

# AMERICAN BOARD OF PHYSICAL THERAPY RESIDENCY AND FELLOWSHIP EDUCATION

Description of Fellowship Practice  
Neurologic Movement Disorders

November 2018

*\*Note: Section VIII. Primary Health Conditions was replaced with Section VIII. Medical Conditions on 9/28/2020*

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# AMERICAN BOARD OF PHYSICAL THERAPY RESIDENCY AND FELLOWSHIP EDUCATION

## Description of Fellowship Practice Neurologic Movement Disorders

### Preamble

The American Board of Physical Therapy Residency and Fellowship Education (ABPTRFE), a board-appointed group of the American Physical Therapy Association (APTA), has created the following Description of Fellowship Practice (DFP) to reduced unwarranted curriculum variability; provide fellows-in-training minimum consistency in learning experiences for that area of practice; and streamline the accreditation process for reporting.

This DFP is based on the analysis of practice results conducted by members of the Academy of Neurologic Physical Therapy (ANPT) as part of the petition requirements for seeking ABPTRFE recognition of this area of practice.

While all programs are required to meet the comprehensive curriculum and program requirements as outlined within the *ABPTRFE Quality Standards for Clinical Physical Therapist Residency and Fellowship Programs*, the purpose of the DFP is to: (1) establish a consistent curriculum expectation for fellowship programs within the same area of practice, and (2) provide consistency in program reporting for accreditation processes. The DFP allows flexibility for programs to incorporate additional learning experiences unique to the program's environment that are beyond the minimum standard expectations.

The DFP for each residency/fellowship area will undergo revalidation at least once every 10 years.

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### I. Introduction

#### Background

In December 2015, Drs. Elizabeth Ulanowski, PT, DPT, NCS and Anne Kloos, PT, PhD, NCS along with seven other physical therapists who are members of the Academy of Neurologic Physical Therapy (ANPT) submitted a letter of intent to the American Board of Physical Therapy Residency and Fellowship Education (ABPTRFE) to establish a new area of fellowship practice entitled “Neurologic Movement Disorders”. The group defined movement disorders to include but not be limited to Parkinson’s disease and parkinsonism, dystonia, chorea and Huntington’s disease, ataxic syndromes, tremor and essential tremor, tics and Tourette syndrome, restless legs syndrome, stiff person syndrome, and related gait disorders. In February 2016, the team of 9 physical therapists met at the APTA Combined Sections meeting to begin the process of validating and providing current practice guidelines for practitioners in the sub-specialty field of Neurologic Movement Disorders physical therapy. Following the Petitioner’s Guide for Establishing a New Area of Residency/ Fellowship published by ABPTRFE, they developed a document based on the 2016 newly revised APTA Description of Neurologic Specialty Practice<sup>1</sup> and on the expert opinions of group members describing the skills, attributes, and competencies appropriate for fellowship level curriculum and expertise in movement disorders. An online pilot survey was created for practitioners to assess each competency/ skill/attribute in three ways: 1) Frequency of use, 2) Importance of skill, and 3) Level of Mastery required which was field tested in 25 physical therapists in April 2017. Data collected from the pilot survey was analyzed and used to revise the survey. Following approval from ABPTRFE, an analysis of practice was then conducted in May/June of 2018 and data was analyzed and interpreted in July.

The demand for this petition comes from various stakeholders including current therapists treating

individuals with movement disorders, physical therapists wanting formal and structured educational experiences to advance their knowledge and skills in movement disorders, as well as consumers (patients with movement disorders, caregivers, and families) who want to ensure that they are receiving the most effective and efficient care from physical therapists. Physical therapy plays an important role in the care for individuals with movement disorders. Due to the unique symptomatology, progressive and debilitating clinical course, and complex health care needs of patients with movement disorders, physical therapists require in-depth knowledge of the disease process, the interdisciplinary team roles, and evidence-based physical therapy assessments and interventions to provide the highest and most effective level of care.

#### Summary

As the field of physical therapy training becomes more advanced and specialized through residency and fellowship education there is a demand for more formal and structured educational experiences for physical therapists working with individuals with movement disorders. Individuals with movement disorders desire the most effective and efficient physical therapy care. A “Neurologic Movement Disorders Description of Fellowship Practice” is needed to help meet these needs.

### II. Results of the Analysis of Practice

#### Analysis of Practice

To capture physical therapists who work with individuals with movement disorders, the Project Team solicited input from members of the APTA Academy of Neurologic Physical Therapy, the APTA Degenerative Diseases Special Interest Group (DDSIG), physical therapy members of the International Parkinson and Movement Disorder Society, physical therapists working at accredited Parkinson and Huntington Disease Centers of Excellence, program coordinators of neurological

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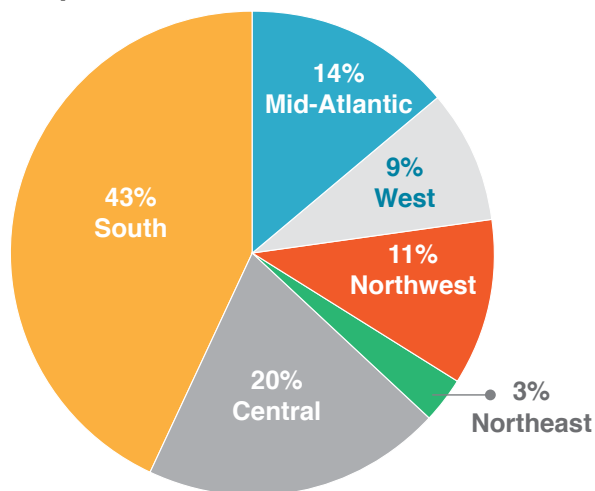
residency programs that are accredited by the ABPTS, members of the American Congress of Rehabilitation Medicine Neurodegenerative Diseases Networking Group, and the Academy of Geriatric Physical Therapy.

Per ABPTRFE procedures, the Validation Project Team conducted and analyzed the results of the pilot survey to develop the practice analysis survey. This survey was fielded via electronic mail, website announcements, and newsletter announcements to approximately 640 physical therapists practicing in movement disorders. In addition, members of the project team personally informed colleagues in the field of the survey.

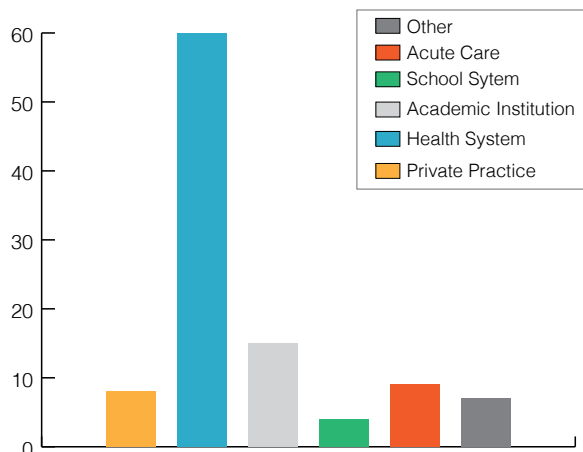
The survey was available in May of 2018. A reminder e-mail was circulated about one month after the initial distribution of the survey, and survey closed in June 2018. A total of 68 responses were received representing an 11% response rate. Of the 68 responses, 38 were completed in its entirety.

### Respondent Demographics

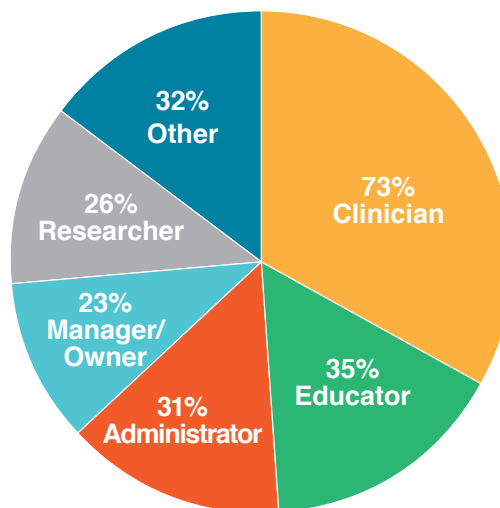
#### Geographical Area of Practice of Respondents



#### Practice Setting



#### Percent of Time in Professional Roles

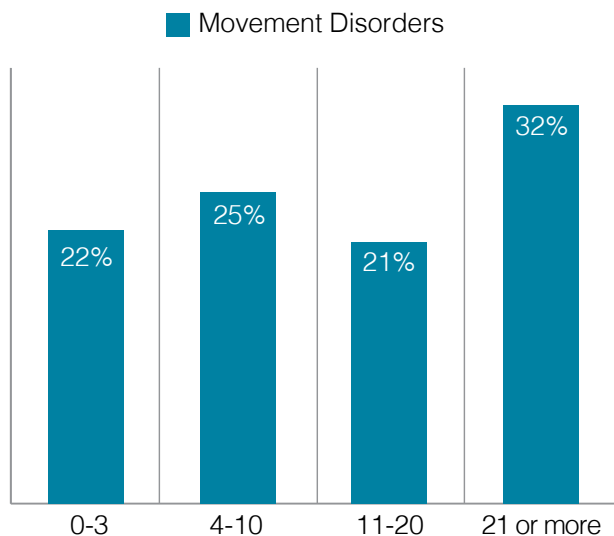


On average, the respondents spent the most time as a clinician (73%), followed in descending order as an educator (35%), other (32%), administrator (31%), researcher (26%), and manager/owner. Other roles listed were: CCCE, director of Rehab, mentor/residency clinical director, mentorship/marketing, and residency coordinator.

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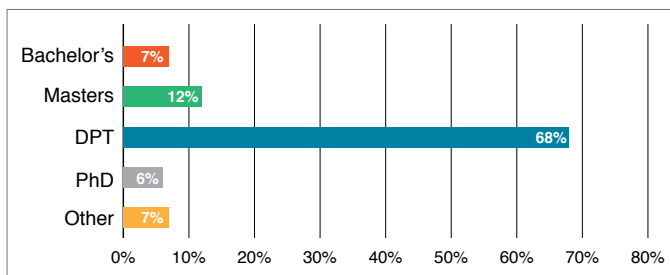
### Years of Practice



Of the 68 respondents, the majority reported 21 or more years treating clients with movement disorders.

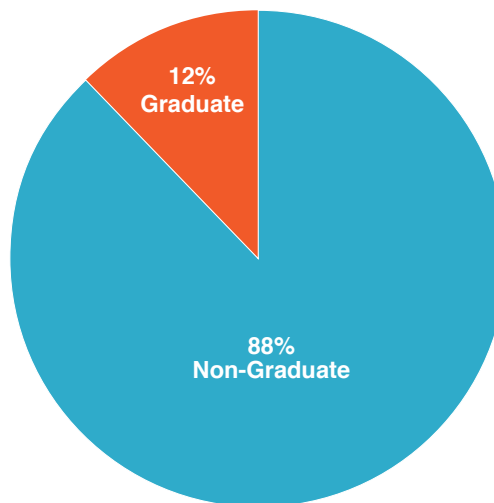
### Professional Development

#### Highest-Earned Academic Degree



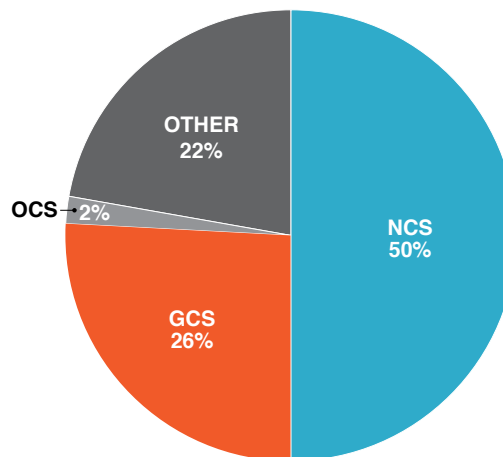
Of the 68 respondents to this question, the majority reported that their highest educational degree was a DPT (68%), followed in descending order by BS (7%), Other (7%), MPT/MSPT (6%), PhD (6%), MS (3%), and MHSc (3%). Other degrees listed included: BS then PPDPT, Bachelor of Physiotherapy and Graduate Certificate in Rehabilitation Science, NCS, EdD, and MBA.

### Residency or Fellowship Graduate



Of the 68 respondents, 8 individuals (12%) reported that they had graduated from an APTA certified residency/fellowship program. The remaining 60 individuals (88%) responded "no".

### Certifications of Respondents

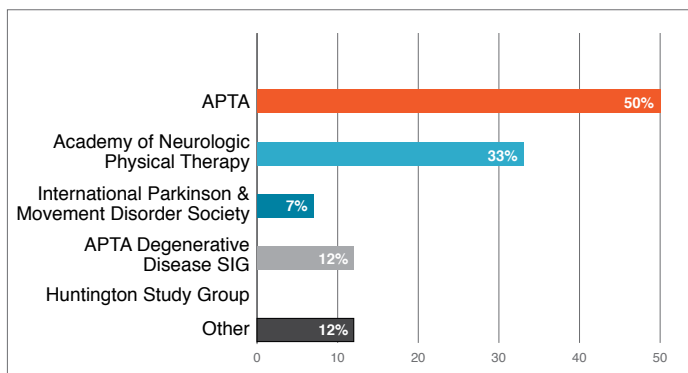


Of the respondents, 23 individuals were neurologic certified specialists (NCS), 12 individuals were geriatric certified specialists (GCS), 10 individuals were other, and 1 individual was an orthopedic certified specialist (OCS). Other certifications listed were: MSCS, CEEAA, CSCS, CWS, and vestibular.

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### Professional Membership

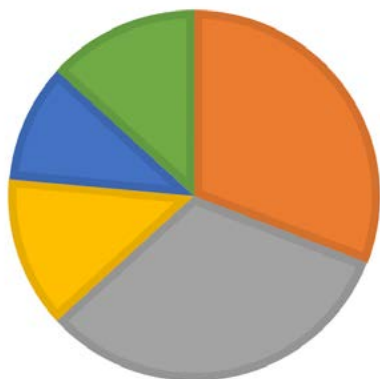


Other memberships listed were: Chartered Society of Physiotherapy (UK), Singapore Physiotherapy Association, Dutch Royal Society of Physical Therapy, APTA Academy of Geriatrics, APTA Acute Care Section, American Geriatric Society.

### Physical Therapist Time Dedicated to Endurance Athlete Caseload

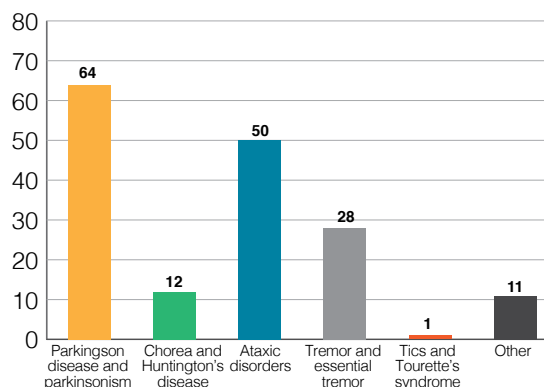
#### Movement Disorders-Specific Caseload

■ 0% ■ 1-20% ■ 21-40% ■ 41-60% ■ 61-80% ■ 81-100%



Of the 68 respondents to this question, 32% (n=22) of individuals reported that their estimated percent of client load who have movement disorders is 21-40%, 31% (n=21) reported a client load of 1-20%, 13% (n=9) reported client load of 41-60%, 13% (n=9) reported client loads of 81-100%, and 10% (n=7) reported client loads of 61-80%.

### Types of Movement Disorders Treated



Respondents reported that among their clients with movement disorders they most typically treated individuals with Parkinson disease and parkinsonism (n=64, 39%) followed in descending order ataxic disorders (50, 30%), tremor and essential tremor (28, 17%), chorea and Huntington's disease (12, 7%), and tics and Tourette's syndrome (1, 0.60%). Other movement disorders listed were: progressive supranuclear palsy, normal pressure hydrocephalus, idiopathic toe walkers, dystonia, myoclonus, stroke, TBI, MS, and Alzheimer's disease.

### Survey Summary

The analysis of practice during the validation process outlined the patient population (types of movement disorders) and practice settings relevant to physical therapists in this area of practice.

In addition, the analysis confirmed the professional clinical competencies that are unique to the practice of neurologic movement disorders physical therapy. These clinical competencies will form the curriculum expectations for all physical therapist fellowship programs in neurologic movement disorders.

The results of the practice analysis survey categorized competencies into 3 categories: Knowledge Areas, Professional Roles, and Practice Expectations. Many of the competencies are inclusive of neurologic physical therapy practice and residency training, however the analysis further defined how



the competencies are utilized within the movement disorders population.

### III. Type of Program

Neurologic movement disorders is a clinical area of practice.

### IV. Required Qualifications for Admissions

The related areas of practice for Neurologic Movement Disorder is geriatric physical therapy and neurologic physical therapy specialty areas.

### V. Learning Domain Expectations

A fellowship program must have a curriculum inclusive of the learning domains identified within that area's current validated analysis of practice.

The following information is based on data from the 2018 analysis of practice for neurologic movement disorders physical therapy.

#### A. Knowledge Areas of Neurologic Movement Disorders Practice

##### Foundation Sciences

- Anatomy/Neuroanatomy including knowledge of:
  - The nervous system including but not limited to: neurotransmitters involved in movement disorders; basal ganglia structure, circuitry and physiology; cortical and basal ganglia.
  - Neuroplasticity-CNS responses to learning and inquiry; cortical remodeling.
  - Identify how movement disorders impact respiratory structures.
  - Identify how movement disorders impact musculoskeletal structures.
- Physiology/Neurophysiology including knowledge of:
  - Pain, including neurogenic pain and pain related to non-neurologic structures.

- Perception.
- Sensory and motor physiology.
- The impact of movement disorders on other body systems.
- Body systems responses to trauma, exercise, stress and anxiety.
- Neural control of locomotion, balance and postural control.
- Movement disorders across the life span.
- Movement Science
  - Motor learning in persons with and without motor, sensory/perceptual, and/or cognitive pathology.
  - Theories of motor control related to movement disorders.
  - Potential impact of movement impairments on multiple body systems over time.
  - Interrelationship among social, cognitive, and movement systems.
  - Kinematic and kinetic analysis of functional movement, gait, and posture in relation to movement disorders.
  - Pathokinesiology of functional movement, gait, and posture as it relates to movement disorders.

##### Behavioral Sciences

- Psychology and neuropsychology, including knowledge of:
  - Affective and behavioral disorders as they relate to movement disorders.
  - Expected emotional/behavioral responses to illness and recovery as they relate to movement disorders.
  - Cognitive processes (attention, memory, language and executive functions) as they relate to movement disorders.
  - Impact of cultural and social systems on illness and recovery as it relates to movement disorders.

##### Clinical Sciences

- Pathology, including knowledge of:
  - Neuropathology of movement disorders including understanding of genetic and environmental influences.

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- Epidemiology, including knowledge of:
  - Incidence and prevalence of movement disorders.
  - Prognostic indicators in movement disorders.
  - Morbidity, mortality, and natural history of movement disorders.
- Medical management, including knowledge of:
  - Describes the role of imaging (MRI, f-MRI, CT scans, PET scans, and DaTscan) in the differential diagnosis of various movement disorders.
  - Clinical reasoning of differential medical diagnosis of movement disorders.
  - Medical and surgical interventions performed for movement disorders (i.e., Botox and DBS).
- Pharmacology, including knowledge of:
  - Effects on body systems, including short- and long-term effects of common medications used in movement disorders.
  - Pharmacokinetics and pharmacodynamics of common medications used in movement disorders.
  - Abnormal drug reactions, interactions, and adverse dosage effects of common medications used in movement disorders.

### **Clinical Reasoning and Critical Inquiry**

- Application of decision-making algorithms and models to clinical practice as they relate to movement disorders.
- Judicious evaluation of published evidence (ie. research methodology appraisal) as it relates to movement disorders.
- Critical evaluation of psychometrics in tests and measures commonly used in movement disorders populations.

## **B. Professional Competencies of Neurologic Movement Disorders Physical Therapists**

### **Communication**

- Empowers individuals with movement disorders in the management of their own health.

- Facilitates collaborative team management and transitions of care for individuals with movement disorders.
- Effectively communicates with persons with movement disorders who are sensory or cognitively impaired.

### **Education**

- Educates students, physical therapy colleagues, other health professionals and community groups as appropriate for their scope of practice to acquire knowledge and develop skill in mobility, positioning,
- Develops educational objectives based on the learning needs of individuals with movement disorders and their families, significant others, and caregivers; colleagues; and/or the public with consideration of learning domains and level of expected outcomes for learners and groups of learners.
- Develops and customizes appropriate teaching strategies and methods based on learning objectives and identified learning style preferences of individuals with movement disorders and their families, significant others, and caregivers.

### **Consultation**

- Synthesizes information to render opinions when providing consultative services to internal and external organizations as relates to movement disorders.
- Provides peer review and/or utilization review. (i.e. formal or informal learning experiences).
- Effectively contributes to multidisciplinary team decision-making to maximize outcomes for people with movement disorders.

### **Prevention, Wellness, and Health Promotion**

- Participate in, develop or implement programs to promote health and fitness of individuals with movement disorders.
- Advocate for ongoing screening and monitoring procedures for individuals with movement disorders.



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### **Social Responsibility and Advocacy**

- Advocates for movement disorders with national organizations, healthcare systems or law-making bodies.

### **Leadership**

- Pursues opportunities to mentor others and seeks mentors to expand own knowledge, skills and abilities.
- Models and facilitates the translation of evidence into clinical practice as it relates to movement disorders.

### **Professional Development**

- Models and facilitates a continued pursuit of additional and advanced knowledge, skills, and competencies.

## **C. Psychomotor Skills of Neurologic Movement Disorders Physical Therapists in the Patient/Client Management Model**

### **Patient and Client Examination**

1. History
  - Performs an interview that is patient- or client-centered and that includes information relevant to health restoration, promotion, and prevention in relation to movement disorders.
  - Integrates knowledge of movement-disorder specific questions with history taking, such as medical, surgical, pharmacological history.
2. Systems Review
  - Prioritizes relevant screening procedures based on identified health conditions, previous tests and interventions, patient history, and observation.
  - Recognizes signs and symptoms that require urgent referral to physician or emergency medical care.
3. Examination Procedures
  - Recognizes/observes non-motor symptoms of movement disorders (e.g., autonomic symptoms, sleep dysfunction, fatigue, anxiety, irritability, hallucinations, other).

- Selects and prioritizes tests and measures across all ICF domains based on history, systems review, scientific merit, clinical utility, and physiologic or fiscal cost to patient relative to criticality of data.

#### 4. Tests and Measures

- Performs tests and measures in a manner that optimizes validity, reliability, accuracy and precision of the data (e.g., BESTest/MiniBESTest, Hoehn and Yahr, etc.).
- Performs movement analysis for biomechanical contributions to gait and movement dysfunction in movement disorders.
- Seeks out and effectively utilizes current resources to inform selection, prioritization, administration, and interpretation of the tests and measures (e.g., Academy of Neurologic Physical Therapy EDGE recommendations, Rehabilitation Measures Database, published evidence).

### **Evaluation**

- Skillfully interprets observed movement and function in patients and clients with movement disorders.
- Differentiates examination findings in individuals with movement disorders across ICF domains that require remediation versus compensatory strategies.
- Integrates examination findings obtained by other health care professionals such as neurologists, speech and language pathologists, and occupational therapists.
- Develops sound clinical judgments based on data collected from the examination.

### **Diagnosis**

- Differentially diagnoses emergent versus nonemergent neurologic signs and symptoms in individuals with movement disorders.
- Differentially diagnoses body function, body structures, and functional performance findings consistent or inconsistent with movement disorders.
- Confers with other professionals regarding examination needs that are beyond the scope of physical therapy and refers as appropriate.

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### Prognosis

- Analyzes barriers, such as resources and psychosocial barriers, that limit individuals with movement disorders in achieving optimal outcomes.
- Predicts potential for recovery and time to achieve optimal level of improvement across the ICF domains.
- Develops a plan of care that prioritizes interventions related to the recovery process, patient and client goals, and resources.

### Intervention

- Clinical Decision-Making and Prioritization of Interventions
  - Prioritizes, selects, and if needed, modifies interventions based on potential short-term impact and secondary prevention benefits with consideration of the individual's body function and structure, activity limitations, and participation restrictions.
  - Modifies or continues intervention based on ongoing evaluation.
  - Develops a plan of care that prioritizes interventions related to all levels of prevention, health, and wellness.
- Coordination, Communication, Documentation
  - Adapts communication to meet the diverse needs of individuals with movement disorders and family, significant others, and caregivers, such as cultural, age-specific, educational, and cognitive needs.
- Patient and Client Instruction
  - Educates patient or client and family, significant others, and caregivers on diagnosis, prognosis, treatment, responsibility, and self-management within the plan of care for movement disorders.
  - Provides instruction aimed at risk reduction, prevention, and health promotion for movement disorders.
  - Designs and implements a customized physical therapy program related to activity limitations for people with movement disorders.

### ■ Procedural Interventions

#### *Therapeutic interventions*

- Prescribes a physical therapy program with appropriate timing, intensity, and dosage to maximize outcomes.
- Effectively addresses multi-system impairments when designing and implementing a physical therapy program for people with movement disorders.
- Skillfully designs and implements customized balance training programs for individuals with movement disorders customized to body structure/function, activity limitations and participation restrictions.

#### *Functional Training in self-care and in domestic, education, work, community, social and civic life*

- Continuously analyzes the interaction between multiple body system impairments, activity limitations, and participation restrictions, and the environment as it relates to movement disorders.
- Determines which problems related to chronic disability are amenable to training as relates to movement disorders.
- Performs task-specific training, considering appropriate timing, intensity, and dosage to maximize outcomes in individuals with movement disorders.
- Provides customized assistance, cues, and feedback to facilitate skill acquisition based on the individual's cognitive needs.
- Anticipates and addresses the impact of faulty biomechanics on short- and long-term health to maximize safety, prevent injury and address risk reduction.
- Judiciously applies the available or emerging technologies that promote skill training and acquisition, for individuals with movement disorders.

#### *Manual therapy techniques*

- Identify need for and approach to manual therapy in the management of individuals with movement disorders with joint limitations.

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*Prescription, application, and, as appropriate fabrication of devices and equipment*

- Skillfully prescribes and adapts devices and equipment in collaboration with the complex patient or client with movement disorders and family, significant others, and caregivers.

*Integumentary repair and protective techniques*

- Prevents and manages integumentary impairment through education, exercise, positioning, and mobility and activity prescription for individuals with movement disorders.

*Electrotherapeutic modalities*

- Integrates motor learning and motor control concepts into the application of electrotherapeutic modalities such as biofeedback and NMES in individuals with movement disorders.

### Outcomes Assessment

- Analyzes and adjusts the plan of care while managing patients with movement disorders within and across episodes based on interpretation of outcome measure results.
- Analyzes and interprets data to modify own future practice.

## VI. Practice Settings

The clinical curriculum of all accredited fellowship programs must include a variety of practice settings, as noted below. A fellow-in-training should experience a minimum of 5% of their time in each setting, as required by the *ABPTRFE Quality Standards for Clinical Physical Therapist Residency and Fellowship Programs*.

If a fellowship program is unable to provide each participant with an opportunity to engage in patient care activities within these settings, the program must provide additional learning opportunities (eg, observation, didactic, journal club, research) related to patient care within these settings for the minimum required hours noted above.

The minimum required practice settings for neurologic movement disorders fellowship programs is:

- Outpatient facility

## VII. Patient Populations

The clinical curriculum of all accredited fellowship programs must include a variety of patient populations, specific to sex and age group as listed below, for a minimum of 5% of the program hours required by the *ABPTRFE Quality Standards for Clinical Physical Therapist Residency and Fellowship Programs*.

If a fellowship program is unable to provide each fellow-in-training with an opportunity to engage in patient care activities within these populations, the program must provide additional learning opportunities (eg, observation, didactic, journal club, research) related to patient care within these populations for the minimum required hours noted above.

The minimum required patient populations for neurologic movement disorders fellowship programs are:

Age:

- Adults (22-59 years of age)
- Geriatrics (60 years of age to end of life)

Sex:

- Female
- Male

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### VIII. Medical Conditions

The clinical curriculum of all accredited fellowship programs must include a variety of medical conditions associated with the program's area of practice (see below list).

If a fellowship program is unable to provide each fellow-in-training with an opportunity to engage in patient care activities within the majority of these populations, the program must provide additional learning opportunities (eg, observation, didactic, journal club, research) related to patient care within these conditions.

The following template must be used when logging fellow-in-training–patient encounters as part of the fellowship curriculum. Patients evaluated, treated, or managed by the fellow-in-training as part of the fellow-in-training's education throughout the course of the fellowship program should be included within the template. The patient's medical condition is only counted during the first patient encounter. **Patient encounters beyond the initial visit should not be included in the frequency count.**

Medical Conditions Neurologic Movement Disorders	Number of Patients Evaluated, Treated, or Managed by the Fellow-In-Training as Part of the Program's Curriculum
<b>NERVOUS SYSTEM</b>	
Ataxic disorders	
Chorea and Huntington's disease	
Parkinson's disease	
Tics and Tourette syndrome	
Tremor and Essential tremor	
<b>OTHER</b>	