

(Hannah) Aura Shoval, MD

Curriculum Vitae

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I am a transformational leader adept at spearheading cross-functional teams to create data-driven, financially informed strategy as a means to achieve quality improvement and healthcare equity. I take pride in fostering inclusive cultures of purpose, and leveraging emerging technologies to craft innovative and impactful solutions.

Employment

2022–present **Chief of Pediatric Rehabilitation Medicine, Atlantic Health System**

- Department Growth
 - Utilized clinical informatics to analyze competitive healthcare landscape, enhancing competitive advantage and leading to more than 400% increase in patient volume, requiring the creation of multiple new positions to meet unprecedented patient volumes and referrals
 - Created, recruited, and filled multiple new positions in the department in my first 3 years
 - Created new clinics, including creation of a novel business strategy and plan with projected financials, followed by successful implementation leading to improved patient outcomes and financial success.
- Data Analytics and Technological Innovation
 - Led development and execution of strategic data reporting using Epic, Power BI, Zotec revenue cycle management, REDcap, SPSS, and Excel
 - Reviewed and analyzed reports, ensuring accurate and actionable insights
- Community Outreach, Societal Integration, and Education
 - Partnerships to facilitate patient higher education, vocational training, adaptive sports & recreation
 - Mentor for interns and rotating students

2024–present **Board Member of Atlantic Accountable Care Organization, Atlantic Health System**

One of 10 voting members providing key insights into medicine and policy, working with C-suite executives.

- Liaise with Centers for Medicare & Medicaid Services (CMS) to secure shared savings through participation in Medicare Shared Savings Program (MSSP). Evaluate geographic regions and devise strategic initiatives to strengthen competitive advantage in healthcare market.
- Review in-depth analysis of financial, quality, and performance data to develop strategies that maximize shared savings by enhancing care efficiency and health outcomes for over 60,000 members.
- Advise on innovative solutions to improve health outcomes, reduce ER visits, and minimize hospitalizations, thereby lowering costs and improving access to appropriate levels of care

2022–present	Medical Director of the Spasticity and Gait Clinic, Atlantic Health System
	Oversight of a 15 member multi-disciplinary team consisting of neurologist, orthopedist, neurosurgeon, pediatric occupational therapists, physical therapists, serial casters, orthotists, social worker, nutritionist, as well as support staff.
	<ul style="list-style-type: none"> ○ Growth and Development <ul style="list-style-type: none"> - Further developed the clinic into an integrative destination clinic for children with complex care needs, providing specialty services unique to the area - Greatly increased the clinic's catchment radius and decreased patient leakage from our system - Increased surgical candidates by over 300% and brought new candidates for a profitable neurosurgery to our hospital ○ Operations, Finance and Quality <ul style="list-style-type: none"> - Created and analyze quality metrics and financial revenue from the clinic including downstream revenue - Informed operational aspects of the clinic and work closely with marketing on promotion - Fundraised with community foundations and philanthropic councils
2023–present	Co-director of MDA clinic, Atlantic Health System
	A 10-member team including Cardiologist, Pulmonologist, Endocrinologist, Neuromuscular specialist, Psychiatrist, Geneticist, Genetic Counselor, Nurse Navigator, Physical Therapist, and Orthotist <ul style="list-style-type: none"> ○ Clinic participates in cutting-edge, potentially life-saving drug trials for neuromuscular conditions ○ Early diagnosis using streamlined point-of-care genetic testing ○ Pioneered the creation and execution of innovative EMR build to automate patient care coordination and scheduling, across neurology, psychiatry, pulmonology, cardiology, genetics, endocrinology. Gathered stakeholder approval for this build to help streamline processes, improving patient experience, and decreased barriers to care. Pilot was successful and expansion is underway
2023–present	Other Atlantic Health System Committees, Atlantic Health System
	AMG Central Regional Council 2025–present <ul style="list-style-type: none"> ○ Lead and govern physicians and advanced practitioners to promote and achieve the goals of Atlantic Medical Group in the Central New Jersey Region, the largest in our system
	Women's Business Resource Group 2023–present Founding Chair, Clinician Subgroup of Women's Business Resource Group 2024
	Vision: For all women clinicians to meet their full potential in a way that is personally rewarding Mission: To change cultures and systems to support all women clinicians <ul style="list-style-type: none"> ○ Led system-wide programs/events promoting clinician engagement, mentorship, and health equity ○ Created a pilot mentorship program for new women clinicians
	Wellness Informatics Committee 2024–present <ul style="list-style-type: none"> ○ Subcommittees: Steering Committee, Documentation Committee ○ Clinician group engaged in EMR improvements and innovations. ○ Chosen as a member of the AI Ambient Note Writing Pilot Group for 2024
	Clinician Engagement Committee 2024 <ul style="list-style-type: none"> Identifying ways to improve systemwide clinician engagement
2022–present	Clinical Associate Professor, Rutgers/NJMS, Department of Physical Medicine Rehabilitation
	Clinical Assistant Professor [2018–2022]
	Chair of Curriculum in Quality Improvement (QI) for Kessler Residency Program and Lecturer <ul style="list-style-type: none"> ○ Received the Faculty Quality Leadership Award from Rutgers in 2022 ○ Administer and monitor Curriculum in Quality Improvement (QI) for Kessler Residency Program. ○ Lecture on QI concepts and framework, as well as change management ○ Assist with QI Capstones and presenting data in a meaningful way to hospital clinicians and administrators to affect further change. ○ Instructed and mentored 50 residents during the span of 4 years. ○ Implemented effective strategies to identify and monitor specific metrics and key performance indicators for quality improvement initiatives, utilizing PDSA cycles effectively. ○ Promoted to the role of Clinical Associate Professor in recognition of key contributions to the institution.

2017–2022	Pediatric Rehabilitation Medicine Physician and Department Chief of Quality Improvement, Children's Specialized Hospital, Clifton, NJ
	Served on top-level hospital committees, led digital transformation, as well as patient care and patient satisfaction initiatives:
	<ul style="list-style-type: none"> ○ Utilized Meditech, REDcaps, SPSS, and Excel for QI/PI, research, efficiency, and profitability ○ Published results in a peer-reviewed manuscript, two abstracts, and a national podium presentation
	Interim Chief of Pediatric Psychiatry 2021
	Robust Pediatric Rehabilitation department consisting of 157 Inpatient Beds (68 acute pediatric rehab, 89 special care nursing) and 5 outpatient clinics throughout New Jersey as well as a Fellowship Program
	Steering Committee 2019–2022
	Worked with CEO and CMO to define hospital goals; created appropriate metrics and gathered and analyzed data to improve quality and performance for the hospital. Personal focus on QI/PI and addressing sociodemographic barriers to care.
	<ul style="list-style-type: none"> ○ Achieved national presentation and published abstract on work on sociodemographic barriers to care ○ Created metrics and analyzed data to identify pathways to improve the quality of healthcare ○ My financial data analysis identified and found the cause of a repeating billing error. Correcting it saved the hospital hundreds of thousands of dollars
	Medical Executive Committee 2021–2022
	Elected as member-at-large to represent physicians across all Children's Specialized Hospital locations.
	<ul style="list-style-type: none"> ○ Presented data analyzing top barriers to patient access to the C-suite and strategic plan to increase patient access and clinician engagement via optimizing hospital operations ○ Identified new opportunities for revenue growth. Focused on service expansion of high-revenue lines
	Co-Chair, Patient Experience Committee 2017–2018
	<ul style="list-style-type: none"> ○ Performed strategic data analysis to identify and proactively address primary patient experience influencing factors ○ Provided recommendations to the C-suite and other key hospital leaders at the quarterly executive board meeting
	Telemedicine Committee 2021–2022
	<ul style="list-style-type: none"> ○ Spearheaded digital transformation during the pandemic to re-imagine the clinic visit and market our services via a virtual platform. This was successful in retaining patient volumes and revenue, minimizing the pandemic's effect on operations. ○ Optimize telemedicine platform and workflow to most closely mimic in-person visit experience ○ Assisted with identifying and correcting IT errors, and assisting colleagues with platform usage
	Medical Education Committee 2019–2022
	Digital transformation: Created and implemented an efficient interface to manage attendance, evaluations, CME credits resulting in improved efficiency, accuracy and compliance
	<ul style="list-style-type: none"> ○ Automation significantly decreased the administrative burden ○ Accomplished over 20% increased participation in CME events
2021–2022	Pediatric Rehabilitation Associate Fellowship Director, Children's Specialized Hospital
	Spearheaded expansion of educational opportunities including a successful new research collaboration and a multi-disciplinary clinic. Devised and implemented a successful comprehensive marketing strategy.
	<ul style="list-style-type: none"> ○ Co-organized national virtual fellowship fair involving all pediatric rehab fellowship programs across the United States. ○ Created new educational opportunities and a research partnership with research teams at NJIT for our fellows ○ Created multi-disciplinary orthopedic/rehab/bracing clinic <ul style="list-style-type: none"> - Recruited top orthopedist spine and hip specialist in medically complex children - Presented business plan with financial, educational, and reputation benefits to our institution - Financially lucrative with increased orthopedic and spine procedure volumes ○ Expanded our fellowship program, consistently matching top applicants and added a second fellowship position. This significant milestone came after a series of years with unmatched spots prior to my promotion to this position.

Certifications

Board Certifications

- Board Certified in Physical Medicine and Rehabilitation (American Board of PM&R)
 - Board Certified in Pediatric Rehabilitation Medicine (American Board of PM&R)
 - Board Certified in Brain Injury Medicine (American Board of PM&R)
 - Board Certified in Clinical Informatics (American Board of Preventive Medicine)

Other Certifications

- Performing Arts Medicine Certification (by the American College of Sports Medicine (ACSM) and Performing Arts Medicine Association (PAMA))
 - Certified Professional in Patient Safety (CPPS) from the Institute for Healthcare Improvement
 - MIT certification in AI in Healthcare

Education

June 2022 – **Master of Business Administration**, Rutgers Business School, Newark, NJ
present Concentrations in Finance and Strategy

July 2015 – **Pediatric Rehabilitation Medicine Fellow**, New York-Presbyterian Hospital, New York, NY
July 2017 Clinical Sites: Columbia University Medical Center Blythedale Children's Hospital

July 2014 – Chief Resident in Physical Medicine & Rehabilitation, New York-Presbyterian Hospital,
June 2015 New York, NY

July 2012 – **Physical Medicine & Rehabilitation Resident**, New York-Presbyterian Hospital, New York, NY

Clinical Sites: Hospital for Special Surgery Memorial Sloan-Kettering Cancer Center
Columbia University Medical Center Blythedale Children's Hospital
Weill Cornell Medical Center Burke Rehabilitation Center

July 2011 – Preliminary Internal Medicine Resident, Winthrop University Hospital, Mineola, NY
June 2012

Aug 2006 – **Medical Doctor**, Tufts University School of Medicine, Boston, MA
June 2011

Sep 2000 – Bachelor of Arts (BA), Barnard College, New York, NY
May 2005 Major in Neuroscience and Behavior; Major in Dance

Honors and Awards

- 2024 **Top Doc, Best in NJ Magazine-Doctor Edition**
- 2022 **Faculty Quality Leadership Award, Rutgers/NJMS, Department of Physical Medicine Rehabilitation**
- 2021 **Listed in “Top Doctors” in Bergen County, Magazine/ USA Today Network**
- 2020 **Listed in “Top Doctors” in Bergen County, Magazine/ USA Today Network**
- 2019 **First author of manuscript chosen as one of the “Top 10 Research Articles in Pediatric Rehabilitation Medicine”, AAPMR “Top 10 Pediatric Rehabilitation Medicine”**
- 2013 **Employee of the Month, New York-Presbyterian Hospital**
- 2006 **Magna cum laude, Barnard College**
- 2006 **Irving and Mary Kremsdorff Award for Academic Achievement, Jewish Theological Seminary of America**
- 2000–2006 **The Fellows Program, Jewish Theological Seminary of America**
Full merit based scholarship

Leadership

Additional Leadership Positions

- 2023–present **Health Equity Medical Advisor, Rutgers Institute for Corporate Social Innovation**
A strategic advisory board composed of a dedicated and diverse group of corporate executives assembled to address society’s pressing issues, with a current focus on health equity
 - Creating and analyzing key performance indicators for “REACH” proposal
 - Granted \$225K (2024) and \$100K (2025): sustainable farming, nutrition, employment, maternal health
- Oct 2, 2013 **Team Leader, PM&R on Capitol Hill, AAPM&R**
 - Political advocacy for AAPM&R
- 2011–2012 **EMR Integration Team, Winthrop University Hospital, Mineola, NY**
Provided key insights during digital transformation from paper charts to an EMR
- Winter 2008 **Board Member/Choreographer, Multi-Cultural Performing Arts Group, Boston, MA**
 - Helped organize, choreographed and performed at a fundraiser for the Colleen Romain Scholarship
- 2007 **Case Manager and Board Member, Sharewood, Boston, MA**
Sharewood is Tufts’ student run free Health Clinic

QI Leadership

- 2017–2022 **Physiatry PI/QIRepresentative, Children’s Specialized Hospital**
- 2015–2017 **Pediatric Rehabilitation QI Chief, New York-Presbyterian Hospital, New York, NY**
National Presentation on the inpatient multidisciplinary QI work I led on a multi-disciplinary protocol and its innovative integration into our EMR of “Standardizing Screening and Multidisciplinary Management for Neurogenic Bladder” at a national conference, American Association of Psychiatry (AAP) 2018
- 2014–2015 **Quality Chief for Physical Medicine and Rehabilitation Residents, New York-Presbyterian Hospital, New York, NY**

- 2013–2014 **Vice Chair, House Staff Quality Council**, New York-Presbyterian Hospital/Weill Cornell Medical Center, New York, NY
 - Directed hospital-wide quality improvement, directly overseeing 80 physicians representing 64 residency programs, supporting over 1800 trainees. Collaborated with nursing, IT, admin, and other staff at top hospital with 800 beds and over 1300 physicians
 - Created the Business plan for and led a successful safety reporting restructuring at New York-Presbyterian Hospital. Achieved rapid growth of hospital-wide QI error identification, resulting in a 400% increase by the end of the second year of tenure
 - Presented accomplishments to the Board of Trustees at Columbia Medical Center, the Board of Trustees at Cornell Medical Center, and the Medical Board at Cornell Medical Center
 - Presented an educational seminar to all residency program directors at Cornell Medical Center and worked with ACGME to ensure compliance with resident QI requirements
 - Spearheaded EMR innovation by synthesizing the needs of clinicians and administration. Worked with the IT department to implement these, which improved patient care, efficiency, and insurance billing.
- 2012 **Quality Improvement Committee**, Winthrop University Hospital, Mineola, NY
- [National Academy Leadership Positions](#)
- 2023–present **Research Committee, AACPDM**
 - Review applications for grants
 - Worked with team to create two four-hour national symposia that were successful and chosen for conversion into on-line content:
 - “Transforming Your Early-Stage Research Program into an Established One”
 - “Initiating a Research Program Focused on Cerebral Palsy or Other Child-Onset Developmental Disabilities”
- 2020–2021 **Past Chair, Adapted Sports and Recreation Committee**, AACPDM
- 2019–2020 **Chair, Adapted Sports and Recreation Committee**, AACPDM
- 2017–2019 **Member, Adapted Sports and Recreation Committee**, AACPDM
- [Leadership Training](#)
- 2021–2022 **Medical Leadership Academy**, Children’s Specialized Hospital
 - Selected to attend as a physician leader of the institution
 - Collaborated with team to achieve innovative way to achieve hospital strategic initiatives
- 2018 **Directors/Managers Training: Highly Reliable Organization**, RWJBarnabas Health, Clifton, NJ
 - Chosen as one of the leaders at Children’s Specialized Hospital to attend a full day course in Highly Reliable Organization with an emphasis on its applications in a hospital setting, and how to promote that environment as a manager.
- June 1–5, 2015 **Leadership Retreat**, Columbia Medical Center, New York, NY
 - Chosen as one of 20 out of 1,800 residents (top 1%) for this intensive, week-long leadership retreat that covers topics on quality initiatives, health care economics, patient safety, teamwork and leadership.
- Oct 2, 2013 **Association Leadership Workshop**, National Harbor, MD
 - Chosen as a rising leader of physiatry at the national level to attend a leadership course with other prominent leaders in PM&R.
- 2001–2004 **Resident Assistant training**, Barnard College, New York, NY
 - Full week intensive training, repeated each year. Included live simulated scenarios with professional feedback and performance evaluation.

Legal Consulting / Medical Expert

- 2025 **Spinal Cord Injury, Prosecutor's Medical Expert**
- 2025 **Limb Loss, Prosecutor's Medical Expert**
- 2024–current **Medical Advisor/Consulting Services, OrthoPediatrics**
Consulting on creation of novel medical devices
- 2024 **Medical Advisor/Consulting Services, ROM Technologies**
Consultation on how to integrate technology to improve design, functionality, and marketing appeal of the device
- 2023–2024 **Neurological Injury at Birth, Defendant's Medical Expert**
 - Reviewed medical records, depositions, and other documents
 - Advised on neurological injury causes, treatment, recovery, and projected future financial expenses
 - Independent Medical Examination provided
- 2022–2023 **Sports-Related Musculoskeletal Injury, Plaintiff's Medical Expert**
 - Reviewed medical records, depositions, and other documents
 - Advised on musculoskeletal injury causes, treatment, recovery, and long-term debility from injury
 - Provided summary of expert opinion and subsequent responses to the defendant's expert opinion
- 2023 **Brain Injury, Defendant's Medical Expert**
 - Provided expert opinion on the standard of care for diagnosis and care for acute brain injury in the ICU setting
 - The natural course of neurovascular disease including prognosis and life expectancy
 - Risk factors associated with poor outcomes in the case
 - Likely prognosis, function, and life expectancy given injury
 - Reviewed medical records, depositions, and other documents
- 2020 **Brain Injury, Defendant's Medical Expert**
 - Provided expert opinion on the standard of care for diagnosis and care for brain injury

Experiential Consulting Coursework

- Fall 2025 **Integrative Business Consulting, Rutgers MBA Course**
Client **WTW**: consultation on AI integration
- Fall 2025 **Executive Thinking, Rutgers MBA Course**
Partnered weekly with C-suite clients, presenting biweekly strategic recommendations to senior executives of seven different companies
- Summer 2025 **Healthcare Consulting, Rutgers MHA Course**
Client **Johnson & Johnson**: consultation on AI Innovation in the Medtech Space. Conducted opportunity mapping for AI-driven technology and made strategic recommendations

Research

- 2023–present **Blood Flow Restriction Therapy, Kessler Institute for Rehabilitation**
Novel usage for Individuals with Neurological Conditions to build Strength
- 2024–present **2024 Dean's Intramural Seed Research Grant, Rutgers School of Health Professions**
25K awarded for research on Enhancing Rehabilitation Outcomes in Cerebral Palsy
- 2023–present **Principal Investigator: Pediatric Shoulder Ultrasound, Atlantic Health System, Morristown Medical Center**
 - Creating a standardized approach for early identification of subluxation
 - Creating a database of standardized dimension by age
 - Early diagnosis of shoulder subluxation and pain sources in children with neurological impairment.
- 2023–2024 **Co-Principal Investigator: Biomechanics of gait limitations of spasticity, Atlantic Health System, Kessler Foundation, West Orange, NJ**

- 2021–2023 **Co-Investigator**, *New Jersey Institute of Technology Motion Capture Lab*, Newark, NJ
The effects of surgical and nonsurgical treatments for spasticity and contractures on gait lab analysis in children with Cerebral Palsy.
- 2020–2023 **Principal Investigator**, *Children's Specialized Hospital*, New Brunswick, NJ
Investigation of Socio Demographics and Functional Level on Access to Care for Children with Cerebral Palsy.
- 2018–2023 **Co-Principal Investigator**, *Children's Specialized Hospital*, New Brunswick, NJ
Investigation in Sleep Patterns in Inpatient Rehabilitation.
Awarded funding from Children's Specialized Hospital Foundation.
- 2017–2023 **Co-investigator**, *Children's Specialized Hospital*, Mountainside, NJ
Treadwall Rock Climbing for Children with Hemiplegic Cerebral Palsy.
- 2017–2023 **Co-investigator**, *Children's Specialized Hospital & Kessler Foundation*
Visual biofeedback gait training study.
A collaboration between Children's Specialized Hospital and the Center for Mobility and Rehabilitation Engineering Research, Kessler Foundation.
- 2015–2017 **Resident Research**, *Pediatric Rehab Research, Columbia Medical Center*, New York, NY
Under the supervision of Heakyung Kim, MD
 - Long Term Efficacy of Repeated Botulinum Toxin A Injections to Salivary Glands for the People with Neuromuscular Disorders
 - Single Event Multi-level Chemoneurolysis combined with Salivary gland injections Safety and Efficacy of Botox Injections to Salivary glands in patients with SMA
 - Improved Balance in patients with CP and Valgus foot deformity after Botox injections
- 2012–2016 **Resident Research**, *Cardiopulmonary Rehab Research Group, Columbia Medical Center*, New York, NY
Under the supervision of Matthew Bartels, MD
 - The therapeutic effect of cardiovascular exercise in Schizophrenia in terms of function as related to autonomic dysreflexia and other cardiovascular parameters
- 2005–2006 **Research Assistant**, *Pediatric Neurology, Montefiore Medical Center*, Bronx, NY
Under the supervision of Kathryn McVicar, MD and Shlomo Shinnar, MD Ph.D.
 - Helped plan and implement the study. Reviewed medical charts. Created/managed the database.
 - Recruited and followed up on patients. Administered childhood autism rating scale.
- 2004–2005 **Volunteer Research Assistant**, *Sergievsky Center for Neurological Disorders, Columbia University*, New York, NY
Under the supervision of Brady Butterfield, PhD and Yaakov Stern, PhD
 - Reviewed and summarized literature for research on brain function using fMRI.
 - Neuroscience Research Thesis “An fMRI Investigation of the neurobehavioral Impact of sleep deprivation and stimulus degradation on a working memory task”
- 2004–2005 **Neuroscience Senior Thesis**, *Barnard College*, New York, NY
An fMRI Investigation of the Neurobehavioral Impact of Sleep Deprivation and Stimulus Degradation on a Working Memory Task
- 2004–2005 **Dance Senior Thesis**, *Barnard College*, New York, NY
Treatment for Chronic and Recurring Lower Back Pain must be Informed by the Psychological Component

Publications

Peer Reviewed Manuscripts

- 2025 The effect of sleep fragmentation on therapeutic engagement and rehabilitation progress after brain injury in a pediatric inpatient sample. A. H. Lequerica, {PCshoval, J. Ace, T. Yip, SS. Dieffenbach, C. Marchetta, J. Lengenfelder. *Brain Inj.* 2025 Mar 24:1-6.
- 2024 Exploring the role of the Rock Climbing Treadmill as a novel therapy tool in physical rehabilitation. Bartolo K., Paris K., D'Amico E., Androwis G., J. Cheng, H. A. Shoval. *PM&R.* 2024. DOI: 10.1002/pmrj.1328

- 2024 Clinical and functional characteristics of co-occurring cerebral palsy and autism spectrum disorder among children and young adults. Casseus, M., H. A. Shoval, Erasmus, A. J., & J. Cheng. Research in Autism Spectrum Disorders, 118, 102490. 2024. <https://doi.org/10.1016/J.RASD.2024.102490>
- 2023 Treatment of Postprandial Hypotension with Acarbose in an Adult with Cervical Spinal Cord Injury: A Case Report. Accepted 10.12.2023. Pending Publication. H. A. Shoval, SS. Dieffenbach. Spinal Cord Series and Cases
- 2023 Safety and Effectiveness of Ethanol Neurolysis With and Without OnabotulinumtoxinA in Children with Cerebral Palsy. H. A. Shoval, J. Ace, M. Reddy, E. Grew, J. Cheng. PM&R. Nov, 2023
- 2022 Ultrasound-Guided OnabotulinumtoxinA Injections to Treat Oromandibular Dystonia in Cerebral Palsy. F. I. Reyes, H. A. Shoval, A. Tenaglia, H. Kim. Toxins. 2022; 14(3):158. <https://doi.org/10.3390/toxins14030158>
- 2022 Therapeutic Engagement Mediates the Effect of Sleep Fragmentation on Rehabilitation Progress after Pediatric Brain Injury. A. H. Lequerica, H. A. Shoval, J. Ace, T. Yip, SS. Dieffenbach, C. Marchetta, J. DeLuca. Journal of Head Trauma Rehabilitation. New York City, NY, USA. September 2022.
- 2022 Examining the Use of a Rest-Activity Ratio in a Pediatric Rehabilitation Setting. A. H. Lequerica, H. A. Shoval, K. Yalamanchi, J. Lengenfelder, C. Marchetta, J. Ace, J. DeLuca. (2022). Archives of Physical Medicine and Rehabilitation, 0(0). <https://doi.org/10.1016/J.APMR.2021.12.027>
- 2021 Feasibility of a real-time pattern-based kinematic feedback system for gait retraining in pediatric cerebral palsy. X. Liu, N. Oliveira, N. Ehrenberg, J. Cheng, K. Bentley, S. Blochlinger, H. A. Shoval, P. Barrance. Journal of Rehabilitation and Assistive Technologies Engineering. 2021.
- 2020 Cumulative Efficacy of Longitudinal Repeat Salivary Gland OnabotulinumtoxinA Injection: A Retrospective Study. Hannah Aura Shoval, MD, Kathleen Friel, PhD, Jared Levin, MD, Heakyung Kim, MD. Am J Phys Med Rehabilitat. Dec 29;Published Ahead of Print.
- 2020 Utility Of A Rest-activity Ratio In A Pediatric Brain Injury Rehabilitation Sample: A Pilot Study. A. H. Lequerica, J. Lengenfelder, H. Genova, J. DeLuca, C. Marchetta, H. A. Shoval, K. Yalamanchi. Sleep 43(Supplement 1):A374-A374 DOI:10.1093/sleep/zsaa056.981
- 2019 Safety of combined salivary gland and multilevel intramuscular onabotulinum A injections with and without ethanol in pediatric patients with cerebral palsy: A retrospective study. Hannah Aura Shoval, MD, Jared Levin, MD, Kathleen Friel, PhD, Heakyung Kim, MD. Journal of Pediatric Rehabilitation Medicine. 01 Jan 2019, 12(2):189–196
- 2018 The Impact of Hypomania on Aerobic Capacity and Cardiopulmonary Functioning—A Case Report. Hannah Aura Shoval, MD, Hilary F. Armstrong, PhD, Julia Vakhrusheva, Jacob S. Ballon, MD MPH, Matthew Bartels, MD, David Kimhy, PhD.. Frontiers in Psychiatry.
- 2018 Onabotulinumtoxin-A injections into the salivary glands for spinal muscle atrophy type I: A prospective case series of four patients. Hannah Aura Shoval, MD, Esther Antelis, Andrew Hillman, Xiaofang Wei, MD, Patricia Tan, MD, Ruth Alejandro, MD, Heakyung Kim, MD. American Journal of Physical Medicine and Rehabilitation.
- 2016 The Impact of Aerobic Exercise Training on Cardiopulmonary Functioning in Individuals with Schizophrenia. Hilary F. Armstrong, PhD, Matthew Bartels, MD, Orest Paslavski, Darnell Cain, Hannah Aura Shoval, MD, Jacob S. Ballon, MD MPH, Samira Khan, Richard P. Sloan, PhD, David Kimhy, PhD.. Schizophrenia Research.

Editorials

- 2025 Editorial: Technology-Aided Personalized Motor Rehabilitation for Individuals with Neurological Diseases. Qiu, Qinyin, PhD, Karunakaran, Kiran, Hannah Aura Shoval, MD, Alokaily, Ahmad O.. Frontiers in Bioengineering and Biotechnology, 13.

Book Chapters

- 2025 Transitioning from Pediatric to Adult Care in Cerebral Palsy and Neuromuscular Disorders. Hannah Aura Shoval, MD, Jenfu Cheng MD, Joanne Bundonis, Rimona Kroll- Hornung, Eduardo Plata. In Physical Medicine and Rehabilitation Clinics of North America 2025, ISSN 1047-9651
- 2021 Pediatric Neurological Disorders. Hannah Aura Shoval, MD. In R. Mitra (Ed.), Principles of Rehabilitation Medicine: Case-Based Board Review. McGraw-Hill Education.
- 2021 Muscle and Joint pain in Pediatric Rehabilitation. Hannah Aura Shoval, MD. In R. Mitra (Ed.), Principles of Rehabilitation Medicine: Case-Based Board Review. McGraw-Hill Education.
- 2019 Pediatric Neurological Disorders. Heakyung Kim, MD, Hannah Aura Shoval, MD, Kim N in Principles of Rehabilitation Medicine. R. Mitra (Ed.), (pp. 1005-1028). McGraw-Hill Education.
- 2019 Pediatric Musculoskeletal Medicine. Heakyung Kim, MD, Hannah Aura Shoval, MD in Principles of Rehabilitation Medicine. R. Mitra (Ed.), (pp. 1047-1067). McGraw-Hill Education.

Abstracts

- 2025 Gamified Multidisciplinary Interventions for Children with Cerebral Palsy: Integrating Speech and Upper Extremity Motor Therapy. Young Hwa Chang, Qinyin Qiu, Soha Saleh, Kristy Tam, Kermina David, Hannah Shoval, Jigna Patel. American Speech-Language-Hearing Association. November 2025.
- Enhancing Speech and Arm Rehabilitation Outcomes in Cerebral Palsy through Gamified Multi-disciplinary Interventions. Jigna Patel PT, MHS, PhD, Qiu, Qinyin, PhD, Hannah Aura Shoval, MD, Kermina David, Kristy Tam, Soha Saleh PhD, Young Hwa Chang PhD. American Academy for Cerebral Palsy and Developmental Medicine. October 2025.
- 2023 Botulinum Neurotoxin Injections Improve Hip Rotation in Children With Cerebral Palsy. A. Kanchan, G.B. De Carvalho, C.A. Mazzola, J. Cheng, F. Edobor-Osula, H. A. Shoval, S. Pal. Abstract presented in American Society of Biomechanics 2023. August 2023
- 2022 Treatment of Postprandial Hypotension with Acarbose in an Adult with Cervical Spinal Cord Injury: A Case Report. SS. Dieffenbach, H. A. Shoval. Poster Presented at 2022 Annual Assembly of American Academy of Physical Medicine and Rehabilitation, Baltimore, MD, USA. October 2022.
- Effects of Socio-Demographics on Access to Care in Children with Cerebral Palsy. H. A. Shoval, M. Reddy, J. Cheng. American Academy for Cerebral Palsy and Developmental Medicine. September 2022.
- Assessing the Safety and Efficacy of Alcohol Nerve Block Injections with and Without OnabotulinumtoxinA in the Management of Pediatric Spasticity. J. Ace, H. A. Shoval, M. Reddy, E. Grew, V. Dhruva, J. Cheng. American Academy for Cerebral Palsy and Developmental Medicine. Sept 2022
- Therapeutic Engagement Mediates the Effect of Sleep Fragmentation on Rehabilitation Progress after Pediatric Brain Injury. A. H. Lequerica, H. A. Shoval, J. Ace, T. Yip, SS. Dieffenbach, C. Marchetta, J. DeLuca. Poster presented at 2022 Joint Conference on Brain Injury New York City, NY, USA. September 2022.
- 2021 Peach: a validated tool to assess physical therapists' proficiency in assessing "hips at risk" in children with cerebral palsy. J. Chan, J. Cheng, M. Armento, D. Scher, P. Selber, H. A. Shoval, K. Murphy, J. Jezequel, B. Assip, F. Edobor-Osula. Abstracts for the American Academy for Cerebral Palsy and Developmental Medicine 6–9 October 2021. <https://doi.org/10.1111/dmcn.15005>
- 2020 Adaptation to multi-session real-time visual feedback training of knee joint pattern in pediatric cerebral palsy: a case report. X. Liu, N. Oliveira, N. Ehrenberg, J. Cheng, K. Bentley, S. Blochlinger, H. A. Shoval, P. Barrance. 44th Meeting of the American Society of Biomechanics. Aug 5-7, 2020 (virtual conference)

- Validation of IMU-derived knee flexion angle measurements for use in visual kinematic feedback.. X. Liu, N. Oliveira, N. Ehrenberg, J. Cheng, K. Bentley, S. Blochlinger, H. A. Shoval, P. Barrance. 44th Meeting of the American Society of Biomechanics. Aug 5-7, 2020 (virtual conference)
- Use of the Climbing Treadwall in Physical Rehabilitation: A Pilot Study. Kathryne Bartolo, MD, Hannah Aura Shoval, MD, Jenfu Cheng MD, Ghaith Androwis, PhD. AAP, 2020.
- 2019 The short term effect of gait retraining using real-time visual kinematic feedback in a child with cerebral palsy. X. Liu, N. Oliveira, N. Ehrenberg, J. Cheng, K. Bentley, S. Blochlinger, H. A. Shoval, P. Barrance. International Society of Biomechanics, 2019.
- 2018 The Mysterious Tale of Wilson's Disease Spasticity Presenting as a Radial Nerve Palsy: A case Report. N. Rakesh, K. Eison, H. A. Shoval, P. Tan, R. Alejandro. AAP, 2018.
- 2017 Duration and Efficacy Of Repeat Salivary Gland Onabotulinum Toxin-A Injection: A Retrospective Cohort Study. H. A. Shoval, J. Levin, K. Friel, H. Kim. AACPDM, 2017.
- Efficacy and Negative Outcome Profile Of Single Event Multilevel Onabotulinumtoxin A Injections For Sialorrhea And Spasticity in Pediatric Patients with Cerebral Palsy. H. A. Shoval, J. Levin, K. Friel, H. Kim. AACPDM, 2017.
- Paraplegia Following Surgical Treatment of Idiopathic Scoliosis: A Case Report. M. Chi, H. A. Shoval, P. Tan. AAP, 2017.
- 2016 Peripheral Nerve Injury in the Setting of Concurrent Anoxic Brain Injury: A Case Report. J. Moody, J. Singh, H. A. Shoval, R. Alejandro, M. Wei. AAPM&R, October 2016.
- Addressing Open Mouth Posture in Children with Cerebral Palsy through Chemodenervation of the Lateral Pterygoid Muscles: A Case Series of Pediatric Patients. F. I. Reyes, H. A. Shoval, H. Kim. AAPM&R, October 2016.
- 2015 Ultrasound-guided Interspinous Ligament Steroid Injection for Symptomatic Interspinous Ligament Edema in Two Young Athletes with Back Pain: A Case Series. Anish Mirchandani D.O., Hannah Aura Shoval, MD, Peter Moley, MD. AAPM&R, November 2015
- Adrenoleukodystrophy Diagnosed in a Patient Admitted to a Pediatric Inpatient Rehabilitation Hospital for Hypoxic, Ischemic Encephalopathy: A Case Report. F. I. Reyes, H. A. Shoval, R. Alejandro, H. Kim. AAPM&R, November 2015.
- 2014 Radiation-induced Funicular Pain from Treatment of a Spinal Metastases. H. A. Shoval, M. Stubblefield. AAPM&R, November 2014.
- The Role of Acute Rehab in Stiff Person Syndrome: A Case Series. H. A. Shoval, O. Hamer, U. Nanda, K. Chantasi. AAPM&R, November 2014.
- Acute Worsening of Parkinson's Disease Symptoms Following Infection with Tick-Borne Illness: A Case Report. J. S. Chu, H. A. Shoval, J. Padro-Guzman, D. Cormier. AAPM&R, November 2014.
- Spasticity and Pain in an Adaptive Water Skier. D. Sarno, H. A. Shoval, D. Cormier, K. Chantasi, American College of Sports Medicine, May 2014.
- Case Report: Bilateral femoral neuropathy following a traumatic sacral fracture and bilateral iliopsoas hematomas. J. S. Chu, H. A. Shoval, J. Padro-Guzman. AAP, February 2014.
- Case Report: Sensory Mediated Bowel, Bladder, and Sensory Dysfunction in Chemotherapy Induced Peripheral Neuropathy. H. A. Shoval, L. Ruppert. AAP, February 2014.
- Case Report: Brown-Séquard-Plus syndrome after spinal stroke in the setting of thoracic aortic aneurysm repair. H. A. Shoval, J. S. Chu, J. Padro-Guzman. AAP, February 2014.
- 2013 Autonomic Dysregulation and Exercise Capacity in Individuals with Schizophrenia. M. N. Bartels, H. A. Shoval, J. Vakhrusheva, H. F. Armstrong, R. P. Sloan, J. I. Gomez, D. A. Kimhy. American Autonomic Society, October 2013.

Autonomic Dysregulation and Altered Affective Functioning in Schizophrenia. M. N. Bartels, H. A. Shoval, J. Vakhrusheva, H. F. Armstrong, R. P. Sloan, J. I. Gomez, D. A. Kimhy. American Autonomic Society, October 2013.

Recurrent Miller Fisher Variant of Guillain-Barré Syndrome: A Case Report. H. A. Shoval, A. Shrikhande. AAPM&R, October 2013.

Rapid Emergence from Akinetic Mutism with Methylphenidate in a Patient with an Old Stroke after VP Shunt Placement. H. A. Shoval, L. Sorkin. AAP, March 2013.

2007 Follow up of Children with Language Regression. K. A. McVicar, M. Valicenti-McDermott, I. Rapin, H. A. Shoval, R. Steinman, K. Ballaban-Gil, S. L. Moshe, S. Shinnar. Department of Neurology, Pediatric Academic Society Annual Meeting, May 2007.

Online

2023 Spasticity. H. A. Shoval, K. Heckert, E.H. Hatch. MedLink Neurology.

2016 Osteogenesis Imperfecta Refresh. H. Kim, H. A. Shoval. PM&R Knowledge NOW, 2016. [<http://me.aapmr.org/kn/article.html?id=230>]

2015 Congenital and Acquired Myotonia. H. Kim, H. A. Shoval, J. Dastgir. PM&R Knowledge NOW, 2015. [<http://me.aapmr.org/kn/article.html?id=323>]

2014 Virtual reality/robotic applications in rehabilitation. J. Stein, H. A. Shoval, E. Rand. PM&R Knowledge NOW, 2014. [<http://me.aapmr.org/kn/article.html?id=260>]

2014 Biomechanics of gait and treatment of abnormal gait patterns. H. Kim, H. A. Shoval, T. Ployetch. PM&R Knowledge NOW, 2014. [<http://me.aapmr.org/kn/article.html?id=292>]

Professional Service

2025 **Part II Oral Board Examiner**, American Board of Physical Medicine and Rehabilitation

2025 **Reviewer**, BMC Neurology

2025 **Reviewer**, BMC Medical Informatics and Decision Making

2024 **Editor**, Frontiers in Bioengineering and Biotechnology Journals

Special Edition on Technology-aided Personalized Motor Rehabilitation for Individuals with Neurological Diseases.

2018–2021 **Let's move!**, AACPDM

Organized and led movement and sports activities during the conference. <https://youtu.be/4ULRBByKmK5g>

2020–present **Reviewer**, PM&R Journal

2020 **Reviewer**, Association of Academic Physiatrists

Conference abstract reviewer

2018–present **Reviewer**, Journal of Pediatric Rehabilitation Medicine (JPRM)

2018–present **Reviewer**, American Journal of Physical Medicine & Rehabilitation (AJPMR)

2018 **Reviewer**, The Journal of Spinal Cord Medicine (JSCM)

2016–2017 **Abstract Reviewer**, AAPM&R

Fundraising

Nov 14, 2024 **Presenter**, Lil' Heroes for Hope

Presented Proposal "Let's Move NJ!" which was chosen for funding, to help children get access and equipment needed for adaptive sports and recreation.

Oct 11, 2024 **Presenter**, Timthy J Piazza Memorial Foundation

Presented to TJPMF to obtain funding for our Serial Casting and Spasticity and Gait Clinic at Morristown Medical Center.

Aug 7, 2023 **Keynote Speaker**, Timthy J Piazza Foundation Anual Golf Fundraiser

To help raise funds for children in need of prosthetics.

- May 3, 2023 **Presenter, Goryeb Philanthropic Council**
 Presented Clinical Outcomes of the Pediatric Rehabilitation Medicine Department as well as vision for the future of the department.
- June 1, 2022 **Presenter, "Dinner with the Docs"**
 Presented in front of donors and potential donors.
- Winter 2008 **Board Member/Fund Raiser, Multi-Cultural Performing Arts Group, Boston, MA**
 - Fundraised for the Colleen Romain Scholarship

In the Media

- Aug 2024 **Golf Digest: How an unfathomable tragedy prompted a golf community to come together to help those in need**, <https://www.golfdigest.com/story/how-an-unfathomable-tragedy-prompted-golf-community-come-together-timothy-piazza-memorial-foundation>
- Fall 2024 **Rutgers Business School iMPACT REPORT (p.26–27): Doctor chose Rutgers MBA to broaden her influence in healthcare**, <https://www.business.rutgers.edu/sites/default/files/documents/impact-report-2024-fall-spreads.pdf#page=14>
- Mar 2024 **Physician is earning an MBA to broaden her influence in healthcare**, <https://www.business.rutgers.edu/news/physician-earning-mba-broaden-her-influence-healthcare>
- Sep 2023 **Focus on Pediatrics**, <https://drshoval.com/assets/img/news/focus-on-pediatrics-09-2023.pdf#page=6>
- Apr 2022 **Examining the use of a rest-activity ratio in a pediatric rehabilitation setting**, <https://todayuknews.com/health/actigraphy-shows-promise-as-objective-noninvasive-measure-of-sleep-wake-regulation-in-children-with-brain-injury>
- Apr 2022 **What is a Physiatrist?**, <https://www.njfamily.com/ask-the-expert-what-is-a-physiatrist/>
- Oct 2021 **Researcher Highlight at CSH**, <https://drshoval.com/assets/img/news/CSH%20Research%20Newsletter%20-%2011.2021.pdf>
- Oct 2020 **With Love, You Can Do Anything: A patient story**, <https://web.archive.org/web/20201022054708/https://www.childrens-specialized.org/for-patients-and-families/our-families/meet-our-families/eduardo-patino>
- Oct 2018 **Pediatric physiatry offers medical treatments for brain, nerve, muscle and bone conditions**, <https://www.mycentraljersey.com/story/sponsor-story/rwj-barnabas/2018/10/25/pediatric-physiatry-offers-medical-treatments-brain-nerve-muscle-and-bone-conditions/1697073002/>
- March 2018 **AED and StevensTHON invite CSH Pediatric Physiatrist Aura Shoval**, <https://thestute.com/2018/03/02/aed-and-stevensthon-invite-csh-pediatric-physiatrist-aura-shoval/>
- Feb 2018 **AAP 2018**, <https://www.eventscribe.com/2018/aap/ajaxcalls/PresentationInfo.asp?efp=WWhBR1B1SEwONjIz&PresentationID=321775&rnd=0.3820107>
- Sep 2017 **Burke-Blythedale Research Shines at the American Academy of Cerebral Palsy and Developmental Medicine Annual Meeting**, <http://burke.weill.cornell.edu/burke-blythedale-pediatric-neuroscience-research-collaboration/impact/presentations/burke-blythedale>
- June 2015 **Advances in Rehabilitation Medicine**, https://me.columbia.edu/files/seasdepts/mechanical-engineering/pdf-files/NYPAdvances_Rehabilitation_June22.pdf

- Oct 2014 **New York-Presbyterian/Columbia to Launch Pediatric Rehabilitation Medicine Fellowship in 2015**, <https://rehabmed.weill.cornell.edu/newyork-presbyterian-columbia-launch-pediatric-rehabilitation-medicine-fellowship-2015>
- Sep 2014 **Advances in Rehabilitation Medicine**, http://med-e-mail.biz/nyp/rehab_sep2014.pdf
- Nov 2012 **Barnard Dances at Miller**, <http://www.worldcat.org/title/barnard-dances-at-miller-editholub-november-21-2002/oclc/191730550>

Teaching/Prior Employment

- Feb 24, 2021 **Instructor**, Kessler Institute for Rehabilitation, Medical Student Fair, West Orange, NJ
Hands on Workshop: Spasticity Management.
- Jan 16, 2020 **Instructor**, Kessler Institute for Rehabilitation, Medical Student Fair, West Orange, NJ
Botox Injections: Hands on Workshop.
- Dec 11, 2019 **Instructor**, University Hospital, Newark, NJ
Ultrasound Procedure Workshop
- Dec 21, 2018 **Instructor**, University Hospital, Newark, NJ
Ultrasound Procedure Workshop
- Nov 23, 2015 **Instructor**, Columbia Medical Center, New York, NY
Columbia Medical School Advanced Musculoskeletal Tutorial
- Mar 10, 2015 **Instructor**, Weill Cornell Medical Center, New York, NY
Weill Cornell Medical School Musculoskeletal Tutorial
- Dec 1, 2014 **Instructor**, Columbia Medical Center, New York, NY
Columbia Medical School Advanced Musculoskeletal Tutorial
- Oct 19, 2014 **Organizer and Instructor**, Columbia Medical Center, New York, NY
Columbia Medical Student Ultrasound Workshop on the Shoulder
- Dec 2, 2013 **Instructor**, Columbia Medical Center, New York, NY
Columbia Medical School Musculoskeletal Physical Exam Workshop
- Summer 2007 **Stretch Trainer**, Rye Personal Training, Rye, NY
 - Created individualized stretching/exercise programs to prevent and rehabilitate injuries.
- 2001–2005 **Resident Assistant**, Barnard College Office of Residential Life, New York, NY
 - Served on-duty for 1000 undergraduates, responded to medical emergencies.
 - Provided peer counseling and mediation for 50 residents.
 - Managed annual programming budget of \$800.
 - Organized events that promoted diversity.
- Summer 2002 **Teacher**, Barnard College H.E.O.P (Higher Education Opportunity Program), New York, NY
 - Taught calculus and computer science to economically disadvantaged first year students.
- 2000–2001 **Teacher**, Greenburgh Hebrew Center, Dobbs Ferry, NY
 - Taught a group of 15 students Hebrew, prayer and ethics. Individually evaluated their progress.
- 2001–2004 **Tutor**, Brainstorm Tutorial, New York, NY
 - Tutored high school students in math and science. Prepared students for the NY Regents Exams.
- Summer 2001 **Special Needs Counselor**, JCC Inclusion Program, La Jolla, CA
 - Organized activities for sixty kids. Integrated special needs children into these camp activities.
 - Worked intensely one-on-one with a severely autistic child teaching sensory and language skills.

Mentoring

2024 **Mentor**
Mentored in research:
○ 2 medical students at Hackensack and Rutgers/NJMS, Department of Physical Medicine Rehabilitation
○ 1 PM&R resident at Rutgers/NJMS, Department of Physical Medicine Rehabilitation
○ 1 pediatric PM&R fellow at Columbia

2023 **Mentor**
Mentored in research:
○ 3 medical students at Rutgers New Jersey Medical School
○ 2 PM&R residents at Rutgers/NJMS, Department of Physical Medicine Rehabilitation

2021 **Mentor, Pre-medical Student**
Mentored in research.

2018–2020 **Mentor, Incoming Resident**
Mentored in research.

2018–2020 **Mentor, Resident Research Project**
On Treadwall Training in CP

2018–2019 **Mentor, Resident Research Project**
On Sleep quality and rehabilitation outcome in patients with brain injuries.

2018–2020 **Mentor, Pre-Medical College Student**

2018–2020 **Mentor, Pre-Medical College Student**

2016–2017 **Mentor, Columbia Medical Center, New York, NY**
Mentored undergraduate in medical research

2016–2020 **Mentor, Columbia Medical Center, New York, NY**
Mentored resident in medical research

2014–2015 **Resident Mentor, Columbia University Medical School PM&R Student Interest Group, Columbia Medical School, New York, NY**

Mentee Presentations

2025 Inter-Rater Reliability of Using Acromion-Greater Tuberosity Ultrasound Measurements in Children with Cerebral Palsy - A Pilot Study. SS. Dieffenbach, D. Choi, H. A. Shoval. American Academy of Psychiatry 2025 Annual Meeting. (*Daniel Choi received “Dean’s Award” for this research*)

2023 Assessing the Safety and Efficacy of Botulinum Toxin and Toxin- Alcohol Injections in Patients with Rett Syndrome. M. Reddy, H. A. Shoval, E. Grew. Poster Presentation at: New Jersey Medical School Research Symposium 2023; April 24, 2023; Newark, NJ.

2022 Effects of Socio-demographics on Access to Care in Children with Cerebral Palsy. M. Reddy, H. A. Shoval, J. Cheng. Podium Presentation at: American Academy for Cerebral Palsy and Developmental Medicine (AAPCPDM) 2022 Annual Meeting; Sep 21-24, 2022; Las Vegas, NV.

Assessing the Safety and Efficacy of Alcohol Nerve Block Injections With and Without Onabotulinumtoxin-A in the Management of Pediatric Spasticity. J. Ace, M. Reddy, H. A. Shoval, E. Grew, V. Dhruva, J. Cheng. Poster Presentation at: American Academy for Cerebral Palsy and Developmental Medicine (AAPCPDM) 2022 Annual Meeting; Sep 21-24, 2022; Las Vegas, NV.

Additional Training

2024 **Pediatric Gait & Orthotic Management: An Optimal Segment Kinematics & Alignment Approach to Rehabilitation (OSKAR)**

April 7–11, 2018 **Musculoskeletal Ultrasound: A Comprehensive Approach**, San Diego, CA

Jan 17, 2018 **Safety Culture Design Workshop: Safety Behaviors to Prevent Human Error**, Monmouth Medical Center, Long Branch, NJ

- Sept 13, 2017 **Ultrasound Symposium: Neuromuscular Ultrasound: Hands on Ultrasound Trainig course for Chemodenervation Procedures, AACPDM 2017**, Montreal, Canada
- June 7–10, 2017 **Clinical Gait Analysis: A Focus on Interpretation**, Center for Motion Analysis, Farmington, CT
- Oct 1, 2015 **Ultrasound Guidance For Chemodenervation Procedures, Hands On Workshop: Lower Limb Muscles**, AAPM&R, Boston, MA
- Oct 2, 2015 **Ultrasound Guidance For Chemodenervation Procedures, Hands On Workshop: Head And Neck**, AAPM&R, Boston, MA
- Oct 2, 2015 **Ultrasound Intensive: The Ankle in Musculoskeletal Medicine**, AAPM&R, Boston, MA
- April 19, 2015 **Orthotics Workshop**, NYU School of Medicine, New York, NY
- Mar 29, 2015 **Prosthetics and orthotics course with Heikki Uustal**, Livingston, NJ
- May 8, 2014 **US Workshop: Knee and Shoulder**, American Osteopathic College of Physical Medicine and Rehabilitation, New York, NY
- Winter 2008 **The Ixchel Spanish School**, Antigua, Guatemala

Volunteer Activities

- 2024–present **Advisory Medical Director, Lil' Heroes for Hope**
 - Directing Strategy for 2,600 sq foot therapy space
 - Founder of "Let's Move NJ" initiative to help children with disabilities access sports and recreation throughout the NJ Region
 - Will be housed on Letsmovenj.com to provide resources, advocacy and support for families with disabilities or special needs for movement, physical activity, sports, and recreation
 - Key Note Speaker and Successful Fundraising Dinner
- 2023–present **Health Equity Medical Advisor, Rutgers Institute for Corporate Social Innovation**
- 2023–present **American College of Healthcare Executives (ACHE) NJ**
 - Invited Panelist at ACHE-NJ 2nd Annual Women's Leadership Event (June 25th, 2024)
 - Mentorship Program Committee (2024–present)
 - Clinician Committee (2023–present)
- Nov 2, 2023 **Adaptive Sports**
 - Atlantic Health System Community Outreach Educational Event.
 - Organized and led a discussion focused on families with children with disabilities to discuss solutions of benefits.
 - Encourage physical activity and discussing physical health, as well as mental and emotional benefits of adaptive sports participation.
- 2021–2022 **Volunteer, Community Food Bank of New Jersey, with Children's Specialized Hospital**
Helped provide food for families with food insecurities
- 2020–2021 **Accessible Dance Director, Seeds Arts**
Co-organizing wheelchair dance classes for all ages
- Sep 18, 2016 **Volunteer, Olympic Field Day**, New York, NY
For children with all abilities. Partnered with Achilles International and IamMore Foundation
- Feb 28, 2015 **Presenter, Dancer Wellness Workshop**, New York, NY
Prepared and presented information on female athlete triad
- August 2015 **Medical Volunteer, Battery Dance Festival**, New York, NY
- October 2014 **Ballet Class with New York City Ballet / Weinberg Family Cerebral Palsy Center**,
New York City Ballet, New York, NY
<https://www.youtube.com/watch?v=wp6Le0IkUuQ>
- May 4, 2014 **Multiple Sclerosis Walk**, New York, NY
To fundraise for support programs, research initiative and promote awareness

- Nov 3, 2013 **Medical Volunteer**, New York City Marathon, New York, NY
- 2013–2014 **Volunteer Events Committee**, New York Society of PM&R, New York, NY
- 2013 **Challenged Athlete Foundation**
 July 14, 2013 **Aquaphor New York City Triathlon**, New York City, New York
 June 2013 **Annual Gala and Fundraiser “A Celebration of Heroes, Heart and Hope”**, New York City, New York
- June 2, 2013 **Special Olympics Metro Tournament**, Queens, New York
 video available at <http://www.youtube.com/watch?v=gPye82t6iDU>
- May 7, 2013 **Pre-participation Physicals**, Saint Peter's College, Jersey City, New Jersey
- April 28, 2013 **Multiple Sclerosis Walk**, New York, NY
 To fundraise for support programs, research initiative and promote awareness
- 2009 **Tutor**
 Teaching and tutoring academics and physical activity and dance as part of a free afterschool program for kids at risk
- 2006–2007 **Sharewood**, Boston, MA
 Sharewood is Tufts' student run free Health Clinic
 - Case Manager
 - Board Member
- Fall 2006 **Dance Instructor and Homework tutor**, YMCA after school program, Boston, MA
 - Started a dance program, taught dance, and tutored children aged 8–15

Academic Presentations

- Oct 17, 2025 **Connecting Researchers, Clinicians, and Individuals with Lived Experience**, AACPDM
- Apr 10, 2025 **Guest Lecture for College Senior Seminar for Career Counseling**, Columbia College
- Feb 5, 2025 **Framework, Tools and Principles of Quality Improvement - Part I**, Kessler Institute for Rehabilitation, West Orange, NJ
- Jan 22, 2025 **Applied Quality Improvement**, Kessler Institute for Rehabilitation, West Orange, NJ
- Nov 21, 2024 **The Bottom Line: Colorectal Screenings Save Lives**, Atlantic Health System
 Moderator
- Nov 13, 2024 **Cerebral Palsy: Early Diagnosis**, NYC Health and Hospitals, Jacobi Medical Center, Department of Rehabilitation Medicine
 Grand Rounds
- Oct 2, 2024 **PM&R Residency Research Program**, Kessler Institute for Rehabilitation
 Applied Research & Clinical Practice
- Sep 26, 2024 **Atlantic Health System Research Symposium**, Atlantic Health System
 Block to Walk: Safety of Ethanol Motor Nerve Blocks
- Mar 19, 2024 **Kessler PM&R Board Review Course**, Kessler Institute for Rehabilitation
 Topics in Pediatric Rehabilitation and Q & A session
- Mar 12, 2024 **Developmental Outcomes of Pediatric Brain Injury**, Brain Injury Alliance of NJ
 Regional Training on Brain Injury in Children and Adolescents
- Feb 14, 2024 **Early Diagnosis of Cerebral Palsy: How and Why**, Atlantic Health System, Morristown Medical Center
 Neonatology Fellowship
- Dec 12, 2023 **Burn Out? Sustainability of Employees**, Association of National Advertisers, hosted at Rutgers Business School, Rutgers Institute for Corporate Social Innovation
 Tapping Brand Potential for Social Good

- Sep 20, 2023 **Cerebral Palsy: Early Diagnosis and Current Therapies**, CentraState Healthcare System Grand Rounds
- Sep 6, 2023 **Statistical Review of QI Outcome Measures**, Kessler Institute for Rehabilitation, West Orange, NJ
- Jun 21, 2023 **QI Final Presentations**, Kessler Institute for Rehabilitation, West Orange, NJ
- Mar, 2023 **Spinal Cord Injury Lecture (Resident Lecture)**, Atlantic Health System, Morristown Medical Center
- Mar, 2023 **Kessler PM&R Board Review Course**, Kessler Institute for Rehabilitation
Topics in Pediatric Rehabilitation and Q & A session
- Mar 8, 2023 **Quality Improvement**, Kessler Institute for Rehabilitation, West Orange, NJ
- Jan 31, 2023 **Developmental Disabilities Faculty Panel**, Rutgers New Jersey Medical School
- May 19, 2022 **General Pediatric Symposium: CP for the GP**, Atlantic Health System, Morristown Medical Center
- Apr 13, 2022 **Physical Medicine and Rehabilitation Overview (Resident Lecture)**, Atlantic Health System, Morristown Medical Center
- Mar, 2022 **Kessler PM&R Board Review Course**, Kessler Institute for Rehabilitation
Topics in Pediatric Rehabilitation and Q & A session
- Jan 17, 2023 **Quality Improvement**, Kessler Institute for Rehabilitation, West Orange, NJ
- Oct 9, 2021 **Adaptive Sports and Recreational Panel**, AACPDM
video here
- Apr 29, 2021 **Quality Improvement**, Kessler Institute for Rehabilitation, West Orange, NJ
- Sep 26, 2020 **Adaptive Sports and Recreational Panel**, AACPDM
Organized and moderated an International Panel for the American Academy of Cerebral Palsy and Developmental Medicine. <https://www.youtube.com/watch?v=AuBd1zoOIvU>
- Jan 13, 2021 **Neuromuscular Disorders**, Kessler Institute for Rehabilitation, West Orange, NJ
- Oct 2, 2020 **Creation of QI/PI projects**, Kessler Institute for Rehabilitation, West Orange, NJ
- Sep 23, 2020 **Methodology of QI/PI**, Kessler Institute for Rehabilitation, West Orange, NJ
- May 13, 2020 **Traumatic Brain Injuries**, Kessler Institute for Rehabilitation, West Orange, NJ
- Feb 11, 2020 **Schwartz Rounds Panelist**, Children's Specialized Hospital, Newark, NJ
- Oct 23, 2019 **Quality and Outcome Measures**, Kessler Institute for Rehabilitation, West Orange, NJ
- Oct 30, 2018 **Quality Improvement**, Kessler Institute for Rehabilitation, West Orange, NJ
- Aug 30, 2018 **Cerebral Palsy**, New York-Presbyterian Hospital, New York, NY
- May 18, 2018 **Updates in Cerebral Palsy**, New Jersey Medical School, Newark, NJ
- Mar 2, 2018 **Overview of Pediatric Physiatry**, Riverside Pediatrics, Edgewater, NJ
- Feb 28, 2018 **Overview of Pediatric Physiatry**, Stevens Institute of Technology, Hoboken, NJ
- Feb 22, 2018 **Botox Injections for Sialorrhea**, Invited International Speaker: Mexican Academy of Cerebral Palsy and Neurodevelopmental Disorders, Querétaro, Mexico
Invited international all-expenses-paid speaker
- Feb 22, 2018 **An Overview and Practical Applications for Adaptive Sports**, Invited International Speaker: Mexican Academy of Cerebral Palsy and Neurodevelopmental Disorders, Querétaro, Mexico
Invited international all-expenses-paid speaker
- Feb 15, 2018 **Standardizing Screening and Management for Neurogenic Bladder in Children with Neurological Disorders**, AAP '18, Atlanta, GA
- Jan 29, 2018 **Botox Injections for Sialorrhea**, Bleshman School, Paramus, New Jersey
- Jan 25, 2018 **Overview of Pediatric Physiatry**, Children's Specialized Hospital, Bayonne, NJ

- Jan 18, 2018 **Diagnosis and Treatment of Cerebral Palsy**, *JFK Medical Center, Edison, New Jersey*
- Jan 10, 2018 **Physiatry Management of Cerebral Palsy and other Neurological disorders**, *Dinner Talk, Hackensack, New Jersey*
- Jan 10, 2018 **Botox Injections for Sialorrhea**, *Clinical Grand Rounds, Mountainside, New Jersey*
- Dec 14, 2017 **Overview of Pediatric Physiatry**, *Children's Specialized Hospital, Clifton, NJ*
- Sep 7, 2017 **Treatment of Sialorrhea**, *Grand Rounds, Columbia Medical Center*
- June 29, 2017 **Neurogenic Bladder: Pathophysiology, Medical Management, and Quality Improvement Initiative**, *Grand Rounds, Blythedale Children's Hospital*
- June 22, 2017 **Cerebral Palsy: Pathophysiology and Medical Management**, *Resident Lecture, Columbia Medical Center*
- June 22, 2017 **Botox Injections: Hands on workshop**, *Resident Lecture, Columbia Medical Center*
- June 2017 **Neurogenic Bladder in Cerebral Palsy**, *Pediatric Journal Club with Dr. Kim, Columbia Medical Center*
- May 2017 **Constraint Induced Therapy vs. Bimanual Therapy**, *Pediatric Journal Club with Dr. Kim, Columbia Medical Center*
- April 2017 **Pain Management in Pediatric Medicine**, *Pediatric Journal Club with Dr. Kim, Columbia Medical Center*
- Mar 21, 2017 **Pathophysiology and Rehabilitation of Traumatic Brain Injuries**, *Occupational Therapy Lecture, Columbia Medical Center*
- Feb 2017 **Botox Injections to Salivary Glands**, *Pediatric Journal Club with Dr. Kim, Blythedale Children's Hospital*
- Dec 2016 **Electrical Stimulation for Neuromuscular recovery**, *Pediatric Journal Club with Dr. Kim, Blythedale Children's Hospital*
- Nov 3, 2016 **Growth Attenuation Therapy**, *Pediatric Journal Club with Dr. Kim, Blythedale Children's Hospital*
- Oct 13, 2016 **Anterior Distal Femoral Hemi-epiphysiodesis for fixed knee flexion contracture**, *Pediatric Journal Club with Dr. Kim, Blythedale Children's Hospital*
- Sep 21, 2016 **Neurosurgical Management Of Childhood Spasticity: Case Presentation and Discussion: What is Best?**, *AACPDM 70th Annual Meeting Pre-Conference, Hollywood, Florida*
- July 22, 2016 **Children's Orientation and Amnesia Test**, *Pediatric Journal Club with Dr. Kim, Columbia Medical Center*
- July 10, 2016 **Moderator, Plenary II: Dance Medicine**, *Performing Arts Medicine Association Annual Symposium 2016, New York, NY*
- June 16, 2016 **Diagnosis, Treatment, and Prevention of Cerebral Palsy in NearTerm/Term Infants**, *Pediatric Journal Club with Dr. Kim, Columbia Medical Center*
- June 2, 2016 **Surviving the PM&R Boards**, *with Ethan Rand, MD, Columbia Medical Center*
- May 12, 2016 **Workshop Botulinum Toxin Injections to Upper Extremity**, *Functional Anatomy of the Elbow, Columbia Medical Center*
- Mar 10, 2016 **The Evidence for Amantadine in Brain Injury**, *Pediatric Journal Club with Dr. Kim, Blythedale Children's Hospital*
- Feb 26, 2016 **Botox in Distraction Osteogenesis in Children**, *Pediatric Journal Club with Dr. Kim, Columbia Medical Center*
- Feb 23, 2016 **Instructor**, *Blythedale Children's Hospital, Valhalla, NY*
Introduction to Pediatric Rehabilitation
- Jan 8, 2016 **Predictors of Success in Selective Dorsal Rhizotomy**, *Pediatric Journal Club with Dr. Kim, Columbia Medical Center*

- Jan 7, 2016 **Resident Board Review: Pediatrics**, Columbia Medical Center
- Dec 29, 2015 **Amantadine in Children**, *Pediatric Journal Club with Dr. Kim*, Columbia Medical Center
- Oct 30, 2015 **Neurological Injury in the Surgical Treatment of Idiopathic Scoliosis**, *Journal Club*, Columbia Medical Center
- Sep 17, 2015 **Pediatric Use of Tylenol v Motrin**, *Pediatric Journal Club with Dr. Kim*, Blythedale Children's Hospital
- June 25, 2015 **Hand Offs: Research and Clinical Application**, Columbia Medical Center
- April 28, 2015 **Neuromuscular Disorders**, Columbia University Programs in Occupational Therapy
- Dec 2014 **Matrix-Induced Autologous Chondrocyte Transplantation**, *Journal Club with Dr. Moley*, Hospital for Special Surgery
- Nov 2014 Moderator, *Optimizing Musculoskeletal Performance in the Aging Athlete*, AAPM&R, San Diego CA
- Sep 2014 **Muscular Dystrophy**, Blythedale Children's Hospital
- Sep 12, 2014 **Hip pathology, diagnosis and treatment**, Columbia Medical Center
- May 8, 2014 **House Staff Quality Yearly Review**, Medical Board, New York-Presbyterian Hospital
- Feb 2014 **Infection Control Update**, Board of Trustees, New York-Presbyterian Hospital
- March 2014 **Stiff Person Syndrome**, Memorial Sloan-Kettering Cancer Center
- Mar 20, 2014 **House Staff Quality Council Update**, Graduate Medical Education Committee, Weill Cornell Medical Center
- August 2013 **Pathophysiology of the Lumbar Spine**, Anatomy Series, Columbia Medical Center
- July 23, 2013 **Motor recovery after stroke**, *Journal Club with Dr. Padro-Guzman*, Columbia Medical Center
- Sep 20, 2013 **Hamstring tear**, *Journal club with Drs. Visco and Smith*, Columbia Medical Center
- Aug 23, 2013 **Steroid injections for herniated discs**, *Journal club with Drs. Visco and Smith*, Columbia Medical Center
- April 26, 2013 **The Elbow and Forearm**, Anatomy Series, Columbia Medical Center
- Oct 31, 2012 **Syringomyelia**, Memorial Sloan-Kettering Cancer Center
- Aug 27, 2012 **Wheelchairs: From everyday use to wheels of the future**, Blythedale Children's Hospital
- July 27, 2012 **When there is a Death on the Rehab Unit**, Columbia Medical Center

Extracurricular Activities

- 2010–present **Gymnastics and ballroom dancing**
- 2015–2018 **Columbia Ballroom Dance Team**
- 2011–2012 **Gymnastics Team**, East Rockaway, NY
- 2004–2009 **Columbia, Harvard, MIT Ballroom Dance Teams**
- 2001–2002 **Columbia University Dance Team**, placing 11th at Nationals

Languages

- English: Fluent
- (Medical) Spanish: Intermediate

Professional Memberships

- AAPM&R, AAP(physiatry), AACPDM, AMA, ACHE
- AAP(pediatrics):
- Council on Clinical Information Technology (COCIT)
 - Council of Children With Disabilities (COCWD)