

ABPTRFE

American Board of Physical Therapy
Residency & Fellowship Education

Description of Residency Practice: Pediatrics

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DRP Pediatrics

Preamble

The American Board of Physical Therapy Residency & Fellowship Education, a board-appointed group of the American Physical Therapy Association, has created the following “Description of Residency Practice” to reduce unwarranted curriculum variability; provide residents minimum consistency in learning experiences for that area of practice; and streamline the accreditation process for reporting.

This DRP is the product of collaborative work by ABPTRFE and the American Board of Physical Therapist Specialties through the practice analysis for specialty revalidation.

While all programs are required to meet the comprehensive curriculum and program requirements as outlined within “ABPTRFE Quality Standards for Clinical Physical Therapist Residency and Fellowship Programs,” the purpose of the DRP is to 1. Establish a consistent curriculum expectation for residency programs within the same area of practice. 2. Provide consistency in program reporting for accreditation processes. The DRP allows flexibility for programs to incorporate additional learning experiences unique to the program’s environment that are beyond the minimum standard expectations.

The DRP for each residency area will undergo revalidation at least once every 10 years. The process for revalidation will be a collaborative process with ABPTS.

I. Type of Program

Pediatrics is a clinical area of practice.

II. Learning Domain Expectations

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

The following information is extracted directly from chapter 2 of the Pediatric Physical Therapy “Description of Specialty Practice.”¹

A. Knowledge Areas of Pediatric Practice

- **Foundational Sciences**
 - Anatomy, histology, including embryonic development and aging of individuals with lifelong disabilities of the following systems:
 - Musculoskeletal system.
 - Neuromuscular system.
 - Cardiovascular/pulmonary system.
 - Integumentary system.
 - Genetics/genomics/epigenetics.

¹ “Pediatric Physical Therapy Description of Specialty Practice.” 5th ed. Alexandria, VA: American Physical Therapy Association; 2020. Reproduced with permission. © 2020 American Physical Therapy Association. All rights reserved.

- Exercise physiology.
- Biomechanics, including developmental biomechanics.
- Kinesiology, including developmental kinesiology.
- Neuroscience.
- Neurological function, including motor control, motor learning, and motor development.
- Pathology.
- Pharmacology.

- **Behavioral Sciences**
 - Communication.
 - Social and psychological factors (e.g., mental health, gender identity, and/or cultural factors).
 - Pain science (e.g., patient or client response, withdrawal, addiction).
 - Developmental psychology.
 - Family-systems theory.
 - Ethics and values.
 - Population health and epidemiology.
 - Teaching and learning.
 - Law.
 - Health and wellness.

- **Clinical Sciences**
 - Understanding of diseases or conditions of the following systems that may necessitate physical therapist services, that affect systems that in turn necessitate physical therapist services (i.e., comorbidities), and that influence the type of intervention that can be given:
 - Cardiovascular/pulmonary.
 - Endocrine and metabolic.
 - Gastrointestinal and genitourinary.
 - Integumentary.
 - Musculoskeletal.
 - Neuromuscular.
 - Sensory (e.g., vestibular, visual, somatosensory systems).

- **Critical Inquiry Principles and Methods**
 - Research design.
 - Qualitative and quantitative research designs.
 - Theory development.
 - Principles of measurement:
 - Sensitivity and specificity.
 - Reliability.
 - Validity.
 - Statistical inference.
 - Statistics:
 - Parametric and nonparametric data.
 - Descriptive statistics.
 - Statistical testing (e.g, analysis of variance, analysis of frequencies, correlation, regression) concepts and applications to research interpretation.
 - Concepts and application of statistical power to research design and interpretation.

- **Medical and Surgical Considerations**
 - Imaging studies.
 - Pharmacology (e.g., opioid addiction, polypharmacy, on/off label use of prescription, nonprescription medications).
 - Ancillary tests (e.g., lab studies, EKG, electrophysiological exams).

- Regenerative medicine (e.g., genetic markers, stem cell application, genetic-based alterations to pharmacological interventions, immunity).

B. Professional Competencies of Pediatric Physical Therapists

• Professional Behaviors

The physical therapist practicing as a pediatric clinical specialist reflects the core values of a professional by:

- Influencing others in developing caring, respectful, and compassionate behaviors (e.g., the use in all interactions of people-first communications, preferred pronouns, absence of jargon or bias, active listening).
- Effectively recognizing and resolving problems in difficult situations (e.g., clinical, interpersonal, and ethical).
- Sacrificing self-interest for the patient's or client's and, when applicable, family's interest.
- Identifying when health care problems go beyond an individual level and advocate solutions to resolve these programs at the institutional and societal health care levels (e.g., human trafficking, underserved populations, child abuse and/or neglect).
- Maintaining advance pediatric knowledge, skills, and abilities by participating in continuing professional development and competency (e.g., residency and fellowship education, seminars, structured study, communities of practice).

• Leadership

The physical therapist practicing as a pediatric clinical specialist demonstrates leadership by:

- Modeling efficient clinical reasoning and advanced pattern recognition selectivity in patient and client examination, evaluation, and intervention.
- Seeking opportunities to mentor and be mentored by others to expand personal knowledge, skills, and abilities.
- searching for and participating in activities beyond immediate scope of responsibility to expand, improve, or define the practice or awareness of pediatric physical therapy.

• Education

The physical therapist practicing as a pediatric clinical specialist demonstrates ability to educate others by:

- Determining the needs, selecting appropriate teaching and assessment strategies, and identifying required resources necessary for effective age-appropriate education that recognizes the cognitive, physical, emotional, cultural, psychological, and social characteristics of the learner.
- Accurately and objectively assessing and where appropriate modifying educational activities to determine the achievement of learning objectives.
- Educating physical therapist learners and physical therapist assistant learners across the educational continuum (e.g., entry-level, residency, fellowship, continuing professional development) to enhance knowledge translation and skill mastery in pediatric physical therapy.
- Educating other health care professionals, as appropriate for their scope of practice, in knowledge and skills specific to the pediatric population.
- Educating other health care professionals, outside agencies, and the general public about pediatric physical therapy.

• Administration

The physical therapist practicing as a pediatric clinical specialist demonstrates the administrative ability to provide pediatric physical therapist services in a variety of delivery models (e.g., independent billing, provider private practice, health care systems) by:

- Identifying overall functions, prioritizing administrative needs, and identifying necessary and available resources.
- Developing and/or implementing and evaluating policies and procedures for the pediatric physical therapy service.
- Effectively supervising and evaluating performance of professional and support staff.

- Collecting, analyzing, and interpreting clinical, productivity, and financial data for quality assurance, quality improvement, marketing, and public relations.
- **Consultation**
The physical therapist practicing as a pediatric clinical specialist demonstrates consultation (in person or via telehealth) by contributing special knowledge or expert opinion in client-based, community, or educational settings by:
 - Providing an internal or second opinion of developmental, functional, or disability status.
 - Determining need for admission to or discontinuation from a program, facility, or home professional service for the patient or client and, as applicable, family.
 - Analyzing risk and contextual factors, to identify and make appropriate referrals (e.g., disease, trauma, abuse, neglect).
 - Population screening and surveillance for risk factors and potential for activity limitations and participation restrictions.
- **Evidence-Based Practice/Critical Inquiry**
The physical therapist practicing as a pediatric clinical specialist demonstrates evidence-based practice by:
 - Applying contemporary principles of evidence-based practice and knowledge translation in patient and client management.
 - Evaluating the efficacy and effectiveness of examination tools, interventions, and technologies.
 - Contributing to the body of evidence by participating in and disseminating results of single-site, multisite and/or other forms of collaborative investigation (e.g., client research, quality assurance programs, tracking patient and client satisfaction).

C. Psychomotor Skills of Pediatric Physical Therapists in the Patient/Client Management Model

- **Examination**
The physical therapist practicing as a pediatric clinical specialist demonstrates examination by:
 - History
A systematic gathering of data from both the past and the present related to why the patient or client/family is seeking the services of a physical therapist. Patient and client history is obtained through interview and data from other sources specific to pediatric patients and clients (e.g., questionnaires, medical records, test results) including but not limited to:
 - Conducting a patient or client/family interview to gather information such as current and previous symptoms, physical and psychological lifestyle, environmental exposures, risk factors, understanding of the disease/condition, motivation for lifestyle change, and patient or client/family goals.
 - Identifying, reviewing and interpreting all available patient or client data and contextual factors to determine the clinical significance to physical therapy care, which may include:
 - Medical and psychological history, including risk factors.
 - Physical assessment.
 - Diagnostic studies, physiologic monitoring and laboratory.
 - Therapeutic regime.
 - Progress notes.
 - Systems Review
 - Identifying and describing tools appropriate for the population being tested.
 - Applying tools in a timely and efficient manner, within the constraints of available equipment and environment, and with appropriate delegation.
 - Recommending action(s) based on the results, e.g., decision to evaluate, referral to other providers, and no intervention recommended.
 - Documenting appropriately and communicating results of systems review as needed.
 - Tests and Measures

- Selecting and prioritizing tests and measures based on history, systems review, scientific merit, clinical utility, and physiologic or fiscal cost to patient or client relative to criticality of data.
- Performing, interpreting, and assessing age-appropriate results and responses to tests and measures including but not limited to:
 - Aerobic capacity and endurance, including examination of the patient's or client's pulmonary function, and response to tests of aerobic capacity and endurance (e.g., signs of stress, respiratory distress, exertion, vital signs, auscultation, and breathing patterns).
 - Anthropometric characteristics, including examination of age- and gender-appropriate anthropometric characteristics over time (e.g., posture, edema, effusion, height and weight, length and girth, leg length, palpation).
 - Arousal, attention, and cognition, including examination and analysis of arousal, attention, cognition, behavioral state organization and stability, and behavioral responses (e.g., level of consciousness, memory recall, intrinsic and extrinsic motivating factors, orientation to time, person, and place, expressive and receptive abilities).
 - Assistive and adaptive devices including analysis of the potential to remediate impairment or activity and functional limitations through use of an assistive or adaptive device (e.g., appropriate device components, fit and alignment, safety during use).
 - Community and work (job/school/play) integration or reintegration including examination adaptive skills, compliance with federal legislation, physiologic response, patient or client/family/caregiver goals).
 - Cranial nerve integrity including examination of cranial nerves through dermatomes and muscular innervations, function, and reflects (e.g., bite, sucking, swallow, cough, and gag reflexes, response to auditory, gustatory, olfactory, vestibular, and visual stimuli, coordination of suck/swallow and function).
 - Environmental, home, and work (job/school/play) barriers including examination of current and potential barriers, through interviews with the patient or client/family/caregivers, and measurement and inspection of the environment.
 - Gait, locomotion, and balance including analysis of arthrokinematics, biomechanical, kinematic, and kinetic characteristics of gait, locomotion, and balance on various terrains and in different physical environments using data from visual assessment, safety assessments, wheelchair and mobility assessment, linear measures, goniometric measures, EMG video, weight bearing scales, footplates, etc.
 - Integumentary protection including examination and assessment of activities, positions and postures, and adaptive devices that aggravate or relieve pain and/or cause tissue trauma (e.g., continuity of skin color, sensation, skin temperature, tissue mobility, turgor, and texture).
 - Integumentary integrity (for wounds) including examination of wound characteristics including activities, devices, positioning and postures that create or aggravate a wound or scar or that may produce additional tissue trauma (e.g., signs of infection, ecchymosis, burn, scar tissue characteristics).
 - Joint integrity and mobility including examination of the joint for integrity, movement quality and injury (e.g., joint hypermobility or hypomobility, kinematics during activity, swelling, inflammation, restriction, and sprains).
 - Motor function (motor control and learning) including examination and analysis of neurological, neuromotor, neurobehavioral, and movement scales (e.g., neonatal scales, movement of the head, trunk, and limbs, dexterity, agility, coordination, equilibrium, and righting reactions).
 - Muscle performance including analysis of muscle tone, strength, power, and endurance through manual muscle testing, and dynamometry, with modification based on muscle performance, pain and soreness.

- Neuromotor development and sensory integration/processing, including analysis and interpretation of age- and gender-appropriate development and sensory integration and processing (e.g., involuntary movement, gross and fine motor skills, reflex movement patterns, gait and posture, and oral-motor function).
- Orthotic, protective, and supportive devices including examination and analysis of a device and the potential to remediate activity or functional limitations, and energy conservation and expenditure while wearing a device (e.g., altered kinematics, ease of use, alignment and fit of device, skin condition in response to use, ability of patient or client/family/caregiver to understand, use, and don and doff device).
- Pain including analysis of pain and pain behaviors in reaction to services and tests and measures (e.g., provocation tests, phantom limb pain, pain perception using questionnaires, graphs, and visual analog scales).
- Posture, including analysis of static and dynamic posture in any positions or movements with posture grids, plum lines, lower extremity alignment, spinal alignment, and videotape and visual assessment, etc.
- Prosthetics, including analysis, identification, and modification of appropriate components, fit, and benefits of a prosthetic device to the patient or client, and the prosthesis' potential ability to remediate activity or participation limitations (e.g., movement analysis, practicality and ease of use, alignment, skin changes, edema, range of motion, strength, residual limb characteristics).
- Range of motion and muscle length, including analysis of age-appropriate functional range of motion, muscle, joint, and soft tissue characteristics using goniometers, tape measures, rulers, and inclinometers, etc.
- Reflex integrity, including examination, analysis, and interpretation of various reflexes over time (e.g., oral motor, primitive, stretch, and pathological).
- Self-care and home-management, including analysis of mobility with self-care and home management activities, and physiologic responses to environment and school or job tasks as observed or reported by the patient or client/family/caregiver and other professionals.
- Sensory integrity (including proprioception and kinesthesia), including examination of combined (cortical) sensations, deep (proprioceptive) sensations, gross receptive sensations, and modification to sensory examination (e.g., stereognosis, tactile localization, vibration, vision, and hearing).
- Ventilation, respiration, and circulation, including examination of ventilatory muscle strength, power and endurance, and cardio/pulmonary response at rest and during activity (e.g., chest wall mobility, expansion and excursion, capillary refill time, airway clearance, cough and sputum, and pulses).

- **Evaluation**

Evaluation is the dynamic process of clinical judgement in interpreting examination data. The physical therapist practicing as a pediatric clinical specialist demonstrates evaluation by:

- Using pattern recognition to interpret body structure and function impairments within the functional movement system, and the impact on activity and participation.
- Linking impairments, activity limitations and participation restrictions, and psychosocial factors to the promotion of age and setting appropriate health and wellness along with the expressed goals of the patient or client/family/caregiver.
- Identifying activity limitations and participation restrictions and relating them to examination findings.
- Interpreting observed movement and function.
- Integrating instruments, tests, screens, and evaluations used or performed by other health care professionals.

- **Diagnosis**

The physical therapist practicing as a pediatric clinical specialist demonstrates diagnosis by:

- Interpreting data from the examination to develop a differential diagnosis.
- Identifying impairments, activity limitations, and/or participation restrictions that are amenable to intervention.
- Referring the patient or client/family in a timely manner to other professionals including other appropriately qualified physical therapists for findings outside the personal scope of the individual pediatric clinical specialists' knowledge, experience, or expertise.

• Prognosis

The physical therapist practicing as a pediatric clinical specialist demonstrates prognostication by:

- Utilizing evidence-based resources, including (but not limited to) clinical practice guidelines, to predict improvement and optimal level of function.
- Predicting amount of time to achieve optimal level of improvement in function.
- Collaborating with patient or client/family in setting goals.
- Developing a plan of care within the appropriate service delivery model that prioritizes interventions related to activity and participation in regard to patient and/or client/family goals, health and wellness, and resources, within established guidelines.

• Interventions

The physical therapist practicing as a pediatric clinical specialist demonstrates intervention by:

- Coordination, communication, and documentation:
 - Integrating communication strategies with therapeutic intervention.
 - Adapting communication to meet the educational/cognitive level and psychosocial needs of the patient or client/family/caregiver.
 - Asking questions that help to determine patient or client/family concerns.
 - Applying conflict resolution strategies in a timely manner.
 - Effectively adapting communication strategies across the lifespan.
 - Meeting the requirements of federal and state guidelines (e.g., IDEA).
- Patient or client/family-related instruction:
 - Educating the patient or client/family/caregiver on health promotion and wellness, diagnosis, treatment, responsibility, and self-management with the plan of care.
- Procedural interventions chosen and administered to minimize impact of personal and environmental contextual factors to maximize participation:
 - Therapeutic exercise: application, monitoring, and adaptation based on the patient's or client's response(s) to therapeutic exercise including but not limited to:
 - Aerobic endurance activities.
 - Positioning.
 - Balance and motor coordination training.
 - Breathing exercises and ventilatory muscle training.
 - Conditioning and reconditioning activities.
 - Developmental activities.
 - Gait, locomotion, or elevation training:
 - Early mobility training in complex medical case (e.g., ECME, PICU).
 - With or without assistive devices or equipment including robotic devices.
 - Motor function (motor control and motor learning) training and retraining.
 - Neuromuscular education and reeducation.
 - Neuromuscular relaxation, inhibition, and facilitation.
 - Perceptual training (e.g., sensory motor training).
 - Posture and body mechanics training (for patient or client/family/caregivers).
 - Strengthening activities (active, assistive, resistive).
 - Stretching.
 - Structured play activities.
 - Functional training (self-care, school, community): application, monitoring, and adaptation based on patient's/client's response(s) to functional training including but not limited to:

- Basic ADL training in mobility (bed and bathroom mobility, transfer).
- Basic ADL training in self-care (eating, grooming, dressing).
- Training of family/caregivers in supporting neonatal and infant basic ADL activities (e.g., positioning and feeding).
- Environmental adaptations.
- Instrumental ADL training (e.g., shopping, driving, playground or peer activities, home).
- Orthotic device training.
- Age-appropriate manual therapy techniques (connective tissue massage, joint mobilization, and soft tissue mobilization).
- Devices and equipment:
 - Prescription, application and, as appropriate, fabrication of assistive, adaptive, supportive, and protective devices or equipment (e.g., seating, environmental controls, walkers, helmets, orthoses, splints, pressure garments, taping).
 - Assisting with obtaining funding for recommended equipment, including providing a rationale for selection and use.
- Techniques to maximize ventilation including, assistive cough techniques, mechanical devices, percussion, vibration, and postural drainage.
- Electrotherapeutic modalities (e.g., microcurrent, biofeedback, FES, and NMES).
- **Outcomes**
 - Selection, analysis, and interpretation of age-appropriate outcomes for participation in data collection, determining patient or client/family/caregiver satisfaction, and to modify future practice, etc.

III. Practice Settings

The clinical curriculum of all accredited residency programs must include a variety of practice settings, as noted below. A resident should experience a minimum of 5% of patient-care practice hours within each setting based on the minimum patient-care practice hours outlined within “ABPTRFE Quality Standards for Clinical Physical Therapist Residency and Fellowship Programs.”

If a residency 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 (e.g., 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 pediatric residency programs are:

- Acute care facility.
- Early child intervention setting.
- Outpatient facility.
- School system.

IV. Patient Populations

The clinical curriculum of all accredited residency programs must include a variety of patient populations, as noted below, specific to sex and age. A resident should experience a minimum of 5% of time in each patient population based on the minimum patient-care practice hours outlined within “ABPTRFE Quality Standards for Clinical Physical Therapist Residency and Fellowship Programs.”

If a residency program is unable to provide each resident with an opportunity to engage in patient care activities within these populations, the program must provide additional learning opportunities (e.g., 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 pediatric residency programs are:

Age

- Pediatrics (0-21 years of age).

Note: ABPTRFE is aware that patients older than 21 years of age may be appropriate to be included within a pediatric residency program. Situations when this might occur include when a patient’s condition is more likely found in younger persons who have multiple diseases, disabilities, and/or mental problems.

Sex

- Female.
- Male.

V. Medical Conditions

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

If a residency program is unable to provide each resident with an opportunity to engage in patient care activities within most of these conditions, the program must provide additional learning opportunities (e.g., observation, didactic, journal club, research) related to patient care within these conditions.

Programs must use the ABPTRFE template when submitting documentation to ABPTRFE. Medical Condition Form templates are in the [Residency/Fellowship Education HUB](#).

Medical Conditions
Pediatrics
Cardiovascular System
Congenital heart defects (e.g., atrial septal defect, tetralogy of Fallot, heart transplant)
Neonatal cardiovascular conditions
Pulmonary System
Asthma
Cystic fibrosis
Neonatal pulmonary conditions (e.g., bronchopulmonary dysplasia)
Sequelae of long-term ventilator use
Integumentary System
Burns
Prevention of tissue breakdown
Wounds

Nervous System
Anoxic events
Autism spectrum disorders
Cerebral palsy (e.g., hypotonic, hemiplegic, quadriplegic, tetraplegic, diplegic)
Cerebral vascular accident
Developmental coordination disorders
Developmental disabilities
Inflammatory and infectious disorders of the central nervous system
Intracranial hemorrhage
Peripheral nervous system injuries (e.g., brachial plexus injuries)
Sensory processing disorders
Spinal cord injury
Musculoskeletal System
Arthrogryposis
Congenital / traumatic limb deficiencies
Fractures
Hypotonia / hypermobility leading to joint injury
Juvenile idiopathic arthritis and other arthritic diseases
Musculoskeletal injury and pain due to sports injuries in children (e.g., Osgood Schlatter, overuse injuries, joint injuries, growth plate injuries, limb injuries)
Osteogenesis imperfecta
Osteopenia
Spinal conditions
Spinal malalignments including scoliosis / kyphosis / lordosis
Torticollis / Plagiocephaly
Other orthopedic conditions (e.g., Legg-Calve-Perthes, slipped capital femoral epiphysis, tibia varum, skeletal dysplasia, osteosarcoma-limb salvage)
Involvement Of Multiple Systems
Complications of prematurity (e.g., osteopenia, respiratory distress syndrome, intraventricular hemorrhage, bronchopulmonary dysplasia, high risk infant)
Complete trisomy 21 syndrome (Down's syndrome)
Developmental delay/disabilities
Genetic syndromes (eg, Pradi Willi, hemophilia)
Hematological conditions
Idiopathic toe walking
Malignant neoplastic disease and oncological disorders (cancers)
Malnutrition / failure to thrive

Metabolic disorders (e.g., diabetes, mitochondrial disorders)
Muscular dystrophy and neuromuscular conditions (e.g., Duchenne, Becker, spinal muscular atrophy)
Myelodysplasia (e.g., spina bifida, Arnold-Chiari, hydrocephalus)
Obesity
Pain syndromes
Rett syndrome
Other
Insert additional conditions not reflected above

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