula, M. C, Moreau, N. G. (2020). Community-based upper extremity power training for youth with cerebral palsy: A pilot study. *Phys Occup Ther Pediatr.*, 40(1): 31-46.
- Surana B, Dew A, Ferre C, Brandao M, Gordon A, Moreau NG. (2019). Effectiveness of Lower Extremity Functional Training (LIFT) in Young Children with Unilateral Spastic Cerebral Palsy: A Randomized Controlled Trial. *Neurorehabil.Neural Repair*, 33(10): 862-872.
- Bjornson KF, Moreau N, Bodkin AW. (2019). Short-burst interval treadmill training walking capacity and performance in cerebral palsy: a pilot study. *Dev Neurorehabil*, 22(2):126-133. PMCID: PMC7894036.
- Schaible B, Colquitt G, Caciula MC, Carnes A, Li L, Moreau N. (2018). Comparing impact on the family and insurance coverage in children with cerebral palsy and children with another special healthcare need. *Child Care Health Dev*, 44(3):370-377.
- Ferre C, Brandao M, Surana B, Dew A, Moreau N, Gordon A. (2017). Caregiver-directed home-based intensive bimanual training in young children with unilateral spastic cerebral palsy: a randomized trial. *Developmental Medicine and Child Neurology*. 59(5), 497-504.
- Schiaible, B., Colquitt, G., Li, L., Caciula, M., & Moreau, N. G. (2017). Urban versus rural differences in insurance coverage and impact on employment among families caring for a child with cerebral palsy. *Cogent Medicine*, 4(1), 1-16.
- Moreau, N.G., Bodkin, A., Bjornson, K., Hobbs, A., Soileau, M., Lahasky, K. (2016). Effectiveness of Rehabilitative Interventions to Improve Gait Speed in Children with Cerebral Palsy: a Systematic Review and Meta-analysis. *Physical Therapy Journal*, 96, 1938-1954. PMCID: PMC5131187.
- Moreau, N. G., Knight, H., Olson, M. W. (2016). A potential mechanism by which torque output is preserved in cerebral palsy during fatiguing contractions of the knee extensors. *Muscle & Nerve*, 53, 297-303.
- Moreau, N.G., Gannotti, M. (2015). Addressing Muscle Performance Impairments in Cerebral Palsy: Implications for Upper Extremity Resistance Training. *J Hand Therapy, Pediatric Special Issue*, 28, 91-9. [Invited paper]

- Bentzley, J., Coker-Bolt, P., Moreau, N. G., Hope, K., Ramakrishnan, V., Brown, T., Mulvihill, D., Jenkins, D. (2015). Kinematic Measurement of 12-week Head Control Correlates with 12-month Neurodevelopment in Preterm Infants. *Early Human Development;91*, 159-164.
- Coker-Bolt, P., Woodbury, M., Perkel, J., Moreau, N. G., Hope, K., Brown, T., Ramakrishnan, V., Mulvihill, D., Jenkins, D. (2014). Identifying premature infants at high and low risk for motor delays using motor performance testing and MRS. *J Pediatr Rehabil Med; 7(3)*, 219-32.
- Moreau, N. G., Holthaus, K., & Marlow, N. (2013). Differential adaptations of muscle architecture to high-velocity versus traditional strength training in cerebral palsy. *Neurorehabil. Neural Repair, 27*, 325-334
- Martin, A., Johnson, L., Coker-Bolt, P., Moreau, N., Perkel, J., Jenkins, D. (2013). A case exploration of early motor delays and early intervention for an extremely premature infant. *Journal of Occupational Therapy, Schools & Early Intervention, 6*, 14-22.
- Dew, A. P. & Moreau, N. G. (2012). A comparison of 2 techniques for measuring rectus femoris muscle thickness in cerebral palsy. *Pediatr. Phys. Ther., 24*, 218-222.
- Moreau, N. G., Falvo, M. J., & Damiano, D. L. (2012). Rapid force generation is impaired in cerebral palsy and is related to decreased muscle size and functional mobility. *Gait Posture, 35*, 154-158. PMID: PMC3260405.
- Moreau, N. G., Simpson, K. N., Teefey, S. A., & Damiano, D. L. (2010). Muscle architecture predicts maximum strength and is related to activity levels in cerebral palsy. *Phys. Ther., 90*, 1619-1630. PMID: PMC2967708.
- Moreau, N. G., Li, L., Geaghan, J. P., & Damiano, D. L. (2009). Contributors to fatigue resistance of the hamstrings and quadriceps in cerebral palsy. *Clin. Biomech. (Bristol, Avon.), 24*, 355-360. PMID: PMC2727679.
- Moreau, N. G., Teefey, S. A., & Damiano, D. L. (2009). In vivo muscle architecture and size of the rectus femoris and vastus lateralis in children and adolescents with cerebral palsy. *Dev. Med. Child Neurol., 51*, 800-806. PMID: PMC2771733.
- Moreau, N. G., Li, L., Geaghan, J. P., & Damiano, D. L. (2008). Fatigue resistance during a voluntary performance task is associated with lower levels of mobility in cerebral palsy. *Arch. Phys. Med. Rehabil., 89*, 2011-2016. PMID: PMC2668210
- Moreau, N., Li, L., & Damiano, D. L. (2008). A feasible and reliable muscle fatigue assessment protocol for individuals with cerebral palsy. *Pediatr. Phys. Ther., 20*, 59-65.
- Moreau, N., Tinsley, S., & Li, L. (2005). Progression of knee joint kinematics in children with cerebral palsy with and without rectus femoris transfers: a long-term follow up. *Gait Posture., 22*, 132-137.

## **Other Publications**

Moreau, N.G. & Lyman, J. (2020). Commentary on “Fatigue in Children and Young Adults with Physical Disabilities: Relation with Energy Demands of Walking and Physical Fitness”. *Pediatr.Phys.Ther.*, 32(3), 210.

Damiano, D. L. & Moreau, N. (2008). Muscle thickness reflects activity in CP but how well does it represent strength? *Dev.Med.Child Neurol.*, 50, 88.

## **Manuscripts accepted for publication**

Pontiff, M.E. & Moreau, N.G. Feasibility of 1-Repetition Maximum Testing in Individuals with Cerebral Palsy. *Pediatric Physical Therapy*. (Accepted for publication)

Sargent, B., Harbourne, R., Moreau, N.G., Sukal-Moulton, T., Tovin, M., Cameron, J., Stevenson, R., Novak, I., Heathcock, J. Optimizing transitions from infancy to young adulthood in children with neuromotor disabilities: Executive summary for Research Summit V. *Pediatric Physical Therapy*. (Accepted for publication)

## **Manuscripts in preparation**

Pontiff, M.E., Li, L., Moreau, N.G. Reliability, Validity and Minimal Detectable Change of a Power Leg Press Test in Individuals with Cerebral Palsy. *Research in Developmental Disabilities*. (in preparation)

Pontiff, M.E. & Moreau, N.G. Age-related changes in muscle function and walking in cerebral palsy compared to those who are typically developing. (in preparation)

Gannotti, M.E., Duff, S., Moreau, N.G., Christy, J., Smith, B., Bjornson, K., Hurvitz, P., O’Neil, M., Bertuccio, M. Thresholds for Change, Dosing, Technology, and Precision Rehabilitation: Suggestions for Cerebral Palsy Research and Practice. (in preparation)

Moreau, N.G., Bjornson, K., Mercante, D. Power Training Combined with Interval Treadmill Training to Improve Walking Activity in Cerebral Palsy: Protocol (in preparation)

Duff SV, Kimbel JD, Friel KM, Moulton T, Grant-Beuttler M, Moreau NG. Influencing the Lifelong Fitness Trajectory in Individuals with Cerebral Palsy (in preparation)

Moreau NG, Duff SV, Kimbel JD, Friel KM, Moulton T. Key Ingredients for Lifelong Fitness in Children and Adolescents with Cerebral Palsy. (in preparation)

## **List of Published Work in MyBibliography:**

<http://www.ncbi.nlm.nih.gov/sites/myncbi/noelle.moreau.1/bibliography/49528685/public/?sort=date&direction=descending>

## Published Abstracts (peer-reviewed)

- Moreau, N.G., Nuri, L. (2022). Dynamic Behavior of the Muscle and Tendon-Aponeurosis Complex During Maximal Isometric Contraction in Cerebral Palsy. *Pediatric Physical Therapy*, 34(1): 122
- Pontiff M, Moreau N.G. (2022). Safety and Feasibility of 1-Repetition Maximum Testing in Children and Adolescents with Cerebral Palsy. *Pediatric Physical Therapy*, 34(1): 95-96.
- Busboom M, Reelfs A, Trevarrow M, Corr B, Reelfs HK, Bergwell, HR, Tony Wilson T, Moreau NG, Kurz M. (2022). Therapeutic power training alters the sensorimotor cortical activity in youth with cerebral palsy. *Pediatric Physical Therapy*, 34(1): 90-91.
- Pontiff M, Kurz M, Moreau N.G. (2022). Feasibility, reliability, and precision of a novel power leg press test in cerebral palsy. *Pediatric Physical Therapy*, 34(1): 126.
- Busboom, M., Corr, B., Reelfs, A., Trevarrow, M., Reelfs, H., Baker, S., Bergwell, H., Wilson, T., Moreau, N.G., Kurz, M.J. (2021) Power training improves the sensorimotor cortical oscillations in youth with cerebral palsy. *Developmental Medicine and Child Neurology*, 63(s3), 45.
- Bergwell, H., Kurz, M.J., Trevarrow, M., Corr, B., Baker, S., Reelfs, H., Wilson, T., Moreau, N.G. (2021). Power training improves the mobility and somatosensory cortical activity of individuals with cerebral palsy *Developmental Medicine and Child Neurology*, 63(s3), 45-46.
- Amedee T, Ferrelli S, Gaitan J, Guillot G, Wood J, Moreau NG. (2020). Age-related changes in muscle function and walking in cerebral palsy: a long term follow-up study. *Pediatric Physical Therapy*, 32(1), E6-E14.
- Pontiff M, Rabalais T, Connick B, Robertson M, Moreau N. (2019). Changes in muscle structure and function with aging in individuals with cerebral palsy compared to those who are typically developing. *Pediatric Physical Therapy*, 31(1), E61-62.
- Moreau N, Surana B, Dew A, Ferre C, Brandao M, Gordon A. (2019, February). Lower extremity functional training (LIFT) in young children with unilateral spastic cerebral palsy: immediate and long term outcomes. *Pediatric Physical Therapy*, 31(1), E55
- Pontiff M, Rabalais T, Connick B, Robertson M, Moreau N. (2018). Age related changes in muscle size and strength across the lifespan in individuals with cerebral palsy. *Developmental Medicine and Child Neurology*, 60(s3), 34-35.
- Varnado K, Irvin J, Scroggin M, Landry A, Maher L, Stanich III J, Moreau N. (2018) Effects of Focus of Attention Instructions on Running Mechanics and Foot Strike Pattern: Immediate and Retention Effects. *J Ortho Sports Phys Ther*, 48(1): A63

- Bjornson K, Bodkin A, Moreau N. (2018). Effect of short-burst interval treadmill training on muscle architecture, power, and walking outcomes in cerebral palsy. *Pediatric Physical Therapy*, 30(1), E1-2
- Moreau, N, Bjornson, K, Bodkin A, Poliachik, S. (2017). Effect of short-burst interval treadmill training on muscle architecture and gait speed in cerebral palsy. *Developmental Medicine and Child Neurology.*, 59(s3), 19-20.
- Ferre C, Brandao M, Surana B, Dew A, Moreau N, Gordon A. (2015). Caregivers as interventionists: a randomized trial of home-based intensive bimanual training in young children with hemiplegia. *Developmental Medicine and Child Neurology.*, 57(s5), 40-41.
- Surana B, Moreau N, Dew A, Ferre C, Brandao M, Gordon A. (2015). Effectiveness of lower extremity intensive functional training (LIFT) in young children with hemiplegia delivered in the home setting: a randomized control trial. *Developmental Medicine and Child Neurology.*, 57(s5), 43.
- Colquitt G, Moreau N, Li L, Kendall K, Vogel R, Dipita T. (2015). The effect of an upper extremity power training intervention on pain and power among young people with cerebral palsy. *Developmental Medicine and Child Neurology.*, 57(s5), 42-43.
- Coker-Bolt P, Moreau N, Bentzley J, Hope K, Jenkins D. (2015). Identification of preterm infants at-risk for delay: correlation of kinematic measures of head control to early neuroimaging and 12-month developmental assessment. *Developmental Medicine and Child Neurology.*, 57(s5), 82.
- Moreau NG, Coker-Bolt P, Perkel J, Holthaus K, Jenkins D. (2012). Magnetic Resonance Spectroscopy (MRS) findings correlate with kinematic measures of motor test performance in high risk preterm infants. *Developmental Medicine and Child Neurology*, 54(s6), 63; Gayle G. Arnold Award Nominee for Best Free Paper
- Moreau NG, Balleh M, Holthaus K, Coker-Bolt P, Perkel J, Jenkins D. (2012). Muscle architectural differences between preterm infants at high and low risk for developmental disabilities. *Developmental Medicine and Child Neurology*, 54(s6), 78.
- Moreau NG, Holthaus K, Marlow NM. (2012). Muscle Architectural Plasticity of the Quadriceps in Response to High Velocity vs. Traditional Strength Training in Cerebral Palsy: a Randomized Clinical Trial. *Pediatric Physical Therapy*, 24(1):91
- Moreau NG, Holthaus K, Marlow NM. (2012). Muscle Architectural Plasticity of the Quadriceps in Response to High Velocity vs. Traditional Strength Training in Cerebral Palsy: Effects on Function, Self-Concept, Activity and Participation. *Pediatric Physical Therapy*, 24(1):92
- Moreau NG, Holthaus K, Marlow NM. (2011). Differential Adaptations of Muscle Architecture in Response to High Velocity versus Traditional Strength Training in Cerebral Palsy.

*Developmental Medicine and Child Neurology*, 53(s5), 15 ; Gayle G. Arnold Award  
Nominee for Best Free Paper

- Moreau NG, Holthaus K. (2011). Motor Severity Negatively Affects Muscle Architecture in CP: a comparison between GMFCS levels, hemiplegia, and typically developing children. *Developmental Medicine and Child Neurology*, 53(s5), 78
- Moreau NG, Falvo M., Damiano DL. (2011). Rapid force generation of the knee extensors is more impaired than strength in cerebral palsy and is related to decreased muscle size and functional mobility. *Gait & Posture*, supplement
- Dew AP, Moreau NG. (2011). Getting the most out of a 2D ultrasound measure of muscle thickness in children with cerebral palsy. *Gait & Posture*, supplement
- Moreau NG, Knight H, Olson MW. (2011). To decline or not to decline: a potential mechanism by which torque output is preserved in cerebral palsy. *Pediatric Physical Therapy*, 23(1), 101.
- Moreau NG, Teefey S, Damiano DL. (2010). Decreased ability to produce torque per unit of cross-sectional area of the rectus femoris is related to standing and walking performance in cerebral palsy. *Pediatric Physical Therapy*, 22(1), 99-100
- Moreau NG, Stanley C, Miros J, Scholtes S, Teefey S, Brunstrom-Hernandez, J, Damiano DL. (2009). Muscle plasticity in children with cerebral palsy in response to intensive activity: a pilot study. *Developmental Medicine and Child Neurology*, 51(s5), 17
- Moreau NG, Stanley C, Teefey S, Damiano DL. (2009). Muscle architecture of the quadriceps is related to strength and function in children with cerebral palsy. *Pediatric Physical Therapy*, 21(1), 94
- Moreau NG, Stanley C, Teefey S, Damiano DL. (2008). In vivo muscle architecture of the rectus femoris and vastus lateralis in cerebral palsy. *Developmental Medicine and Child Neurology*, 50(s4), 30-31
- Moreau NG, Stanley C, Teefey S, Damiano DL. (2008). Relationship of muscle architecture of the quadriceps with strength and function in children with cerebral palsy. *Developmental Medicine and Child Neurology*, 50(s4), 59
- Moreau NG, Li L, Damiano DL. (2008). Contributors to fatigue resistance of the hamstrings and quadriceps in cerebral palsy. *Pediatric Physical Therapy*, 20(1), 96-97
- Moreau NG, Li L, Damiano DL. (2007). Absolute torque level contributes to fatigue resistance of the hamstrings and quadriceps in cerebral palsy. *Developmental Medicine and Child Neurology*, 49(s11), 28

- Moreau NG, Li L, Damiano DL. (2006). Are muscle strength and fatigue related to walking velocity in individuals with and without cerebral palsy? *Gait & Posture*, 24 (Supp. 2), S257-S258
- Moreau NG, Li L, Damiano DL. (2006). Development of a feasible and reliable muscle fatigue protocol for individuals with cerebral palsy. *Developmental Medicine and Child Neurology*, 48(s106), 39-40
- Moreau NG, Li L, Damiano DL. (2006). Is fatigue a problem at the muscle level in cerebral palsy? *Developmental Medicine and Child Neurology*, 48(s106), 5
- Moreau N, Tinsley S, Li L. (2004). Progression of knee joint kinematics in children with cerebral palsy with and without rectus femoris transfers: a long-term follow up. *Gait & Posture*, 20(Supp. 1), S16
- Moreau N, Tinsley S, Cavell A, Semones K. (2004). Long Term Outcomes of Rectus Femoris Transfers in Children with Cerebral Palsy. *Pediatric Physical Therapy*, 16(1), 62
- Moreau N, Simpson J, Wilkerson J, Gates P. (2003). Goal Specific Outcomes of Rectus Femoris Transfers in Children with Cerebral Palsy Based on Stance-Phase Characteristics. *Pediatric Physical Therapy*, 15(1), 51-71
- Moreau N, Simpson J, Wilkerson J, Gates P. (2002). Goal Specific Outcomes of Rectus Femoris Transfers in Children with Cerebral Palsy Based on Stance-Phase Characteristics. *Developmental Medicine and Child Neurology*, 44(8), 17
- Tinsley SL, Moreau N, and Fabre J. The Effects of Rectus Femoris Transfer Surgery on Gait in Children with Cerebral Palsy. (2002). *Pediatric Physical Therapy*, 13(4), 205
- Tinsley, S.L., Moreau, N., Pennywell, S., Judd, D., Dugas, B., Fabre, J. (2002). The effect of rectus femoris transfer and hamstring lengthening on gait in children with cerebral palsy. *Pediatric Physical Therapy*, 13(4), 206.
- Moreau N, Tinsley SL, Judd D, Dugas B, Fabre J, Pennywell S, Gates P. (2001). Stance Phase Characteristics as a Predictor for Rectus Femoris Transfers. *Gait & Posture*, 13, 252.

## **Professional Presentations**

### **Invited Lectures**

- Moreau, N.G. (2022, March 1). Skeletal Muscle in Cerebral Palsy Pre-Conference Symposium, Session 5: Exercise and Rehabilitation (Moreau, Chair/Presenter). Better Together 2022 AusACPDM / IAACD Conference, Melbourne, Australia (Virtual).

- Moreau, N.G. (2020, October 5). Maximizing Gait and Function through Targeted Exercise Prescription in Cerebral Palsy. Research Seminar Series, Shirley Ryan AbilityLab, Chicago, IL.
- Moreau, N.G. (2019, November 9). Linking Muscle Structure and Function in Individuals with Cerebral Palsy: Implications for Exercise Prescription Across the Lifespan. 20<sup>th</sup> Annual Susan Harryman Lectureship, Kennedy Krieger Institute, Baltimore, MD.
- Moreau, N.G. (2017, November 11). Lower Extremity Functional Training (LIFT) in young children with hemiplegic CP. Research Symposium: Pediatric Early Intervention, West Coast University, Los Angeles, CA.
- Moreau, N.G. (2017, November 11). Muscle Structure and Function in Cerebral Palsy: Implications for Practice. Research Symposium: Pediatric Early Intervention, West Coast University, Los Angeles, CA.
- Moreau, N.G., Gannotti, M. (2017, August 21). Musculoskeletal Exercise Prescription Across the Lifespan for Individuals with Cerebral Palsy: Creating Structural and Functional Changes. County of Ventura, California CPTA, Children's Services/OTPT, Inc., Oxnard, CA.
- Moreau, N.G. (2017, June). *Blazing New Trails: Updates in the Care of Children with Cerebral Palsy*. Children's Hospital, New Orleans, LA.
- Moreau, N.G. (2016, November). *Maximizing Gait Through Targeted Exercise Prescription in CP*. University of Nebraska Medical Center, Department of Physical Therapy, Omaha, NE.
- Moreau, N.G. (2016, August). *Power Training in Cerebral Palsy: It's Not Just for Athletes*. CP Prep for Life Conference 2016, Grapevine, TX.
- Moreau, N.G., Gannotti, M. (2016, June 20). *Linking Muscle and Bone Structure and Function in People with Cerebral Palsy: Implications for Exercise Prescription Across the Lifespan*. County of Los Angeles, California CPTA, Children's Services, Glendale, CA.
- Moreau, N.G. (2015, April). *Dosing of Interventions to Improve Muscle and Bone Outcomes in Cerebral Palsy*. APTA Colorado, Rocky Mountain Spring Conference and Physical Therapy Expo, Keystone Resort, CO.
- Moreau, N.G., Kolobe, T. (2015, April). *Structural Changes in Muscle, Bone, and Brain in Cerebral Palsy: Implications for Practice*. APTA Colorado, Rocky Mountain Spring Conference and Physical Therapy Expo, Keystone Resort, CO.
- Moreau, N.G., Kolobe, T. (2015, April). *Measuring Outcomes of Interventions for Children with Cerebral Palsy*. APTA Colorado, Rocky Mountain Spring Conference and Physical Therapy Expo, Keystone Resort, CO.

- Moreau, N.G. (2014, November). *Power Training in Cerebral Palsy: It's Not Just for Athletes*. Georgia Southern University Research Seminar, School of Health and Kinesiology, Statesboro, GA.
- Moreau, N.G. (2014, October). *Dosing of Interventions to Improve Muscle and Bone Outcomes in Cerebral Palsy*. Washington Physical Therapy Association 2014 PTWA Conference, Seattle, WA.
- Moreau, N.G., Kolobe, T. (2014, October). *Structural Changes in Muscle, Bone, and Brain in Cerebral Palsy: Implications for Practice*. Washington Physical Therapy Association 2014 PTWA Conference, Seattle, WA.
- Moreau, N.G., Kolobe, T. (2014, October). *Measuring Outcomes of Interventions for Children with Cerebral Palsy*. Washington Physical Therapy Association 2014 PTWA Conference, Seattle, WA.
- Heathcock, J., Moreau, N.G., Fuchs, R., Gordon, A. (2014, March). *Linking Structure to Function: Muscle, Bone, and Brain*. Ohio Physical Therapy Association 2014 Annual Conference, Columbus, OH.
- Moreau, N.G., Fuchs, R., Gannotti, M. (2013, November). *Muscle and Bone Structure and Function in Children with Cerebral Palsy: Implications for Physical Therapy Practice*. Sacred Heart University, Fairfield, CT.
- Kolobe, T., Moreau, N. G., Fuchs, R., Gannotti, M., Gordon, A., Christy, J., Prosser, L., Heathcock, J., (2013, January). *Linking Structure to Function: Muscle, Bone, and Brain*. Combined Sections Meeting, Section on Pediatrics Pre-Conference Course, San Diego, CA.
- Moreau, N. G. (2012, December). *Muscle Architectural Adaptation in CP: Implications for Muscle Function*. 18th Annual Management Strategies for Functional Impairments in Children with Neuromuscular Conditions sponsored by the Kluge Children's Rehabilitation & Research Institute at the University of Virginia, Charlottesville, VA.
- Moreau, N. G. (2012, December). *POWER Training in CP: It's not just for Athletes!* 18th Annual Management Strategies for Functional Impairments in Children with Neuromuscular Conditions sponsored by the Kluge Children's Rehabilitation & Research Institute at the University of Virginia, Charlottesville, VA.
- Moreau, N. G., Coker-Bolt, P., Poon, J., Jenkins, D. (2011, April). *Life after the NICU: How to tell if your baby is okay*. Pediatric Grand Rounds sponsored by the Department of Pediatrics at the Medical University of South Carolina, Charleston, SC.
- Moreau, N. G. (2010, April). *Muscle Architectural Plasticity in Cerebral Palsy: a Research Update*. 9<sup>th</sup> Annual Pediatric Neuroscience Update sponsored by the Department of Neurosciences at the Medical University of South Carolina, Charleston, SC.

Moreau, N. G. (2010, March). *Muscle Architectural Plasticity in Cerebral Palsy: Challenging Existing Paradigms*. Scientific Retreat on Bioengineering and Regenerative Medicine sponsored by the South Carolina Clinical and Translational Research Institute & South Carolina Bioengineering Alliance, Charleston, SC.

Moreau, N. G. (2009, March). *Muscle Architectural Plasticity in Children and Adolescents with Cerebral Palsy*, University of South Carolina Arnold School of Public Health Research Seminar, Columbia, SC.

Moreau, N. (2008, February). *Ultrasound Imaging of Quadriceps Muscle Architecture in Children with Cerebral Palsy*, Washington University Program in Physical Therapy Research Program Seminar.

Moreau, N. (1999-2001, May). *Pathological Gait in Cerebral Palsy*, Pediatric Orthopedic Conference / Shriners Hospital, Shreveport, LA.

Moreau, N. (1999, May). *Normal Gait and Gait Lab Basics*, Pediatric Orthopedic Conference / Shriners Hospital, Shreveport, LA.

Moreau, N. (1999-2001, Spring semester). *Gait Analysis Laboratory Basics*, Department of Physical Therapy, LSU Medical University, Shreveport, LA.

Moreau, N. (1998, Fall semester). *Therapeutic Use of Modalities*, Occupational Therapy Assistant Program, Panola Junior College.

### **Oral/platform Presentations at Professional Meetings**

Pontiff M, Moreau NG. (2022, February). *Safety and Feasibility of 1-Repetition Maximum Testing in Children and Adolescents with Cerebral Palsy*. Academy of Pediatric Physical Therapy, Combined Sections Meeting, APTA, San Antonio, TX.  
*-Best Platform presentation award, APPT, 2022*

Busboom, M., Corr, B., Reelfs, A., Trevarrow, M., Reelfs, H., Baker, S., Bergwell, H., Wilson, T., Moreau, N.G., Kurz, M.J. (2022, February). *Therapeutic power training alters the sensorimotor cortical activity in youth with cerebral palsy*. Academy of Pediatric Physical Therapy, Combined Sections Meeting, APTA, San Antonio, TX.

Bergwell, H., Kurz, M.J., Trevarrow, M., Corr, B., Baker, S., Reelfs, H., Wilson, T., Moreau, N.G. (2021, September). *Power Training Improves the Somatosensory Cortical Activity of Individuals with Cerebral Palsy*. American Academy for Cerebral Palsy and Developmental Medicine (Virtual)

Busboom, M., Corr, B., Reelfs, A., Trevarrow, M., Reelfs, H., Baker, S., Bergwell, H., Wilson, T., Moreau, N.G., Kurz, M.J. (2021, September). *Power Training Improves the*

*Sensorimotor Cortical Oscillations in Youth with Cerebral Palsy*. American Academy for Cerebral Palsy and Developmental Medicine (Virtual)

Moreau NG (2020, October). *Identifying Critical Periods and Gaps: Age related changes in muscle size and strength across the lifespan in individuals with cerebral palsy*. Research Summit V sponsored by the Academy for Pediatric Physical Therapy, Alexandria, VA.

Amedee T, Ferrelli S, Gaitan J, Guillot G, Wood J, Moreau NG (2020, February). *Age-related changes in muscle function and walking in cerebral palsy: a long term follow-up study*. Combined Sections Meeting, APTA, Denver, CO.

Pontiff M, Rabalais T, Connick B, Robertson M, Moreau N. (2018, October). *Age related changes in muscle size and strength across the lifespan in individuals with cerebral palsy*. American Academy for Cerebral Palsy and Developmental Medicine, Cincinnati, OH.

Bjornson K, Bodkin A, Moreau N. (2018, February). *Effect of short-burst interval treadmill training on muscle architecture, power, and walking outcomes in cerebral palsy*. Combined Sections Meeting, APTA, New Orleans, LA.

Varnado K, Irvin J, Scroggin M, Landry A, Maher L, Stanich III J, Moreau N. (2018, February) *Effects of Focus of Attention Instructions on Running Mechanics and Foot Strike Pattern: Immediate and Retention Effects*, Combined Sections Meeting, APTA, New Orleans, LA.

Moreau N, Bjornson K, Bodkin A, Poliachik, S. (2017, October). *Effect of short-burst interval treadmill training on muscle architecture and gait speed in cerebral palsy*. American Academy for Cerebral Palsy and Developmental Medicine, Montreal, Canada.

Sparks T, Baudouin C, Pederson S, Dew A, Moreau N. (2017, February). *Short and Long-Term Effectiveness of LSVT BIG on Gait, Balance, and Strength in Parkinson's Disease*. Academy of Neurologic Physical Therapy, Combined Sections Meeting, APTA, San Antonio, TX.

Ferre C, Brandao M, Surana B, Dew A, Moreau N, Gordon A. (2015, October). *Caregivers as interventionists: a randomized trial of home-based intensive bimanual training in young children with hemiplegia*. American Academy for Cerebral Palsy and Developmental Medicine, Austin, TX.

Surana B, Moreau N, Dew A, Ferre C, Brandao M, Gordon A. (2015, October). *Effectiveness of lower extremity intensive functional training (LIFT) in young children with hemiplegia delivered in the home setting: a randomized control trial*. American Academy for Cerebral Palsy and Developmental Medicine, Austin, TX.

Colquitt G, Moreau N, Li L, Kendall K, Vogel R, Dipita T. (2015, October). *The effect of an upper extremity power training intervention on pain and power among young people with*

*cerebral palsy*. American Academy for Cerebral Palsy and Developmental Medicine, Austin, TX.

Moreau, N. G., Coker-Bolt, P., Perkel, J., Holthaus, K., Jenkins, D. (2012, October). *Magnetic Resonance Spectroscopy (MRS) findings correlate with kinematic measures of motor test performance in high risk preterm infants*. American Academy for Cerebral Palsy and Developmental Medicine, Toronto, Canada. Gayle G. Arnold Award Nominee for Best Free Paper

Moreau, N. G., Balleh, M., Holthaus, K., Coker-Bolt, P., Perkel, J., Jenkins, D. (2012, October). *Muscle architectural differences between preterm infants at high and low risk for developmental disabilities*. American Academy for Cerebral Palsy and Developmental Medicine, Toronto, Canada.

Moreau, N. G., Holthaus, K., Marlow, N. (2012, February). *Muscle Architectural Plasticity of the Quadriceps in Response to High Velocity vs. Traditional Strength Training in Cerebral Palsy: a Randomized Clinical Trial*. Section on Pediatrics, Combined Sections meeting, APTA, Chicago, IL.

Moreau, N. G., Holthaus, K., Marlow, N. (2012, February). *Muscle Architectural Plasticity of the Quadriceps in Response to High Velocity vs. Traditional Strength Training in Cerebral Palsy: Effects on Function, Self-Concept, Activity and Participation*. Section on Pediatrics, Combined Sections meeting, APTA, Chicago, IL.

Moreau, N.G. Holthaus, K., Marlow, N. (2011, October). *Differential Adaptations of Muscle Architecture in Response to High Velocity versus Traditional Strength Training in Cerebral Palsy*. American Academy for Cerebral Palsy and Developmental Medicine, Las Vegas, NV. Gayle G. Arnold Award Nominee for Best Free Paper

Moreau, N. G., Knight, H., Olson, M. W. (2011, February) *To decline or not to decline: a potential mechanism by which torque output is preserved in cerebral palsy*. Section on Pediatrics, Combined Sections meeting, APTA, New Orleans, LA.

Moreau, N. G., Teefey, S., Damiano, D. L. (2010, February). *Decreased ability to produce torque per unit of cross-sectional area of the rectus femoris is related to standing and walking performance in cerebral palsy*. Section on Pediatrics, Combined Sections meeting, APTA, San Diego, CA.

Moreau, N. G., Stanley, C., Miros, J., Scholtes, S., Teefey, S., Brunstrom-Hernandez, J., Damiano, D. L. (2009, September). *Muscle plasticity in children with cerebral palsy in response to intensive activity: a pilot study*. American Academy for Cerebral Palsy and Developmental Medicine, Scottsdale, AZ.

Moreau, N. G., Stanley, C., Teefey, S., Damiano, D. L. (2009, February). *Muscle architecture of the quadriceps is related to strength and function in children with cerebral palsy*. Section on Pediatrics, Combined Sections meeting, APTA, Las Vegas, NV.

- Moreau, N. G., Teefey, S., Damiano, D. L. (2008, November). *Muscle architectural plasticity in children with cerebral palsy: a pilot study*. Neurobiology of Disease in Children New Investigator Symposium, Child Neurology Society 37th Annual Meeting, Santa Clara, CA.
- Moreau, N. G., Stanley, C., Teefey, S., Damiano, D. L. (2008, September). *In vivo muscle architecture of the rectus femoris and vastus lateralis in cerebral palsy*. American Academy for Cerebral Palsy and Developmental Medicine, Atlanta, GA. Gayle G. Arnold Award Nominee for Best Free Paper
- Moreau, N. G., Stanley, C., Teefey, S., Damiano, D. L. (2008, April). *Rectus femoris fascicle length is related to dynamic measures of knee excursion during gait in cerebral palsy*. Gait and Clinical Movement Analysis Society Annual meeting, Richmond, VA.
- Moreau, N. G., Li, L., Damiano, D. L. (2008, February). *Contributors to fatigue resistance of the hamstrings and quadriceps in cerebral palsy*. Section on Pediatrics, Combined Sections meeting, APTA, Nashville, TN.
- Moreau, N. G., Li, L., Damiano, D.L. (2007, October). *Absolute torque level contributes to fatigue resistance of the hamstrings and quadriceps in cerebral palsy*. American Academy for Cerebral Palsy and Developmental Medicine, Vancouver BC.
- Moreau, N. G., Li, L., Damiano, D. L. (2006, September). *Development of a feasible and reliable muscle fatigue protocol for individuals with cerebral palsy*. American Academy for Cerebral Palsy and Developmental Medicine, Boston, MA.
- Moreau, N. G., Li, L., Damiano, D. L. (2006, September). *Is fatigue a problem at the muscle level in cerebral palsy?* American Academy for Cerebral Palsy and Developmental Medicine, Boston, MA.
- Moreau, N., Tinsley, S., Li, L. (2004, April). *Progression of knee joint kinematics in children with cerebral palsy with and without rectus femoris transfers: a long-term follow up*. 9<sup>th</sup> Annual Meeting of the Gait and Clinical Movement Analysis Society, Lexington, KY.
- Moreau, N., Tinsley, S., Cavell, A., Semones, K. (2004, February). *Long Term Outcomes of Rectus Femoris Transfers in Children with Cerebral Palsy*. Section on Pediatrics, Combined Sections meeting, APTA, Nashville, TN.
- Moreau, N., Tinsley, S., Cavell, A., Semones, K. (2003, September). *Long Term Outcomes of Rectus Femoris Transfers in Children with Cerebral Palsy*. Louisiana State Physical Therapy Association Fall Conference, New Orleans, LA.
- Moreau, N., Simpson, J., Wilkerson, J., Gates, P. (2003, February). *Goal Specific Outcomes of Rectus Femoris Transfers in Children with Cerebral Palsy Based on Stance-Phase Characteristics*. Section on Pediatrics, Combined Sections Meeting, APTA, Tampa, FL.

Moreau, N., Simpson, J., Wilkerson, J., Gates, P. (2002, October). *Goal Specific Outcomes of Rectus Femoris Transfers in Children with Cerebral Palsy Based on Stance-Phase Characteristics*. 56<sup>th</sup> Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine, New Orleans, LA.

Moreau, N., Simpson, J., Wilkerson, J., Gates, P. (2002, September). *Goal Specific Outcomes of Rectus Femoris Transfers in Children with Cerebral Palsy Based on Stance-Phase Characteristics*. Louisiana State Physical Therapy Association Fall Conference, New Orleans, LA.

Moreau, N., Tinsley, S. L., and Dugas, B. (2001, September). *Stance Phase Characteristics as a Predictor for Rectus Femoris Transfers*. Louisiana State Physical Therapy Association Fall Conference, New Orleans, LA. -Best Platform Presentation Award

### **Poster Presentations at Professional Meetings**

Pontiff M, Moreau N. Safety and Feasibility of 1-Repetition Maximum Testing in Children and Adolescents with Cerebral Palsy. *Accepted for AACPDM* to be held September 2022

Pontiff M, Moreau NG. (2022, February). Feasibility, Reliability, and Precision of a Novel Power Leg Press Test in Cerebral Palsy. Academy of Pediatric Physical Therapy, Combined Sections Meeting, APTA, San Antonio, TX.

Corr, B., Reelfs, H., Baker, S., Bergwell, H., Trevarrow, M., Hoffman, R., Moreau N., Kurz, M. (2020, September). *Age related changes in muscle size and strength across the lifespan in individuals with cerebral palsy*. Academy for Cerebral Palsy and Developmental Medicine (Virtual).

Pontiff M, Rabalais T, Connick B, Robertson M, Moreau N. (2019, February). *Changes in muscle structure and function with aging in individuals with cerebral palsy compared to those who are typically developing*. Academy of Pediatric Physical Therapy, Combined Sections Meeting, APTA, Washington, DC.

Pontiff M, Moreau NG. (2019, February). *Reliability and Validity of Three Methods to Assess Lower Extremity Muscle Power*. Research Section, Combined Sections Meeting, APTA, Washington, DC.

Moreau N, Surana B, Dew A, Ferre C, Brandao M, Gordon A. (2019, February). *Lower extremity functional training (LIFT) in young children with unilateral spastic cerebral palsy: immediate and long term outcomes*. Academy of Pediatric Physical Therapy Combined Sections Meeting, APTA, Washington, DC.

Pontiff M, Bui A, Wiegmann J, Williams F, Moreau NG. (2018, February). Comparison of two methods to measure lower extremity power. Research Section, Combined Sections Meeting, APTA, New Orleans, LA.

- Varnado K, Irvin J, Scroggin M, Wischmeyer A, Moreau N. (2017, February). *The Effects Of External Versus Internal Focus Of Attention On Step Rate and Running Mechanics In Novice Runners*. Sports Physical Therapy Section, Combined Sections Meeting, APTA, San Antonio, TX.
- Coker-Bolt P, Moreau N, Bentzley J, Hope K, Jenkins D. (2015, October). *Identification of preterm infants at-risk for delay: correlation of kinematic measures of head control to early neuroimaging and 12-month developmental assessment*. American Academy for Cerebral Palsy and Developmental Medicine, Austin, TX.
- Coker-Bolt, P., Moreau, N., Perkel, J., Mulvihill, D., Woodbury, M., Jenkins, D. (2012, May). *Very early, quantifiable motor skills in preterm infants*. Pediatric Academic Societies Annual Meeting, Boston, MA.
- Moreau, N. G., Holthaus, K. (2011, October). *Motor Severity Negatively Affects Muscle Architecture in CP: a comparison between GMFCS levels, hemiplegia, and typically developing children*. American Academy for Cerebral Palsy and Developmental Medicine, Las Vegas, NV.
- Moreau, N.G., Falvo, M., Damiano, D. L. (2011, April). *Rapid force generation of the knee extensors is more impaired than strength in cerebral palsy and is related to decreased muscle size and functional mobility*. Gait and Clinical Movement Analysis Society Annual meeting, Bethesda, MD.
- Dew, A. P., Moreau, N. G. (2011, April). *Getting the most out of a 2D ultrasound measure of muscle thickness in children with cerebral palsy*. Gait and Clinical Movement Analysis Society Annual meeting, Bethesda, MD.
- Moreau, N. G., Stanley, C., Teefey, S., Damiano, D. L. (2009, February). *Relationship of muscle architecture of the quadriceps with strength and function in children with cerebral palsy*. Darby Research Children's Institute 4<sup>th</sup> Annual Meeting, Charleston, SC.
- Moreau, N. G., Stanley, C., Teefey, S., Damiano, D. L. (2008, September). *Relationship of muscle architecture of the quadriceps with strength and function in children with cerebral palsy*. American Academy for Cerebral Palsy and Developmental Medicine, Atlanta, GA.
- Moreau, N. G., Li, L., Damiano, D. L. (2006, September). *Are muscle strength and fatigue related to walking velocity in individuals with and without cerebral palsy?* Combined Gait & Clinical Movement Analysis Society/European Society of Movement Analysis for Adults and Children Meeting, Amsterdam, The Netherlands.
- Gates, P., Moreau, N., Bicknell, S., Ostendorff, S. (2002, October). *Modified ERTL procedure for Terminal Overgrowth in Childhood Below-knee Limb Deficiencies: Comparison with Excision and Periosteal Closure*. Association of Children's Prosthetic-Orthotic Clinics Annual Meeting, Toronto, Canada.

- Tinsley, S. L., Moreau, N., and Fabre, J. (2002, February). *The Effects of Rectus Femoris Transfer Surgery on Gait in Children with Cerebral Palsy*. Section on Pediatrics, Combined Sections Meeting, APTA, Boston MA.
- Tinsley, S.L., Moreau, N., Pennywell, S., Judd, D., Dugas, B., Fabre, J. (2002, February). *The effect of rectus femoris transfer and hamstring lengthening on gait in children with cerebral palsy*. Section on Pediatrics, Combined Sections Meeting, APTA, Boston MA.
- Moreau, N., Tinsley, S. L., Judd, D., Dugas, B., Fabre, J., Pennywell, S., Gates, P. (2001, April). *Stance Phase Characteristics as a Predictor for Rectus Femoris Transfers*. 6<sup>th</sup> Annual Meeting of the Gait and Clinical Movement Analysis Society, Sacramento, CA.
- Moreau, N., Tinsley, S. L., and Fabre, J. (2001, September). *The Effects of Rectus Femoris Transfer Surgery on Gait in Children with Cerebral Palsy*. Louisiana State Physical Therapy Association Fall Conference, New Orleans, LA.

### **Other Professional Presentations**

- Gannotti, M., Moreau, N.G., Heathcock, J., Bailes, A. (2022, February). *Ten Years after Research Summit III: State of the Science on Dosing Research for Children with CP*. Presented at the Research Forum of the Academy of Pediatric Physical Therapy, Combined Sections Meeting of the APTA, San Antonio, TX.
- Moreau, N.G., Bjornson, K., Hurvitz, P. (2021, September). *An Innovative Approach for Measuring Community Walking Using Combined Accelerometry and GPS*. Mini-Symposia presented at the American Academy for Cerebral Palsy and Developmental Medicine 75<sup>th</sup> Annual Conference (Virtual)
- Pontiff, M. & Moreau, N.G. (2021, February). *Just OK Is Not OK: Importance of 1-Repetition Maximum Testing for Dosing in Cerebral Palsy*. Educational Live Course presented at the Combined Sections Meeting, Academy of Pediatric Physical Therapy of the APTA. (Virtual).
- Harris, N., Moreau, N.G., Hedgecock, J.B., Roy, M., Prowse, M. (2020, September). *Using Implementation Science to Accelerate the Adoption of Evidence-Based Practices for Resistance Training in Cerebral Palsy*. Instructional course presented at the American Academy for Cerebral Palsy and Developmental Medicine (Virtual).
- Moreau, N.G., Pontiff, M., Lemon, C. (2020, September). *When it Comes to Dosing, Just OK is Not OK – Why We Should Be Doing 1-Repetition Maximum Testing in Children with Cerebral Palsy*. Instructional course presented at the American Academy for Cerebral Palsy and Developmental Medicine (Virtual).
- Moreau, N.G., Harris, N., Roy, M., Hedgecock, J.B., Prowse, M. (2019, September). *Using Implementation Science to Accelerate the Adoption of Evidence-Based Practices Related*

- to Resistance Training in Cerebral Palsy*. Focused Symposia presented at the American Academy for Cerebral Palsy and Developmental Medicine, Anaheim, CA.
- Mattern-Baxter, K., Looper, J., Moreau, N., Bjornson, K. (2017, October). *Treadmill Protocols Across Ages and Stages: A Fresh Look at Dosage*. Instructional Course presented at the American Academy for Cerebral Palsy and Developmental Medicine, Montreal, Canada.
- Moreau, N.G., Kolobe, H.A. (2017, February). *Measuring Outcomes for Children with Cerebral Palsy across the ICF*. Educational Course presented at the Combined Sections Meeting, Section on Pediatrics, of the APTA, San Antonio, TX.
- Moreau, N.G., Gannotti, M., McAleavey (2016, February). *We Want to Pump You Up: Targeted Exercise Prescription for Adults with Cerebral Palsy*. Educational Course presented at the Combined Sections Meeting, Section on Pediatrics, of the APTA, Anaheim, CA.
- Mattern-Baxter, K., Looper, J., Moreau, N., Bjornson, K. (2016, February). *Treadmill Protocols Across Ages and Stages: A Fresh Look at Dosage*. Educational Course presented at the Combined Sections Meeting, Section on Pediatrics, of the APTA, Anaheim, CA.
- Fowler, E., Moreau, N.G., Behrman, A.L., Tucker, C.A., McManus, B., Gannotti, M. (2016, February). *Section on Pediatrics Research Forum 2016: Valid Measures for Body Structures & Function and Common Data Elements for Childhood Diagnoses*. Educational Course presented at the Combined Sections Meeting, Section on Pediatrics, of the APTA, Anaheim, CA.
- Moreau, N.G. (2015, October). Presentation at The Fourth National Pediatric Research Summit (RSIV). Innovations in Technology for Children with Brain Insults: Maximizing Outcomes. Section on Pediatrics, American Physical Therapy Association. October 15-17, 2015, Alexandria, VA.
- Moreau, N.G., Gannotti, M., McAleavey (2015, October). *Maximizing Gait and Function in People with Cerebral Palsy Through Targeted Exercise Prescription: An Interactive Case Application*. Instructional Course presented at the American Academy for Cerebral Palsy and Developmental Medicine, Austin, TX.
- Moreau, N.G., Gannotti, M., McAleavey (2014, October). *What Adults with Cerebral Palsy want Physical Therapists to Tell Them: What Exercises Should I Do?* Educational Course presented at the Section on Pediatrics Annual Conference, St. Louis, MO.
- Moreau, N.G., Fuchs, R., Gannotti, M. (2014, February). *Linking Structure and Function for Muscle and Bone Across the Lifespan in People with Cerebral Palsy (Part 1)*. Educational Course presented at the Combined Sections Meeting, Section on Pediatrics, of the APTA, Las Vegas, NV.
- Moreau, N.G., Fuchs, R., Gannotti, M. (2014, February). *Linking Structure and Function: Dosing Parameters and Protocols for Current and Novel Therapies to Improve Muscle*

*and Bone Outcomes in Cerebral Palsy (Part 2)*. Educational Course presented at the Combined Sections Meeting, Section on Pediatrics, of the APTA, Las Vegas, NV.

Moreau, N.G., Fuchs, R., Gannotti, M. (2013, October). *Linking Structure and Function: Dosing Parameters and Protocols for Interventions to Improve Muscle and Bone Outcomes in Cerebral Palsy*. Instructional Course presented at the American Academy for Cerebral Palsy and Developmental Medicine, Milwaukee, WI.

Moreau, N.G. (2011, October). Presentation at The Third National Pediatric Research Summit (RSIII). Dosing of Interventions for Children with an Injured Brain. Section on Pediatrics, American Physical Therapy Association. October 28-30, 2011, Alexandria, VA.

Shortland, A., Moreau, N. G., Gough, M. (2009, April). *Ultrasound Imaging of Muscle Deformity in Cerebral Palsy*. Pre-conference symposium presented at the Gait and Clinical Movement Analysis Society Annual Meeting, Denver, CO.

Damiano, D. L., Moreau, N. G., Stanley, C. (2008, April). *Muscling our way into improving gait and motor activity in cerebral palsy and other motor disabilities*. Pre-conference symposium presented at the Gait and Clinical Movement Analysis Society Annual Meeting, Richmond, VA.

## **Awards, Prizes, Lectureships**

- |             |  |
|-------------|--|
| 2019        | <i>Stephen Haley Research Award</i> , APTA, Academy of Pediatric Physical Therapy                                |
| 2017, 2020  | Scholarship and Innovation Award, LSUHSC School of Allied Health Professions                                     |
| 2017, 2018  | Faculty Travel Grant Recipient, LSUHSC School of Allied Health Professions                                       |
| 2012, 2013  | Gayle G. Arnold Award Nominee for Best Free Paper, American Academy of Cerebral Palsy and Developmental Medicine |
| 2008        | Neurobiology of Disease in Children (NDC) Young Investigator Award   |
| 2008        | Gayle G. Arnold Award Nominee for Best Free Paper, American Academy of Cerebral Palsy and Developmental Medicine |
| 2007        | Louisiana State University Dissertation Fellowship Recipient   |
| 2007        | Louisiana State University Distinguished Dissertation Award Nominee  |
| 2003 – 2006 | <i>Lilian Oleson Scholar</i> , Louisiana State University, College of Education                                  |
| 2002 – 2006 | Louisiana State Board of Regents Fellowship Recipient, Louisiana State University, College of Education          |

2002 – 2003 *Mary McMillan Scholar*, American Physical Therapy Association

1996 Chancellor's Award for Outstanding Student,  
Louisiana State University Medical Center, Shreveport, LA

1996 *Summa Cum Laude*, Louisiana State University Medical Center, Shreveport, LA

## **Contributions to Juried or Refereed Publications**

### **Journal Editorial Board**

Journal of Novel Physiotherapies

### **Manuscript Reviewer**

Physical Therapy Journal  
Archives of Physical Medicine and Rehabilitation  
Clinical Biomechanics  
Developmental Medicine and Child Neurology  
Disability and Rehabilitation  
Muscle & Nerve  
Pediatric Physical Therapy  
Gait & Posture  
Journal of Biomechanics  
Pediatrics  
Disability and Rehabilitation  
Stroke Research and Treatment  
Physical and Occupational Therapy in Pediatrics

## **Grants and Contracts Funded**

### **Current Support:**

R01 HD091089-01A1                      Moreau (PI)                      07/04/18 – 07/31/23

NIH / NICHD

*Power Training Combined with Interval Treadmill Training to Improve Walking Activity in Cerebral Palsy.*

Goal: To determine the immediate and retention effects of power training combined with interval treadmill training (PT3) on functional walking capacity in ambulatory children with CP. To identify key muscular mechanisms with this type of training, we will examine quadriceps muscle performance and architecture. Using coordinate data from global position system (GPS) combined with accelerometry, we will directly measure the effects of treatment on community-based walking activity and participation captured in real-world settings.

Amount: \$2,530,914.

Role: PI





Pedal-with-Pete Foundation <i>In Vivo Assessment of Quadriceps Muscle Plasticity in Children with Cerebral Palsy</i> Amount: \$38,000 Role: PI	Moreau (PI)	1/01/09-06/31/11
New Investigator Award Thrasher Research Fund <i>In Vivo Assessment of Quadriceps Muscle Plasticity in Children with Cerebral Palsy</i> Amount: \$27,000 Role: PI	Moreau (PI)	1/01/09-12/31/10
Clinical Research Grant Section on Pediatrics, American Physical Therapy Association <i>Physical Activity and Muscle Plasticity in Cerebral Palsy</i> Amount: \$10,000 Role: PI	Moreau (PI)	6/01/07-05/31/09
T32-HD007434-13 NIH/NCMRR Movement Science Program, Dept. of Physical Therapy, Washington University in St. Louis Role: Postdoctoral Research Fellow	Miller (PI)	01/2007 – 08/2008
Clinical Research Grant Section on Pediatrics, American Physical Therapy Association <i>Quantification of Muscle Fatigue in Cerebral Palsy</i> Amount: \$1,000 Role: PI	Moreau (PI)	6/01/05-05/31/06
Dissertation Year Fellowship Louisiana State University Graduate School Dissertation title: <u>Quantification of Muscle Fatigue in Cerebral Palsy and Its Relationship to Impairments and Function</u>		8/15/07-05/31/08
Mary McMillan Doctoral Scholarship Foundation for Physical Therapy		9/01/02-8/31/03

### **Major Areas of Research Interest**

My research focuses on the investigation of the neuromuscular mechanisms underlying abnormal muscle function and movement impairments in children with cerebral palsy, using techniques such as ultrasound imaging, dynamometry, and electromyography. My overarching goal is the development of effective rehabilitation strategies to improve activity, participation, and quality of life for individuals with cerebral palsy.

## Teaching Experience

### Courses taught current year (2021-2022)

PHTH 7132 Movement Sciences II, Doctor of Physical Therapy Program, LSUHSC.  
(Course Director)

PHTH 7271 Diagnosis & Management in Neuromuscular Disorders, Doctor of Physical Therapy Program, LSUHSC (Instructor)

### Courses taught prior year (2020-2021)

PHTH 7132 Movement Sciences II, Doctor of Physical Therapy Program, LSUHSC.  
(Course Director)

PHTH 7271 Diagnosis & Management in Neuromuscular Disorders, Doctor of Physical Therapy Program, LSUHSC (Instructor)

PHTH 7132 Movement Sciences II, Doctor of Physical Therapy Program, LSUHSC.  
(Course Director)

PHTH 7271 Diagnosis & Management in Neuromuscular Disorders, Doctor of Physical Therapy Program, LSUHSC (Instructor)

### Thesis and Dissertation projects

Mattie Pontiff. *Examination of a Power Leg Press (PLP) Test in Cerebral Palsy: Reliability, Sensitivity to Change and Functional Significance.* Department of Cell Biology and Anatomy, LSUHSC-NO (Dissertation project). Role: Primary Advisor

Surana Bhavini. *Effectiveness of lower extremity intensive functional training (LIFT) in young children with hemiplegia delivered in the home setting: a randomized control trial.* Department of Biobehavioral Sciences, Teachers College, Columbia University. (Dissertation project). Role: Mentor

### Postdoctoral projects

Abhinandan Batra, PhD. *EMG alterations in response to interventions in CP.* Department of Physical Therapy, LSUHSC-NO. Role: Mentor

Leila Nuri, PhD. *Muscle-tendon interactions in CP.* Department of Physical Therapy, LSUHSC-NO. Role: Mentor

## Directed faculty research projects

Luther Gill, PhD, DPT. *Intensive Care Unit Acquired Weakness and Mitochondrial Dysfunction*. Department of Physiology, LSUHSC-NO. Role: Advisory Committee for K12 Program

Colquitt Gavin, PhD. *The effect of an upper extremity power training intervention on pain and power among young people with cerebral palsy*. School of Health and Kinesiology, Georgia Southern University. Role: Mentor

## Directed student research projects

Cheremie C., Gray A., Hargroder A., Pecquet K., Stevenson M. (2019-2020). *Trajectories of Muscle Strength and Power with Age in Individuals with Cerebral Palsy and Relationship to Functional Mobility*. Doctor of Physical Therapy Program, Class of 2020, Department of Physical Therapy, LSUHSC-NO. (Capstone advisor)

\*Received Best Capstone Defense Award, Dept. of Physical Therapy, 2020

Amedee T., Ferrelli S., Gaitan J., Guillot K., Wood J. (2018-2019). *Age Related Changes in Muscle Function and Walking in Cerebral Palsy: A Follow-up Study*. Doctor of Physical Therapy Program, Class of 2019, Department of Physical Therapy, LSUHSC-NO. (Capstone advisor)

Connick B., Rabalais T., Robertson M. (2017-2018). *Age-Related Changes in Muscle Structure and Function Throughout the Lifespan in Individuals with Cerebral Palsy*. Doctor of Physical Therapy Program, Class of 2018, Department of Physical Therapy, LSUHSC-NO. (Capstone advisor)

Bunch L., Samuel L., Thomassie M. (2017-2018). *The Effect of Spinal Manipulation on Chronic Mechanical Neck Pain: a Systematic Review and Meta-analysis*. Doctor of Physical Therapy Program, Class of 2018, Department of Physical Therapy, LSUHSC-NO. (Capstone advisor)

Williams III F., Bui A., Wiegmann J. (2016-2017). *Feasibility and Validity of a Simple Video Analysis Method for Calculating Lower Extremity Power*. Doctor of Physical Therapy Program, Class of 2017, Department of Physical Therapy, LSUHSC-NO. (Capstone advisor)

\*Received Best Capstone Defense Award, Dept. of Physical Therapy, 2017

Landry A., Maher L., Stanich III, J. (2016-2017). *Effects of External Versus Internal Focus of Attention on Running Mechanics in Novice Runners*. Doctor of Physical Therapy Program, Class of 2017, Department of Physical Therapy, LSUHSC-NO. (Capstone advisor)

Varnado, K., Scroggin, M., Irvin, J. (2015-2016). *The Effect of External Versus Internal Focus of Attention on Running Mechanics in Novice Runners*. Doctor of Physical Therapy Program, Class of 2016, Department of Physical Therapy, LSUHSC-NO. (Capstone advisor)

\*Received Best Capstone Defense Award, Dept. of Physical Therapy, 2016

Baudouin, C., Pederson, S., Sparks, T. (2015-2016). *The Effectiveness of LSVT BIG on Physical Function in Patients with Parkinson's Disease*. Doctor of Physical Therapy Program, Class of 2016, Department of Physical Therapy, LSUHSC-NO. (Capstone advisor)

Stone, L., Vicari, M., Sydboten, A. (2014-2015). *Biomechanical Factors that Contribute to Patellofemoral Pain in Female Runners*. Doctor of Physical Therapy Program, Class of 2015, Department of Physical Therapy, LSUHSC-NO. (Capstone advisor)

Shrader, A., Lahasky, K., Soileau, M. (2013-2014). *Effectiveness of Interventions to Improve Walking Speed in Cerebral Palsy: a Systematic Literature Review*. Doctor of Physical Therapy Program, Class of 2014, Department of Physical Therapy, LSUHSC-NO. (Capstone advisor)

Judd, C. (2011-2012). *Reliability of Lower Extremity Kinematics Obtained Using Two-Dimensional Video Analysis in Young Infants*. Doctor of Physical Therapy Program, Department of Health Professions, Medical University of South Carolina. (Research advisor)

Smart-Balleh, M. (2011). *Differences in Muscle Architecture, Passive and Dynamic Range of Motion in High and Low Risk Preterm Infants*. Doctor of Physical Therapy Program, Department of Health Professions, Medical University of South Carolina. (Research advisor)

Dew, AP. (2010-2011). *Getting the most out of a 2D ultrasound measure of muscle thickness in children with cerebral palsy*. Doctor of Physical Therapy Program, Department of Health Professions, Medical University of South Carolina. (Research advisor)

\*Received the 2013 Clinical Research Award from the Section on Pediatrics for the publication from this research project

Vanderwerker, C. (2009). *Muscle Plasticity of the Quadriceps in Response to Velocity-Enhanced Resistance Training in a Teenager with Cerebral Palsy Improves Muscle Performance and Quality of Life: a Case Report*. Doctor of Physical Therapy Program, Department of Health Professions, Medical University of South Carolina. (Research advisor)

Pennywell, S., Judd, D., Dugas, B., Fabre, J. (2001). *The effect of rectus femoris transfer and hamstring lengthening on gait in children with cerebral palsy*. Master of Physical Therapy Program, Department of Physical Therapy, LSUHSC-S. (Research advisor)

Fabre, J., Pennywell, S., Judd, D., Dugas, B. (2001). *The effect of rectus femoris transfer surgery on gait in children with cerebral palsy*. Master of Physical Therapy Program, Department of Physical Therapy, LSUHSC-S. (Research advisor)

Cavell A, Semones K. (2003). *Long Term Outcomes of Rectus Femoris Transfers in Children with Cerebral Palsy*. Master of Physical Therapy Program, Department of Physical Therapy, LSUHSC-S. (Research advisor)

Simpson J., Wilkerson J. (2002). *Goal Specific Outcomes of Rectus Femoris Transfers in Children with Cerebral Palsy Based on Stance-Phase Characteristics*. Master of Physical Therapy Program, Department of Physical Therapy, LSUHSC-S. (Research advisor)

## **Professional Organization Service**

### **National**

- 2020 *Grant Reviewer* – NIH "Opportunities for Collaborative Research at the NIH Clinical Center (U01)" Special Emphasis Panel (July 23, 2020)
- 2018 *Grant Reviewer* – NIH Early Career Research Award Grant Review Meeting (July 11, 2018)
- 2018 *Grant Reviewer* – NIH MOSS Study Section Ad Hoc Reviewer: Special Emphasis Panel on “Small Business: Musculoskeletal Rehabilitation Sciences” (Nov. 30, 2018)
- 2018-2019 *Research Summit V Planning Committee Member* - American Physical Therapy Association, Section on Pediatrics
- 2014-2015 *Grant Reviewer* – Thrasher Research Fund
- 2014-2015 *Grant Reviewer* – American Physical Therapy Association, Section on Pediatrics
- 2013-2014 *Grant Reviewer* – American Physical Therapy Association, Section on Pediatrics
- 2010-2013 *Chair of the Awards Committee* - Section on Pediatrics, American Physical Therapy Association
- 2010-2012 *Awards Committee* – American Academy of Cerebral Palsy and Developmental Medicine
- 2009-present *Research Committee Member*  
Section on Pediatrics, American Physical Therapy Association
- 2009-present Combined Sections Meeting Abstract Reviewer, Section on Pediatrics
- 2007-present Gait and Clinical Movement Analysis Society Abstract Reviewer
- 2001-20002 *Steering Task Force*  
Shriners Hospital Motion Analysis Laboratory Network

## **Academic Service**

### **University**

- 2017-present Safe Zone Training for Faculty
- 2015-present School of Allied Health Professions' Representative on the Research Dean's Committee for Interprofessional Research – Louisiana State University Health Sciences Center – New Orleans
- 2011-2012 Faculty Senate - Medical University of South Carolina

### **School / Department**

- 2018-present Faculty Liaison of the Grants and Research Committee – Louisiana State University Health Sciences Center School of Allied Health
- 2017-2018 Search Committee Member –Chair of the Department of Communications Disorders, Louisiana State University Health Sciences Center School of Allied Health
- 2017-2019 DPT II Promotions Committee – Louisiana State University Health Sciences Center School of Allied Health, Department of Physical Therapy

- 2016-2017 Chair of the Faculty Search Committee – Louisiana State University Health Sciences Center School of Allied Health, Department of Physical Therapy
- 2015-2016 Chair of the Faculty Search Committee – Louisiana State University Health Sciences Center School of Allied Health, Department of Physical Therapy
- 2013-2018 Chair of the Grants and Research Committee – Louisiana State University Health Sciences Center School of Allied Health
- 2014-present Member of the Promotion and Tenure Committee – Louisiana State University Health Sciences Center School of Allied Health
- 2013-present DPT III Promotions Committee – Louisiana State University Health Sciences Center School of Allied Health, Department of Physical Therapy
- 2013-present Member of the Grants and Research Committee – Louisiana State University Health Sciences Center School of Allied Health
- 2010-2012 Promotion & Tenure Policy Writing Committee - Medical University of South Carolina College of Health Professions
- 2010-2012 Research Resource Group - Medical University of South Carolina College of Health Sciences and Research
- 2010-2012 Search Committee Member – Faculty Position in the Department of Health Sciences and Research
- 2009-2012 PhD Advisory Board – Medical University of South Carolina College of Health Professions
- 2009-2012 PhD Curriculum Committee – Medical University of South Carolina College of Health Professions
- 2009-2012 Research Council Member – Medical University of South Carolina College of Health Professions
- 2009-2010 Search Committee Member – Division Director of Physical Therapy, Medical University of South Carolina, College of Health Professions
- 2009-2010 Search Committee Member – Chair of the Department of Health Sciences and Research, Medical University of South Carolina College of Health Professions
- 2008-2012 CAPTE Accreditation Technology Committee Member – Medical University of South Carolina College of Health Professions, Division of Physical Therapy

## **Public Service**

- 2009-2012 *Volunteer* - Anchors Aweigh Adaptive Ski Clinic, Charleston, SC
- 2008-2012 *Volunteer* - Charleston and Summerville Miracle League, Charleston, SC
- 2005 *Volunteer* – Hurricane Katrina Medical Triage Unit, Baton Rouge, LA

## **Conferences/Meetings Attended of Importance to the Profession**

**The Fifth National Pediatric Research Summit (RSV). *Optimizing transitions from infancy to young adulthood in children with neuromotor disabilities: biological & environmental factors to support functional independence.*** Section on Pediatrics, American Physical Therapy Association. October 18-19, 2019, Alexandria, VA. (*Member of the Research Summit V Planning Committee*)

**IV STEP 2016. Prevention, Plasticity, and Participation.** Section on Pediatrics and Section on Neurology, American Physical Therapy Association. July 14-19, 2016, The Ohio State University.

**The Fourth National Pediatric Research Summit (RSIV). *Innovations in Technology for Children with Brain Insults: Maximizing Outcomes.*** Section on Pediatrics, American Physical Therapy Association. October 15-17, 2015, Alexandria, VA.

**State-of-the-Science and Treatment Decisions in Cerebral Palsy Workshop 2014.** National Institutes of Health (NINDS/NICHD). November 12-13, 2014. Neuroscience Center, Rockville, MD

**The Third National Pediatric Research Summit (RSIII). *Dosing of Interventions for Children with an Injured Brain.*** Section on Pediatrics, American Physical Therapy Association. October 28-30, 2011, Alexandria, VA.

**III STEP 2005.** Section on Pediatrics and Section on Neurology, American Physical Therapy Association. July 15-21, 2005, Salt Lake City, UT.

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