

## CURRICULUM VITAE

Kavya Sukumaran Nair, PT, MPT, PhD

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### EDUCATION

<b>PhD in Rehabilitation Science</b> (Neuromuscular concentration) University of Florida, Gainesville, Florida Dissertation: <i>Disease Progression in Duchenne Muscular Dystrophy with Emphasis on Loss of Ambulation: A multicenter Longitudinal Study</i>	2016-2021
<b>Master of Physical Therapy</b> (Neurorehabilitation) Mahatma Gandhi University, School of Medical Education, Kottayam, India	2004-2007
<b>Bachelor of Physical Therapy</b> Mahatma Gandhi University, School of Medical Education, Kottayam, India	1998-2004

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### ACADEMIC EXPERIENCE

<b>Assistant Professor</b> Doctor of Physical Therapy program Department of Health and Rehabilitation Sciences Temple University, Philadelphia	July 2022- present
<b>Teaching Assistant</b> Department of Physical Therapy, University of Florida <ul style="list-style-type: none"><li>• Basic skills I</li><li>• Functional Anatomy I &amp; II</li><li>• Therapeutics Exercise I &amp; II</li><li>• Therapeutic Modalities</li><li>• Principles of Disease</li><li>• Pediatrics</li><li>• Neurorehabilitation</li><li>• Evidence Based Practice I</li></ul>	2016- 2018
Lectures Delivered <ul style="list-style-type: none"><li>• <u>Basic Skills I</u>: Range of motion assessment, volumetric measurement, mechanical lifts</li><li>• <u>Neurorehabilitation</u>: Comprehensive assessment and rehabilitation of GBS &amp; ALS and other neurodegenerative disorders</li></ul>	
Clinical Lab Instruction <ul style="list-style-type: none"><li>• <u>Basic Skills I</u>: <i>Assessment and documentation of vital signs. Positioning and draping. Body mechanics when performing patient care. Assessment of strength and ROM. Transfer training, gait training and</i></li></ul>	

*wheelchair management. Various type of exercise for patient case scenarios.*

- Functional Anatomy I: *Identify bony landmark and muscle through palpation. Upper and lower extremity movement analysis. Gait and posture analysis.*
- Functional Anatomy II: *Mobilization of upper and lower extremity joints, Upper limb tension tests.*
- Therapeutics I: *Basic principles of exam and evaluation. Stretching and strengthening exercise for upper and lower extremity, and spine. Balance and Gait assessment. Functional electrical stimulation. Relaxation exercise. Edema management.*
- Therapeutics II (Musculoskeletal): *Biomechanical concepts of upper and lower extremity exercise. Goal setting, intervention techniques, and outcome measures for trauma and disease conditions. Small group discussion and exercise demonstration for various case scenarios.*
- Therapeutic Modalities: *Application of Ultrasound, TENS, IFC, Iontophoresis, Functional electrical stimulation. Quantitative sensory testing and measurement of pain.*
- Principles of Disease: *Application of personal protective equipment in various infectious disease. Wound and edema management. Mobilize a patient in role playing situation with lines, tubes and monitors. Demonstration of modified mobilization technique for patient with total joint replacement, spinal and sternal precautions. Exercise prescription for various cardio-pulmonary conditions.*
- Pediatrics: *Assessment of typical and atypical development, muscle tone, and functional movement. Treatment and handling skills for specific population such as CP, Down syndrome, DMD, Torticollis, autism spectrum disorders. Case scenario and video analysis.*
- Neurorehabilitation: *Comprehensive neuro-evaluation, goal setting and exercise prescription for post-Polio, GBS and Parkinson's disease.*
- Evidence Based Practice I: *Led group discussion on research designs, statistical significance, validity and reliability, correlation analysis. Searching for literature.*

#### Other Duties and Responsibilities

- Assisted and coordinated Pediatric patient day, post-polio day & acute care simulation lab
- Assisted practicals and competency
- Proctored exam and grading
- Set up and manage e-learning platform (e.g. Canvas, Zoom) for DPT Coursework
- Instructional lab preparation

#### **Assistant Professor**

Alva's College of Physiotherapy, Rajiv Gandhi Health Science University, Mangalore, India.

2008- 2011

### Bachelor of Physiotherapy Program

Primary Instructor:

- Neurological Physical Therapy
- Neuroscience

Co-Instructor:

- Human Physiology

### Master of Physiotherapy Program

Primary Instructor:

- Neurorehabilitation

Co-Instructor:

- Recent Advances in Rehabilitation
- Motor Control and Learning
- Research Methods and Evidence Based Practice

Served as Research Guide for Undergraduate and Graduate Physical Therapy Program

### **Lecturer**

2008

Department of Physical Therapy, AWH Special College  
University of Calicut, Kerala, India

### Bachelor of Physiotherapy Program

Primary Instructor:

- Neurological Physical Therapy
- Clinical Neurology

Co-Instructor:

- Biomechanics
- Electrotherapy

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## **RESEARCH EXPERIENCE**

### **Research Associate**

March 2022-  
May 2022

*ImagingNMD*, Dept of Physical Therapy, University of Florida

### **Graduate Research Assistant**

2019-2021

Vandenborne Lab, *ImagingNMD*, Dept of Physical Therapy, University of Florida

Research Interests: ambulation, physical activity, functional outcome measures and MR biomarkers in DMD.

Summary of Research Skills: subject testing, data collection and data management, MRI reader, research methodology and design, statistical analysis (SPSS and GraphPad Prism), oral presentation, and manuscript preparation.

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## **CLINICAL EXPERIENCE**

<b>Consultant Physical Therapist</b> Alva's College of Physiotherapy Dept of Neuro Rehabilitation, Mangalore, India	2008- 2011
<b>Consultant Physical Therapist</b> Institute for Communicative and Cognitive Neuroscience, Shornur, Kerala, India	2007- 2008
<b>Consultant Physical Therapist</b> Poly Clinic, Palakkad, Kerala, India	2004- 2005
<b>Graduate Clinical Fellow in Neurorehabilitation</b> Dept. of Physical Therapy, Sree Chitra Thirunal Institute of Medical Sciences, Trivandrum, Kerala, India	2006 - 2007
<b>Physical Therapy Intern</b> St. Johns Medical College, Dept of Physical Therapy, Bangalore, India	2003- 2004

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## PUBLICATIONS

1. **Nair KS**, Lott DJ, Forbes SC, Barnard AM, Willcocks RJ, Senesac CR, Daniels MJ, Harrington AT, Tennekoon GI, Zilke KL, Finanger EL, Finkel RS, Rooney WD, Walter GA, Vandeborne K. *Step activity monitoring in boys with Duchenne muscular dystrophy and its correlation with magnetic resonance measures and functional performance*. Journal of Neuromuscular Disease. 2022
  2. Senesac CR, Barnard AM, Lott DJ, **Nair KS**, Harrington AT, Willcocks RJ, Zilke KL, Rooney WD, Walter GA, Vandeborne K. *Magnetic Resonance Imaging studies in Duchenne muscular Dystrophy: Linking Findings to the Physical Therapy Clinic*. Phys Thera. 2020
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## ORAL SCIENTIFIC PRESENTATIONS

1. *Step activity in Boys with Duchenne muscular Dystrophy*. Neuro Nine, Rehabilitation Science Doctoral Program, University of Florida, June 2019
  2. *Functional Performance and Magnetic Resonance Imaging of Muscles in Duchenne Muscular Dystrophy: Evaluation of Late Ambulatory Stage*. Oral Presentation at American Physical Therapy Association -Combined Section Meeting, Washington DC. Jan 2019
  3. *Characterization of Walking Performance and Prediction of Loss of Ambulation in Duchenne Muscular Dystrophy*. Oral Presentation at 31<sup>st</sup> Annual College of Public Health and Health Professions Research Day, University of Florida. April 2018
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## SCIENTIFIC POSTER PRESENTATIONS

1. SH Subramony, NC Olwe, SL Riehl, **KS Nair**, ET Wang, GA Walter, K Vandeborne, DJ Lott. *Magnetic Resonance Imaging, Alternative Splicing, and Functional Abilities in Myotonic Dystrophy Type 1*. 23<sup>rd</sup> Muscle Study Group Annual Scientific Meeting, Lake Maggiore, Italy. October 2022

2. **Nair KS**, Forbes SC, Barnard AM, Willcocks RJ, Rooney WD, Lott DJ, Finanger EL, Senesac CR, Brandsema J, Wang DJ, Walter GA, Vandeborne K. *Longitudinal assessment of disease progression in Duchenne muscular dystrophy using magnetic resonance imaging and North Star Ambulatory Assessment*. MDA conference, Nashville, TN. March 2022
3. **Nair KS**, Forbes SC, Barnard AM, Willcocks RJ, Senesac CR, Lott DJ, Walter GA, Vandeborne K. *Longitudinal assessment of disease progression in Duchenne muscular dystrophy using functional tests and MRI*. 15<sup>th</sup> Annual Neuromuscular Plasticity Symposium, University of Florida, March 2021
4. **Nair KS**, Lott DJ, Forbes SC, Barnard AM, Willcocks RJ, Senesac CR, Daniels MJ, Harrington AT, Tennekoon GI, Zilke K, Finanger EL, Finkel RS, Rooney WD, Walter GA, Vandeborne K. *Step activity monitoring in boys with Duchenne muscular dystrophy and its correlation with magnetic resonance measures and functional performance*. PHHP Annual Research Day, University of Florida, Feb 2020
5. **Kamamma KS**, Willcocks RJ, Barnard AM, Lott DJ, Senesac CR, Harrington AT, Finanger EL, Tennekoon GI, Russman BS, Finkel RS, Wang DJ, Rooney WD, Walter GA, Vandeborne K. *Evaluating Late Ambulatory Status and Loss of Ambulation in Duchenne Muscular Dystrophy Using Clinical Tests and Magnetic Resonance Imaging*. 14<sup>th</sup> Annual Neuromuscular Plasticity Symposium, University of Florida, University of Florida. April 2019
6. **Kamamma KS**, Barnard AM, Willcocks RJ, Lott DJ, Senesac CR, Harrington AT, Finanger EL, Tennekoon GI, Russman BS, Finkel RS, Walter GA, Vandeborne K. *Evaluating Loss of Ambulation in Duchenne Muscular Dystrophy Using Clinical Tests and MRI* Advances in Skeletal Muscle Biology in Health and Disease, University of Florida. March 2019
7. **Kamamma KS**, Willcocks RJ, Barnard AM, Lott DJ, Senesac CR, Arora H, Harrington AT, Finanger EL, Tennekoon GI, Russman BS, Finkel RS, Brandsema JF, Wang DJ, Rooney WD, Sweeney HL, Walter GA, Vandeborne K. *Characterization of walking performance and prediction of loss of ambulation in Duchenne Muscular Dystrophy*. 13<sup>th</sup> Annual Neuromuscular Plasticity Symposium, University of Florida. March 2018

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## HONORS AND AWARDS

- GREAT Foundation & ICC Travel Award, March 2019
- Rehabilitation Science Travel Award, Department of Physical Therapy, University of Florida 2019
- Neuromuscular Plasticity Symposium Best Poster Award, Department of Physical Therapy, University of Florida 2018

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## STUDENT LEADERSHIP AND SERVICES

- Graduate Student Council, UF 2019-2021
  - College of Public Health and Health Professions Diversity Committee, UF 2017-2018
  - Corry Village Mayor, Mayors Council, UF 2020-2021
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## PROFESSIONAL MEMBERSHIP

- American Physical Therapy Association 2018-present  
ID: 841119, Member of Pediatric, Neurology and Research Sections
  - Licensed Physical Therapist  
Pennsylvania state– PT 030462 2022-present  
New York state– 036819 (currently registration is inactive) 2013-2019  
Florida state– PT 33311 2018-2023
  - Indian Association of Physical Therapy 2004-present
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