

# AMERICAN BOARD OF PHYSICAL THERAPY RESIDENCY AND FELLOWSHIP EDUCATION

Description of Residency Practice  
Sports  
June 2017

### 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 Residency Practice (DRP) to reduced 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 APTA Physical Therapy Outcomes Registry staff, and is based on feedback received from members of the American Board of Physical Therapist Specialties (ABPTS) and directors of residency programs. Feedback was analyzed and incorporated into the DRP as ABPTRFE refined the document.

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 DRP is to: (1) establish a consistent curriculum expectation for residency programs within the same specialty area, and (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, for specialty areas recognized by ABPTS, and will occur as part of the revalidation of that specialty area by ABPTS.

### I. Type of Program

Sports 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 *Sports Description of Specialty Practice*.<sup>1</sup>

#### A. Knowledge Areas of Sports Practice

##### Foundational Knowledge

- Human Anatomy and Physiology
  - Musculoskeletal system
  - Neuromuscular system
  - Cardiovascular and pulmonary systems
  - Integumentary systems
  - Other systems: endocrine, reproductive, and digestive
  - Histology (eg, connective tissue, muscle, nerve, bone)
  - Physiology of exercise and sport-specific physiological demands
- Movement Science
  - Biomechanics and kinesiology
  - Motor learning and control
  - Gait (walking and running) and locomotion
- Pathology and Pathophysiology
  - Symptoms/signs of injury/disease
  - Disease epidemiology
  - Inflammation, tissue healing, and repair
  - Pathomechanics
- Medical and Surgical Intervention
  - Imaging studies (eg, plain radiographs, MRI, US, CT)

- Ancillary rests (eg, EMG, EKG, lab studies)
- Pharmacology
- Surgical procedures
- Health and Wellness
  - Nutrition
  - Psychological issues relating to performance and injury
  - Basic parameters of fitness
- Critical Inquiry
  - Research design and methods, including statistical concepts
  - Research findings specific to sports physical therapy practice

##### Foundational Practice

- Ethical conduct in practice and research
- Legal compliance, including scope of practice
- Administration and management principles in practice

In this document, the term “athlete” should be understood to indicate physically active individuals who span the spectrum across age, race/ethnicity, illness or injury condition, and level of ability/disability.

#### B. Professional Competencies of Sports Physical Therapists

##### Professional Roles & Responsibilities

These activities of the board-certified sports specialist are concerned with maintaining current knowledge, applying principles of evidence-based practice, contributing to the body of knowledge, and fulfilling administrative responsibilities. These activities include:

1. Critical Inquiry
  - Maintain state-of-the-art knowledge and skill by participating in continuing professional development (eg, residency education, journal clubs, continuing education courses, professional meetings)
  - Apply principles of evidence-based practice in all aspects of care

<sup>1</sup>*Sports Physical Therapy Description of Specialty Practice*. 4th ed. Alexandria, VA: American Physical Therapy Association; 2013. Reproduced with permission. © 2013 American Physical Therapy Association. All rights reserved.

- Contribute to the body of knowledge of sports physical therapy, including dissemination of research findings
2. Administration
- Promote sports physical therapy to other health care professionals and the public
  - Identify the administrative oversight necessary for event coverage and emergency preparedness, including coordination of EMS services
  - Identify the administrative oversight necessary for assessment of equipment and facility safety (eg, protective gear, field and venue safety)
  - Develop departmental policies and procedures (eg, productivity measurement, financial management, marketing and public relations, staff orientation, employee supervision)
  - Assume department and professional leadership position and roles
  - Oversee administrative issues related to preventing the transmission of infectious agents in athletic settings (eg, development of guidelines for participation, cleaning protocols)
3. Ethical and Legal Standards
- Practice in accordance with ethical and legal standards
  - Identify the administrative and legal requirements to dispense medications
  - Identify ethical considerations related to the return-to-sport activities
  - Maintain ethical standards in the conduct of research and dissemination of findings

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

#### Rehabilitation/Return to Sports

These activities of the board-certified sports specialist are concerned with the rehabilitation of athletes

with impairments, activity limitations, or participation restriction focus on the return of athletes to their sport activities. Such activities include:

1. Examination, Evaluation, and Diagnosis
  - Examine, evaluate, and diagnose considering sport-specific injury epidemiology (incidence/prevalence), sports-specific biomechanical demands, comorbidities, and other identified risk factors
  - Identify history of athlete's major complaint(s) with regard to severity, chronicity, impairment, activity limitations, participation restrictions, level of irritability/severity, previous therapeutic interventions, and emotional response to current condition
  - Perform systems review to assess physiologic and anatomic status, cognition, and communication skills
  - Select functional outcome measures to determine baseline status and assess response to intervention
  - Select and perform tests and measures that are comprehensive and consistent with history and systems review to include, but not limited to:
    - Aerobic capacity/endurance (eg, treadmill/ergometer submaximal and maximal stress testing)
    - Anthropometric characteristics (eg, body composition, body dimensions-height, weight, girth, edema)
    - Arousal, attention and cognition (eg, assessment of factors that influence motivation level, levels of consciousness)
    - Assistive and adaptive devices (eg, assessment of appropriateness, alignment and fit, safety)
    - Circulation (eg, pulses, vertebral artery examination, screen for circulatory abnormalities)
    - Cranial nerve integrity
    - Peripheral nerve integrity
    - Environmental considerations (eg, weather, altitude, venue conditions)

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- Assessment of sports specific biomechanics (eg, kinetic, kinematic, and task analysis)
  - Gait and locomotion (eg, running & walking analysis)
  - Static and dynamic balance (eg, sport-specific movements)
  - Integumentary integrity (eg, skin characteristics, wound assessment, characteristics of infectious agents)
  - Joint integrity and mobility (eg, assessment of abnormal joint mobility including passive range of motion, joint play movements, and response to manual provocation)
  - Motor function (eg, motor control, motor learning)
  - Muscle performance (eg, instrumented and non-instrumented strength, power, and endurance assessments, sport-specific functional muscle testing)
  - Neural mobility (eg, neural limb tension tests)
  - Orthotic, protective, and supportive devices (eg, assessment of appropriateness, remediation of impairment, athletic equipment alignment and fit, safety)
  - Pain, fear avoidance, and kinesiophobia assessment
  - Posture (eg, body or body segment(s) structure, alignment, changes in different positions, body contours)
  - Prosthetic devices (eg, assessment of appropriateness, compliance, remediation of impairment, alignment and fit, safety)
  - Range of motion including muscle length
  - Reflex integrity (eg, assessment of normal and pathological reflexes)
  - Sensory integration (eg, assessment of dexterity, coordination, and integration of somatosensory, audiovisual, and vestibular systems)
  - Ventilation and respiration/gas exchange (eg, breathing patterns, chest wall mobility, perceived exertion, pulmonary function testing)
    - Sequence tests and measures appropriately based on athlete's condition
    - Recognize strengths or limitations of tests and measures based on measurement properties of sensitivity, specificity, likelihood ratio, validity, and reliability
    - Evaluate and interpret all examination data
    - Organize data into recognized clusters, syndromes, or pathoanatomical categories, based on the examination
    - Establish a physical therapy diagnosis including nature of complaint, probable cause, anatomical structures involved and stage of the condition
    - Identify possible conditions that require consultation with or referral to another health care provider
    - Recognize appropriate imaging and laboratory tests for the injured athlete; recommend appropriate tests in consultation with other health care professionals; understand limitations, indications, and contraindications of these tests; and interpret these tests in consultation with other health care professionals
2. Prognosis, Intervention, Outcomes
- Prognosis
    - Determine appropriateness of physical therapy intervention, including need for referral to other health care professional
    - Establish a prognosis including the expected level of improvement in function and the amount of time needed to reach that level
    - Respond to emerging data from reexamination and response to interventions by modification and redirection of intervention as needed

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- Select validated functional outcome tools, when available, to determine initial and long-term responses to intervention
- Determine the extent of injury and possible sequelae to appropriately determine whether the athlete has the ability to continue participation without incurring further injury
- Intervention Planning
  - Design comprehensive intervention program to safely return the athlete while minimizing the risk of reinjury
  - Select and prioritize specific interventions based on impairments, activity limitations, and participation restrictions
  - Develop and implement sport-specific, performance-based functional progression programs
  - Implement functional tests to determine athlete's ability and readiness to return to sports activities
  - Perform appropriate measurements of the musculoskeletal, cardiovascular/pulmonary, integumentary, and neuromuscular systems to determine the athlete's status, progress, and required modifications in the rehabilitative program
  - Select and apply appropriate orthotic or supportive devices to minimize acuity of injury and facilitate recovery and return to competition
  - Adapt/adjust sports participation and rehabilitation based on disability considerations including prosthetic and adaptive equipment use
- Procedural Interventions
  - Therapeutic exercise instruction to improve muscle performance, joint mobility, muscle length, and aerobic capacity/endurance
  - Motor function training (eg, balance, coordination and agility training, body mechanics and postural stabilization, gait, locomotion training)
- Muscle performance training (eg, strength, power, and endurance training)
- Aerobic capacity/endurance conditioning and reconditioning
- Manual therapy techniques, including joint mobilization and manipulation
- Passive range of motion
- Soft tissue mobilization (eg, therapeutic massage, connective tissue massage, deep friction, cross friction) and manual therapy (eg, manual traction, mobilization/manipulation, and passive range of motion)
- Electrotherapeutic modalities (eg, biofeedback, high-volt stimulation, interferential current, TENS, iontophoresis, functional and neuromuscular electrical stimulation)
- Physical agents (eg, ultrasound, cryotherapy, deep thermal, hydrotherapy, superficial thermal)
- Functional training in sport activity
- Prescription, application, and/or fabrication of prosthetic, orthotic, protective, and supportive devices and adaptive equipment
- Integumentary repair and protection
- Educational Interventions
  - Counsel athletes, parents, coaches, and administration regarding safe return to sport
  - Patient/client education on diagnosis, prognosis, intervention, responsibility, and self-management within plan of care
- Outcomes
  - Determine and implement sport-specific criteria and recommendations regarding the athlete's readiness to return to sport.
  - Recommend level of athlete's sports participation based on results of sport-specific testing
  - Remediate athlete's sports and daily living limitations based on best available evidence and athletic variables (eg,

history, diagnosis, complications, sporting activity)

### Management of Acute Injury/Illness

These activities of the board-certified sports specialist are concerned with the immediate management of acute injury or illness associated with athletic activity.

Such activities include:

1. Examination, Evaluation, and Diagnosis
  - Recognize acute injuries and illnesses that require immediate medical intervention, and make appropriate decisions regarding emergency care for the following conditions:
    - Cervical, thoracic, and lumbar spine injuries
    - Head and facial injuries (eg, concussion, eye, maxillofacial, ear)
    - Environmental injuries (eg, cold, heat, altitude, lightning)
    - Musculoskeletal injuries (eg, fractures, dislocations)
    - Abdominal organ injuries (eg, spleen rupture, liver laceration)
    - Pulmonary conditions (eg, pneumothorax, hemothorax, status asthmaticus)
    - Cardiovascular conditions (eg, dysrhythmias, sickle cell traits, hypertrophic cardiomyopathy, myocardial infarction, commotio cordis)
    - Anaphylaxis
    - Integumentary injuries (eg, lacerations, abrasions, nail bed injuries)
    - Genitourinary injuries (eg, testicular torsion, direct trauma)
  - Knowledge of venue-specific emergency action plan
2. Prognosis, Intervention, and Outcomes
  - Utilize published criteria for return to sport, when available, to make return-to-sport decisions
  - Determine if the athlete can return to sport based on information obtained during the initial and subsequent evaluations and legal standards
  - Provide emergency care, management of injury, and transport as necessary

- Advise parents, coaches, and administration as to the signs and symptoms of a worsening condition if athlete is not referred for medical or psychological evaluation
- Inform athletes, parents, coaches, and administration of the return-to-sport criteria

### Medical/Surgical Considerations

These activities of the board-certified sports specialist are concerned with the medical and surgical management of athletes. Such activities, performed in concert with other health care professionals, include:

1. Examination, Evaluation, and Diagnosis
  - Correlate clinical findings with imaging studies and ancillary tests (eg, lab tests, EMG, NCV, EKG) performed
  - Evaluate an athlete's metabolic and physiologic responses to viral and bacteriological diseases, including gastrointestinal, cardiovascular and pulmonary, endocrine, genitourinary, and dermatological conditions
  - Evaluate an athlete with consideration of existing injury/illnesses (eg, asthma, diabetes, female triad, GI disorders, hypertension)
  - Design and evaluate rehabilitation programs based on the goals and principles of surgical techniques for athletic injuries within the indications and contraindications of the surgical techniques
2. Prognosis, Intervention, and Outcomes
  - Provide management and, as needed, return-to-sport recommendations for athletes presenting with existing medical conditions (eg, asthma, diabetes, hypertension, infectious disease, integumentary, female triad, GI disorders)
  - Assess athlete's adherence to established illness management plan
  - Referral to other health care professionals as needed for reassessment of established management plan

- Counsel athletes, parents, coaches, and administrators as to the impact of pharmacokinetics and pharmacodynamics on the athlete and his/her participation in athletics
- Counsel athletes, parents, and coaches as to the medical/surgical considerations and the impact on the athlete's current and future participation in athletics
- Counsel athletes, parents, and coaches regarding the interventions for various infectious diseases, including interventions for preventing the spread of disease among team members

### **Injury Prevention**

These activities of the board-certified sports specialist are concerned with injury/disease prevention for athletes. Such activities include:

1. Examination, Evaluation, and Diagnosis
  - Plan, coordinate, and/or administer preparticipation physical examinations for the purpose of screening for and recognizing medical conditions or injuries that might affect or preclude the athlete's participation
  - Perform systems review and screening examination for possible medical conditions including but not limited to cardiac, metabolic, pulmonary, and female triad issues
  - Assess sports-specific fitness status (eg, aerobic or anaerobic capacity, endurance, acceleration and power, muscle performance, range of motion, balance/proprioception, movement analysis)
  - Monitor environmental conditions and promptly determine the impact of the conditions on the participant and spectator safety
2. Prognosis, Intervention, and Outcomes
  - Design and implement sports-specific training programs
  - Educate athletes, parents, coaches, and administrators regarding appropriate training principles, participation, physical limitations, equipment, or other areas that affect the

health and well-being of athletes

- Provide recommendations on lifestyle and activity modifications for athletes with chronic conditions (eg, female athlete triad, diabetes, asthma, hypertension)
- Design and conduct preventative conditioning programs for in-season and off-season based on the individual athlete's needs and sport demands
- Implement measures to maximize participant/spectator safety in environmentally stressful conditions (eg, lightning risk, acclimatization, appropriate clothing, hydration, and nutritional strategies to avoid heat or cold injuries)
- Educate athletes, parents, coaches, and administrators on injury prevention and potential safety risks
- Select, fit, and maintain appropriate sport-specific equipment in recognition and acceptance of National Operating Committee on Standards for Athletic Equipment (NOCSAE)

### **Sports Performance Enhancement**

These activities of the board-certified sports specialist are concerned with maximizing the athlete's sport performance, including training considerations and the effect of such factors as nutrition and environment on performance. Such activities include:

1. Examination, Evaluation, and Diagnosis
  - Assess human performance (eg, testing and measuring speed, acceleration,  $VO_2$  max, power, and other performance indicators)
  - Interpret human performance assessment to design an appropriate conditioning program
  - Develop and implement rehabilitation programs designed to enhance overall human performance and sports specificity
  - Evaluate environmental conditions, determine the effect the conditions will have on performance, and modify athletic performance accordingly
2. Prognosis, Intervention, and Outcomes
  - Develop rehabilitation and performance

enhancement guidelines and timelines based on the science supported within the literature

- Educate and counsel athletes, parents, coaches, and administrators on sports nutrition issues including:
  - Macro and micronutrients and dietary supplements
  - Appropriate hydration strategies for pre-, during, and post-training or competition
  - Appropriate electrolyte replenishment strategies during or following training or competition
  - Appropriate nutrition strategies for before, during, and after training or competition
  - Management of nutritional deficiencies, disordered eating, and eating disorders
  - Management of weight gain and loss issues related to athletic participation (eg, wrestling, American football, female athlete)
  - Risks and dangers related to performance enhancement substances (eg, hormones, prohormones, blood doping)
  - Banned substances common to Olympic, collegiate, and professional sports
- Educate and provide recommendations to athletes, parents, and coaches regarding performance enhancement principles related to training, ability, and equipment impacting the health and well-being of the athletes

### 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 their time in each setting, as required by the *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 (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 sports residency programs are:

- Outpatient facility (may include rehabilitation at a sport team facility)
- Athletic event coverage
  - 200 hours must include athletic event coverage of which 50 of those hours may be within a training room facility

### IV. Patient Populations

The clinical curriculum of all accredited residency 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 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 (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 sports residency programs are:

Age:

- Pediatrics (0-21 years of age)
- Adults (22-59 years of age)
- Geriatrics (60 years of age to end of life)

Sex:

- Female
- Male

## V. Primary Health Conditions

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

If a residency program is unable to provide each resident 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 resident-patient encounters as part of the residency curriculum. Patients evaluated, treated, or managed by the resident as part of the resident's education throughout the course of the residency program should be included within the template. The patient's primary health condition is only counted during the first patient encounter. **Patient encounters beyond the initial visit should not be included in the frequency count.**

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Name of Resident:	
Primary Health Conditions Sports	Number of Patients Evaluated, Treated, or Managed by the Resident as Part of the Program's Curriculum
<b>NERVOUS SYSTEM</b>	
Cervical Radiculopathy	
Concussion	
Lumbar Radiculopathy	
<b>MUSCULOSKELETAL SYSTEM</b>	
Acute/emergency injury	
Chronic Pain Syndromes (eg, fibromyalgia)	
Ankle / Foot Fracture	
Ankle / Foot Ligamentous Injuries	
Ankle / Foot Tendinopathies	
Hallux Valgus	
Other Disorders of the Lower Leg, Ankle and Foot	
Plantar Fasciitis	
Elbow / Forearm Fracture	
Elbow Instability (eg, subluxation/dislocation, ligamentous)	
Elbow Tendinopathies	
Other Disorders of the Elbow and Forearm	
Wrist, Hand, Finger Fracture	
Wrist, Hand, Finger Instability (eg, subluxation/dislocation, ligamentous)	
Wrist, Hand, Finger Tendinopathies	
Other Disorders of the Wrist and/or Hand	
Cervical Disc Pathologies (eg, DDD, protrusion, herniation)	
Cervical Instability	
Cervical Sprain/Strain	
Other Disorders of Cervical Spine	
Femoroacetabular Impingement	
Hip Fracture	
Hip Osteoarthritis	

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Hip Tendinopathies	
Trochanteric Bursitis	
Other Disorders of the Hip and Thigh	
Knee Fracture	
Knee Ligamentous Injuries	
Knee Osteoarthritis	
Knee Tendinopathies	
Meniscal Pathology	
Patellofemoral Dysfunction	
Other Disorders of the Knee	
Lumbar Disc Pathologies (eg, DDD, protrusion, herniation)	
Lumbar Instability	
Lumbar Spondylosis / Spondylolisthesis	
Lumbar Strain	
Other Disorders of the Lumbar Spine	
Piriformis Syndrome	
Sacroiliac Dysfunction	
Other Disorders of the Pelvic Girdle	
Rotator Cuff Pathology	
Shoulder Labral Pathology	
Shoulder Complex / Arm Fracture	
Shoulder Instability (eg, subluxation/dislocation, ligamentous)	
Shoulder Osteoarthritis	
Other Disorders of the Shoulder Complex	
Rib Dysfunction	
Thoracic Sprain/Strain	
Other Disorders of the Thoracic Spine	
<b>OTHER</b>	
% of total clients that are sports physical therapy cases (should be at least 40%)	