

ABPTRFE

American Board of Physical Therapy
Residency & Fellowship Education

Description of Fellowship Practice: Orthopaedic Manual Physical Therapy

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DFP Orthopaedic Manual Physical Therapy

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 Fellowship Practice” to reduce 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 the product of the 2018 practice analysis survey conducted by the American Academy of Orthopaedic Manual Physical Therapists as well as collaborative work by ABPTRFE and the American Board of Physical Therapist Specialties through a supplemental practice analysis for subspecialty validation.

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 DFP is to 1. Establish a consistent curriculum expectation for fellowship programs within the same area of practice. 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 fellowship 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

Orthopaedic manual physical therapy is a clinical area of practice.

II. Required Qualifications for Admissions

The related area(s) of practice for orthopaedic manual physical therapy are geriatrics, neurology, oncology, orthopaedics, pediatrics, sports, and women’s health specialty areas.

III. 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.

A. Knowledge Areas of Orthopaedic Manual Physical Therapy Practice

- Human Anatomy and Physiology
 - Musculoskeletal system
 - Neuromuscular system
 - Cardiovascular and pulmonary systems

- Lymphatic system
- Endocrine, reproductive, urogenital, and gastrointestinal systems
- Histology (e.g., connective tissue, muscle, nerve, bone)
- Physiology of exercise and exercise demands
- Movement Science
 - Biomechanics and kinesiology
 - Exercise physiology
 - Motor learning and control
- Pathophysiology
 - Symptoms/signs of injury/disease
 - Disease epidemiology
 - Trauma, immobilization, inflammation, tissue healing and repair, and aging
 - Pathomechanics/Pathokinesiology
 - Pain science related to the neuromuscular system including peripheral and central nervous system pain physiology, with emphasis on both pain mechanics and clinical pain presentation
- Medical and Surgical Considerations
 - Orthopaedics
 - Rheumatology
 - Medicine (including science-based functional medicine; e.g., nutrition, exercise, and sleep)
 - Neurology
 - Dentistry
 - Surgical procedures
 - Pharmacology (e.g., indications, contraindications, effects and side-effects of therapeutic drugs related to the examination and management of mechanical and non-mechanical neuromuscular dysfunction)
 - Radiology/imaging studies
 - Ancillary tests (e.g., EMG, EKG, and lab studies)
- Behavioral Sciences
 - Theories of communication including effective communication skills, and effective use of communication technologies with patients, families, and providers.
 - Theories of teaching and learning.
 - Chronic pain management and prevention.
 - Effect and value of behavioral health interventions and screening instruments.
 - Biopsychosocial model:
 - Theories of behavior and behavior change, such as behavioral reactions to pain and limitations, and coping strategies, etc. relevant to OMPT assessment and management
 - Specific indications, diagnostic tools, and interventions based on behavioral principles
 - Role of the biopsychosocial model in relation to OMPT (e.g., interprofessional management strategies that address psychosocial and personal factors in relation to pain and disability)
 - The influence of the OMPT physical therapist's behavior on the patient's behavior, and vice versa
 - Patient-centered, culturally competent care, related to the biopsychosocial model

- Orthopaedic Manipulative Therapy Theory and Practice
 - OMPT theory of assessment and diagnosis
 - Management: selection and application of OMPT interventions
 - Indications/contraindicators to OMPT
 - Professional issues relevant to OMPT practice
 - Knowledge of manipulative therapy approaches practiced within physical therapy, medicine, and osteopathy and chiropractic
- Wellness Programs
 - Nutrition
 - Psychosocial issues related to health and wellness
 - Resilience (the ability to recover quickly and thoroughly from disruptive change)
 - Physical activity and fitness
 - Functional medicine, considering patient health and wellness, based on all components of lifestyle
 - Promotion of wellness and prevention through the education of patients, caregivers, health care professionals, and the public
- Critical Inquiry for Evidence-Based Practice
 - Describe the characteristics and principles that determine the credibility of an experimental research report
 - Describe characteristics that determine the credibility of a clinical case report
 - Collect, examine, and critically analyze a body of clinical and scientific literature
 - Assess the relevance of a published report to practice
 - Contribute to the OMPT literature

B. Professional Competencies of Orthopaedic Manual Physical Therapy Physical Therapists

- Evidence-Informed Practice
 - Critically reviews quantitative and qualitative research literature, recognizing quality in research design, data analysis, and levels of research evidence.
 - Retrieves, integrates, and critically applies knowledge from the clinical, biomedical, and behavioral sciences in order to draw inferences for OMPT practice, while recognizing the limitations of incorporating evidence into practice.
 - Assesses the validity of tests performed, including their sensitivity and specificity.
 - Critically evaluates the results of treatment accurately and modifies and progresses treatment and management as required using outcome measures to evaluate the effectiveness of OMPT.
 - Integrates and applies evidence-informed approaches in the presentation of health promotion and preventive care programs.
 - Enhances and promotes the rights of the patient to actively participate in the health care management process, considering the patient's wishes, goals, attitudes, beliefs, and circumstances.
 - Recognizes the need for development of further evidence in OMPT practice and the role of research in advancing the body of knowledge in OMPT.
 - Recognizes and assesses the risk-benefit ratio of specific interventions, including the principle that interventions for which there is little or no evidence for additional benefit, but which carry some increased risk of harm, should be deferred.
 - Collects patient-reported outcomes for every patient to allow for outcome tracking to add to the evidence for clinical practice.

- **Clinical Reasoning**

In patient care, the OMPT practitioner engages in ongoing high level, effective clinical reasoning, including emphasis on:

 - Ethics
 - Resource efficiency
 - Multiple levels of hypothesis generation during (early) subjective examination, and development of hypotheses about contributing factors, precautions, contraindications, and management
 - Generation of a continually developing understanding of the patient's treatable problems by serially identifying the underlying mechanisms contributing to those problems
 - Advanced skills in pattern recognition with drive:
 - Expert prioritization of differential diagnosis and systematic assessment to rule in/rule out hypothesis.
 - Use of efficient processes to control reasoning in dealing with complex patients with multiple comorbidities.
 - Expert examination planning based on appropriate interpretation of the subjective examination, including systematic screening as well as assessment of pain, sensitivity, and irritability.
 - Flexibility and openness in the analytic process – reflection in action/metacognition to respond appropriately to emerging data.
 - Collaborative reasoning involving the patient in the patient-centered care process.
 - An evolving understanding of the patient presentation that identifies underlying mechanisms contributing to patient problem(s).
- **Reflective Practitioner**

As a reflective practitioner, the advanced OMPT practitioner:

 - Utilizes ongoing effective self-assessment of clinical and professional skills to reflect on practice and identify opportunities for improvement.
 - Uses effective communication skills to control and express his/her emotions, and to handle interpersonal relationships judiciously and empathetically.
 - Assesses practice outcomes to validate PT services provided, such as quality, effectiveness, productivity, and service; and identifies opportunities for improvement.
 - Identifies and prioritizes areas for growth and follows through as a lifelong learner through review of research as well as professional affiliations.
 - Identifies and encourages interprofessional practice opportunities.
 - Shares expertise and experience as an educator and mentor in the development of future advanced OMPT practitioners.
 - Adheres to AAOMPT Code of Ethics.
- **Professional Association Membership**
 - Maintains current membership, or eligibility for membership, in AAOMPT, APTA, and APTA Sections.
- **Patient Care**
 - Conducts direct or indirect patient care.
 - Contributes to hospital or clinic database(s) about delivery of physical therapy services in OMPT settings (e.g., collecting patient-reported and other outcome measures to allow for outcome tracking and research to expand the evidence for clinical practice); assists in

- gathering relevant data related to outcomes of physical therapy services such as productivity, quality, and service measures.
 - Maintains/advances level of knowledge of current legislative/regulatory/medical-legal issues pertaining to OMPT practice and education.
 - Adheres to AAOMPT Code of Ethics.
- Professional Development
 - Advances knowledge of current best evidence in diagnostic, prognostic, and intervention techniques, methods, and theories relevant to the practice of OMPT through:
 - Attendance at professional education inservices, seminars, and conferences.
 - Attendance at university academic courses.
 - Structured independent study.
 - Reading current literature, including “classic” literature which has contributed to the evolution of OMPT.
- Teaching
 - Contributes to the professional development of OMPT or physical therapist students through teaching in a university or clinical setting, serving as a clinical instructor, or serving as a mentor.
 - Educates, guides, and mentors other health care professionals/administrators with respect to the scope and role of OMPT theory and practice.
- Scholarly Activity
 - Contributes to the OMPT body of knowledge by:
 - Publishing case reports, single case study-design studies, clinical trials, or other clinically relevant research in peer-reviewed publications.
 - Participation in scientific venues (e.g., platform or poster presentations).
 - Sharing observations/expertise through writing textbooks and book chapters, publishing in non-peer-reviewed publications, creating videos, or other related activities.
- Professional Service
 - Contributes to the development of the profession and community by completing one or more of the following community services: teaching, health promotion events, or provision of pro bono care.
 - Contributes to the advancement of the profession through one or more of the following professional services: participation in the legislative process on issues related to OMPT, or assuming a leadership role(s) within AAOMPT, APTA, or APTA components, including Sections and Chapters.
- Other Professional Roles
 - Consults with peers, colleagues, or other health care professionals, or members of other community agencies and legislative, legal, and/or regulatory organizations.
 - Communicatory
 - Collaborator
 - Leader/manager
 - Health advocate
 - Scholar

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

- Examination and Evaluation
 - Perform targeted patient/client interview/history
 - Develop a patient profile*
 - Physiological and biographical data (e.g., age, sex, height, weight, handedness, primary language, psychosocial profile, learning style)
 - Review of body systems/medical screening
 - Screen for diseases or symptomatology which may mimic the musculoskeletal complaint(s) for which the patient is seeking treatment (e.g., review of systems: integumentary, cardiopulmonary, urogenital, psychosocial)
 - Select appropriate evidence-informed screening tools
 - Review growth and development, including hand/foot dominance and developmental history as indicated
 - Assess “red flags” (warning signs that a referral to a health care practitioner other than a physical therapist is indicated) which may impact physical therapy examination – contraindications/precautions for manual physical therapy examination, such as steroid/anticoagulant use, signs and symptoms suggesting cauda equine, vertebral artery insufficiency, cervical artery dysfunction, vestibular balance insufficiency, etc.
 - Analyze the relevance of clinical and diagnostic findings
 - Laboratory and diagnostic tests including EMG/NCV
 - Imaging tests
 - Available records (e.g., medical, education, surgical)
 - Other findings (e.g., nutrition and hydration)
 - Review current and prior medical and surgical history
 - Recent medical examinations and treatment
 - Prior hospitalizations, surgeries, and pre-existing medical and other health-related conditions
 - Review current medications, usage patterns, and effects (e.g., steroid, anticoagulant use)
 - Address activities and participation/functional level data (current and prior work/school/play), community and leisure actions, tasks or activities, movement stresses, other daily living activities) and percentage of time they are performed
 - Assess living environment:
 - Devices and equipment (e.g., assistive, adaptive, orthotic, protective, supportive, prosthetic)
 - Living environment and community characteristics
 - Interpersonal interactions and relationships/psychologic factors (e.g., family/social systems generating support or stress, mental/behavioral status, cultural influences, financial resources or health insurance factors which influence treatment options, worker’s compensation or litigation status).
 - Identify examination findings that warrant monitoring: examination findings that may become red flags, but at the moment warrant monitoring, including psychosocial factors:
 - General health status (self-report, family report, caregiver report)
 - General health perceptions
 - Physical function (e.g., sleep patterns, general level of fatigue)
 - Psychological function (e.g., memory, reasoning ability, anxiety, depression, morale, fear-avoidance beliefs, catastrophizing)
 - Role/function (e.g., worker, student, spouse, grandparent)
 - Community, social and civic life/social function (e.g., social interaction, social activity, social support)
 - Social habits (past and current):

- Behavioral health risks (e.g., smoking, substance abuse)
- Level of physical fitness (self-care, home management; community, work, school, and leisure activities)
- Family history: familial health risks
- Patient's expectations regarding OMPT and belief/confidence in his/her ability to manage the problem

Identify the patient's major problem(s)/concern(s)

- Area(s) of primary and secondary symptoms including recognition of contributions from body functions/structures/multiple sites (e.g., arm pain with spinal, shoulder, and visceral contributions)
- Quality of symptoms (e.g., pain, dysesthesia, weakness, stiffness, incoordination)
- Behavior of symptoms (e.g., constant; intermittent; episodic; change over 24-hour period, including non-optimal sleep; effect on sleep pattern and weekly cycles)
- Aggravating/easing factors (e.g., posture, rest, activity, positions, movements, medications) with associated time needed to aggravate or ease
- Functional impairments, functional limitations, or disabilities
 - Impairments of tissue: loss or abnormalities of physiological, psychological, or anatomical structure/function
 - Functional limitation: limitation in performing at the level of the whole person; limitation in performing a physical action, activity, or task in an efficient, typically expected, or competent manner
 - Functional disability: inability to engage in age-specific, gender-related, or gender-specific roles in the patient's particular social/physical environment
- Clarify potential symptoms related to cervical or vertebral artery disease, spinal cord, cauda equine, or other systemic problems

Identify chronological record of presenting symptom for each area of symptoms and/or each dysfunction

- Concerns that led client to seek services of a physical therapist
- Concerns or needs of client who requires services of a physical therapist
- Current therapeutic interventions
- Manner and mechanisms of onset of injury or disease (traumatic or non-traumatic, insidious, time since onset, etc.)
- Progression/remission since onset (e.g., changes in area of symptoms; changes in quality, frequency, or intensity of symptoms)
- Previous history relevant to present complaint(s)
- Previous or concurrent therapeutic interventions and response(s)
- Responses to current home exercise programs and/or self-treatment
- Patient/client, family, significant other, and other caregiver expectations and goals for the therapeutic intervention(s)
- Client, family, significant other perceptions of patient/client's emotional response to current clinical situation

Assess and continually reassess the priorities for assessment and intervention in the patient with multiple areas of dysfunction

- Evaluate Data from Patient/Client History
 - Correlate and analyze relevant, consistent, and useful information, and recognize common clusters of signs and symptoms that may indicate a serious medical condition or musculoskeletal dysfunction(s).
 - Assess "red flags" (i.e., possible presence of non-musculoskeletal conditions) and determine need for referral to other providers.
 - Identify primary, secondary and multiple complaints and discern relationships between complaints.

- Review data and obtain additional information.
- Reflect on the patient's interpretation of symptoms.
- Assess the patient's goals, needs, motivations, and expectations.
- Correlate symptoms with movement patterns and function.
- Analyze data to develop and prioritize working hypothesis(es) of the musculoskeletal physical therapy diagnosis(es), including:
 - Nature and severity of problem(s).
 - Probable cause(s) of problem(s).
 - Anatomical structures potentially involved.
 - Irritability, stage, stability of condition(s).
 - Indications, cautions and/or contraindications to manual physical therapy examination and treatment/interventions.
 - Impairments of structure involving an anomaly, defect, loss or other significant deviation in body structure(s)/pathological sources of symptoms.
 - Individual and societal environmental factors/psychosocial and socioeconomic stressors (e.g., support provided by family unit and/or caregivers) which may affect management.
 - Patient goals
- Analyze data to differentiate whether patient demonstrates:
 - Non-musculoskeletal condition requiring referral to and/or consultation with another health care provider (including other physical therapists).
 - Musculoskeletal impairments/problems responsive to physical therapy intervention; may be temporary, permanent, progressive, regressive or static, intermittent or continuous.
 - Need for referral or consultation with other health care practitioners (including other physical therapists and others for further tests, opinions, etc.), prioritizing the needs of the different dysfunctions in the patient with multiple areas of dysfunction.
- Plan Targeted Physical Examination
 - Identify red flags for specific tests and measures procedures
 - Analyze history and systems review/body functions to guide selection of tests and measures
 - Select evidence-informed outcomes measures appropriate to the management of neuromuscular dysfunction (e.g., Screen Assist, STarT, BACK, ADD depression screen)
 - Select tests and measures based on the literature that are valid and reliable, that will be precise in the intervention setting, and that have low risk
 - Include examination techniques with a high probability of contributing to the development and refinement of the working hypothesis(es) and/or negation of the hypothesis(es)
 - Be comprehensive with focus and detail appropriate to the working hypothesis and the patient's problem(s) and concern(s)
 - Judge the extent and vigor of the physical examination which considers the nature, severity, irritability, stage and stability of the symptom(s)/problem(s)
 - Select and prioritize
 - Areas to be examined
 - Movements to be examined
 - Functional activities to be examined/functional activities/participation
 - Examination procedures
 - Examination sequence to minimize strain on sensitive areas and maximize efficiency
 - Examination procedures that identify local versus regional versus widespread pain sensitivity
- Conduct Physical Examination

- Prepare area, equipment, and patient to facilitate patient relaxation, soft tissue relaxation, and appropriate joint and soft tissue positioning to obtain consistent and accurate measurement(s)
- Obtain patient/client consent for the examination
- Optimize the examination environment by:
 - Encouraging a welcoming and respectful atmosphere
 - Using firm, professional and caring hand contact
 - Being aware of abnormal tissue responses to pressure, force, and temperature
 - Being aware of the patient's facial expression and maintaining eye contact
 - Utilizing efficient body mechanics for operator safety as well as to allow accurate interpretation of palpatory findings
 - Maintaining appropriate communication throughout the examination to facilitate patient understanding of the examination process and agreement by the patient to proceed with the examination
 - Utilizing a culturally competent and sensitive approach individualized for the patient
- Concurrently interpret data and modify the examination as appropriate, and document relevant normal and abnormal data
- Select examination tests and measures and techniques to differentiate musculoskeletal from non-musculoskeletal problem(s) and to efficiently test the diagnostic hypotheses
- Outline of Examination Process:

Static posture/alignment

- Describe general body structures, somatotype, proportional symmetry, and fitness level
- Assess alignment of the patient's center of mass over his/her base of support during varying static positions
- Assess alignment of body structure/segments (e.g., feet, legs, thighs, pelvis, thorax, scapula, upper extremities, head) in various static positions
- Identify impairments of body structure/bony anomalies or structural asymmetries and assess relative positions of bony prominences in various positions
- Interpret changes in body contour that might suggest underlying musculoskeletal dysfunction (e.g., effusion, atrophy, spasm, structural deformity)
- Analyze changes in skin quality and appearance associated with underlying musculoskeletal dysfunction (e.g., inflammation, adhesion formation, overuse, trauma, vascular insufficiency, systemic disease)
- Assess the appropriateness of adaptive/assistive devices and appliances in use which may affect musculoskeletal system function (e.g., orthotics, off-the-shelf supports, braces, eyeglasses, hearing aids, specialized devices in use at the patient's job site)
- Incorporate assessment of interpersonal interactions/relationships/behavioral affect and general appearance (e.g., visual cues which may reflect mental or behavioral factors, cultural background, socioeconomic status, and symptoms, including pain and weakness)
- Hypothesize regarding potential cause(s) of postural asymmetry (e.g., joint contracture or deformity; muscle flexibility/extensibility, muscle power, endurance and coordination deficits; neurological deficit; habitual or repetitive motor pattern) related to symptoms

Active motion

- Interpret the amount of available range and the quality of active motions:
 - Observe available active range and compare with normal range with respect to age, body type, and physical condition

- Observe for and interpret compensatory movement(s), altered speed of motion, “catches” during motion, and characteristics of return to original starting position
- Correlate with symptom reproduction or reduction
- Assess effects of altering the position of associated or adjacent joints, on available active range of motion and symptoms (e.g., cervical side-bending on shoulder abduction)
- Assess the effect of weight-bearing, non-weight-bearing, loading and unloading on available active range of motion and symptoms
- Assess the effects of repeated or sustained movements on active range of motion and symptoms
- Assess the inability to repetitively achieve a predetermined point in the range of motion
- Analyze abnormal patterns of muscle activity during active motion
- Describe crepitus or sounds associated with active movements and determine relevance
- Palpate bony landmarks during active physiological (osteokinematic) motion
- Hypothesize regarding possible relationship(s) among abnormal active motion dysfunction(s), static alignment variations/faulty alignment, and symptoms

Passive motion

The OMPT practitioner uses manual assessment of motion and any resulting provocation or alleviation of symptoms as the pathway to determine irritability of selected body structures/tissues, and their contribution to the complaint, movement restriction and/or dysfunction.

- Interpret physiological (osteokinematic, angular) motions for:
 - Amount of motion
 - Quality of motion at the beginning (neutral zone) and through the available range
 - Quality of movement at end range
 - Normal versus abnormal for body type
 - Through-range and end range types of resistance
 - Normal tissue approximation (e.g., muscle, cartilage)
 - Normal tissue stretch (e.g., capsule, muscle, ligament)
 - Abnormal tissue approximation (e.g., abnormal capsule, swelling, bony block, abnormal cartilage, loose body within joint, congenital anomaly)
 - Abnormal tissue stretch (e.g., joint adhesion, laxity, muscle spasm)
 - Compensatory movement(s) (e.g., modifying glenohumeral forward elevation with internal rotation or external rotation to perform elevation in comfort)
 - Correlation of symptom and sign reproduction/reduction
 - Correlation of effects of loading, unloading, and altering the position of associated segments on available PROM, and alteration (if any) in type of movement barrier(s) throughout the range
 - Correlation of combined movements with symptom and sign reproduction
- Analyze the effects of change in speed, amplitude and direction of passive physiological (osteokinematic) motion on sign and symptom reproduction
- Perform appropriate stability tests, including spinal and costal joints, shoulder girdle joints, temporomandibular joints, pelvic girdle joints, and all peripheral/limb joints to assess the integrity of ligaments and related soft tissue structures of the joint complex

- Examine accessory (arthrokinematic) motions in order to make inferences about potential tissues/structures which may be causing limitation of motion(s). These may include:
 - Glides (i.e., following plane of joint surface)
 - Distraction (i.e., perpendicular to joint surface)
 - Compression (i.e., approximation to joint surface)
 - Rotation
 - Combinations of glide, distraction, and compression and rotation
- Examine accessory (arthrokinematic) motions for:
 - Amount of motion
 - Quality of motion at the beginning (neutral zone) and through the available range
 - Quality of movement at end range
 - Normal versus abnormal for body type
 - Through-range and end range types of resistance
 - Normal tissue approximation (e.g., muscle, cartilage)
 - Normal tissue stretch (e.g., capsule, muscle, ligament)
 - Abnormal tissue approximation (e.g., abnormal capsule, swelling, bony block, abnormal cartilage, loose body within joint)
 - Abnormal tissue stretch (e.g., joint adhesion, laxity, muscle spasm)
 - Compensatory movements
 - Correlation of symptom and sign reproduction(s)/reduction(s)
 - Correlation of effects of loading and unloading on symptom and sign reproduction(s)/reduction(s)
 - Correlation of combined movements with symptom and sign reproduction(s)/reductions(s)
- Analyze the effects of speed, amplitude, and direction of accessory (arthrokinematic) motion on symptom and sign of reproduction
- Assess and interpret mobility of the neural elements:
 - Apply appropriate testing to include variations of load, speed, pre-positioning and sequencing to provide the most sensitive test of the neural structures
 - Compare symptoms and signs with accepted standards of range of motion, subjective responses, and intra-patient variances
 - Analyze symptoms and signs associated with nerve entrapment by palpatory provocation of the nerve and identify correlation (if any) with the patient's reported problems
- Hypothesize regarding relationships among passive motion dysfunction(s), active motion dysfunction(s), static alignment, and symptoms

Passive muscle flexibility/extensibility

- Assess available range of muscle flexibility/extensibility by use of muscle length tests and compare results with accepted standards. Include single-joint and multi-joint myofascial structures.
- Assess symptoms and signs associated with muscle flexibility/extensibility examination procedures and identify correlation (if any) with the patient's reported problems
- Assess presence of tonal changes (e.g., hypertonicity or hypotonicity)
- Assess available range of muscle flexibility/extensibility at adjacent body segments

- Assess muscle length abnormalities of excessive shortening or lengthening which may cause mechanical compensations at adjacent segments during functional movements
- Assess muscle length abnormalities which may contribute to abnormal or inefficient movement patterns
- Hypothesize regarding relationships among abnormal muscle length, static postural asymmetries, active and passive motion patterns, and related symptoms

Passive soft tissue (non-contractile) mobility

- Assess soft tissue mobility (e.g., palpable hypomobilities/restrictions), including:
 - Fascial
 - Integumentary
 - Neuroanatomical
- Hypothesize regarding relationships among soft tissue abnormalities, active and passive motion, static posture, passive muscle flexibility, and symptoms

Motor function (motor control and motor learning)

- Assess ability to learn or demonstrate the skillful and efficient assumption, maintenance, modification, and control of voluntary postures and movement patterns
- Assess the ability of a muscle or group of muscles to function in a coordinated manner
 - Assess the ability of the muscles to perform co-contraction/stability (weight-bearing or closed-chain) functions around a joint appropriate to the demands of a required movement task
 - Assess the ability of the muscles to perform open-chain movement functions (swinging/reaching) of a limb appropriate to the demands of a required movement task
 - Assess appropriate recruitment pattern(s)
 - Assess patient-determined effects of cooperation and motivation
 - Assess motor function for segmental (local), regional, and global muscle groups
- Hypothesize regarding relationships among motor function, active and passive motion, soft tissue mobility, passive muscle flexibility, static posture, and symptom reproduction

Postural control

- Assess the influence of normal and abnormal segmental (local), regional, and global muscles or muscle groups on postural control of the regions close to a well as remote from the areas of symptoms/dysfunctions

Muscle performance

- Assess the ability of a muscle or muscle group to perform a specific function during a movement task
 - Assess the ability of the muscle(s) to perform a high resistance, low repetition task (strength)
 - Assess the ability of the muscle(s) to perform a high repetition, low resistance task (endurance)
 - Assess the ability of the muscle(s) given any specific functional task over time (power)
 - Assess the ability of a muscle or muscle group to maintain static and dynamic stability at a segment or joint

- Assess the performance of a specific muscle using standard manual or instrumented muscle tests (i.e., resisted tests) and compare results with accepted standards and expected norms with respect to age, gender, body type, and physical condition
- Hypothesize regarding relationships involving symptom reproduction with resisted muscle contraction and the patient's static posture, active and passive motion, passive muscle flexibility, soft tissue mobility, and motor function

Neurological status

- Perform a neurological examination and evaluate results. Include the appropriate tests among the following: reflexes, muscle performance, sensation, cranial nerve and upper motor neuron function (Clonus, Babinski, Hoffman's, etc.) and muscle tone
 - Analyze the effects of load, patient positioning, and repetition on the sensitivity of the test being performed
 - Analyze disorders of the central nervous system (e.g., abnormal reflexes, muscle hypertonicity, coordination deficits, cognitive deficits, and central pain mechanisms)
 - Analyze disorders of the peripheral nervous system (e.g., sensory and motor deficits corresponding to a segmental level or an individual nerve) including cranial nerves
 - Analyze disorders of the autonomic nervous system (e.g., vasomotor instability, excessive/absent sweating, pupil constriction, or associated pain mechanisms, such as sympathetically maintained pain syndrome (SMPS))
 - Analyze the role of the vestibular system in contributing to the patient's symptom patterns/movement dysfunction(s)
- Hypothesize regarding relationships among neurological findings, neural mobility, and significant examination findings
- Recognize neurological conditions that require medical/surgical consultations and initiate timely referral, if applicable
- Perform vascular and neurovascular screening examinations and evaluate circulatory conditions
 - Evaluate risk, and select and perform special tests and measures to screen for signs and symptoms of cervical artery dysfunction and vertebral-basilar insufficiency, including cranial nerve testing and blood pressure screening
 - Analyze skin condition and peripheral pulses, and perform other special tests (i.e., Homan's, Allen test, Well's criteria, Autar DVT Risk Assessment Scale, Pulse assessment, ABI, and pulse deficit) to screen for circulatory deficiencies in the extremities
- Hypothesize regarding relationships of the neurological findings, neurovascular findings, and mobility of neural elements with the patient's related and significant examination findings
- Recognize neurological and neurovascular conditions that require medical/surgical consultations and initiate referral, if applicable

Palpation

- Analyze the following:
 - Temperature changes, swelling
 - Tissue texture abnormalities
 - Osseous structures (alignment, asymmetries, anomalies)
 - Soft tissue structures (muscle, ligament, tendon, bursa, neural elements)
 - Symptom response

- Response to varying force at varying speed
- Correlation of palpatory findings with the patient's other dysfunctions and symptoms

Special tests

- Perform and analyze the results of specialized regional examination procedures not previously mentioned, as required, to contribute to refinement of the working hypothesis of the patient's movement dysfunction (e.g., upper cervical stability testing, lumbar spine segmental stability testing)
- Correlate with other tests as appropriate

Functional activities and associated movement patterns

- Examine and analyze the efficiency and control of locomotion, functional postures, and movements associated with ADL, occupational, and recreational activities
- Hypothesize regarding cause(s) of locomotion and functional limitations (e.g., muscle weakness due to disuse atrophy, antalgic patterns to avoid pain) and relationship(s) with other significant examination findings)

- Evaluate Data from the Physical Examination
 - Correlate history and physical examination findings (Note: Data evaluation is iterative, continual, and ongoing throughout the physical examination)
 - Identify findings from the physical examination which corroborate history
 - Identify non-contributory information
 - Identify inconsistent information
 - Establish clinical judgment regarding examination findings as related to functional limitations, impairments, disabilities, and patient goals, including:
 - Nature and severity of problem(s), associated/disassociated and prioritized
 - Location and type of involved structure(s)
 - Anatomical structures involved (body structures/anatomical structures involved)
 - Irritability, stage and stability of the condition
 - Possible indications, cautions and/or contraindications to OMPT techniques and/or physical therapy management
 - Pathological sources of symptoms
 - Psychosocial factors affecting management
 - Probable cause(s) of problem
 - Analyze data from all parts of examination to differentiate a musculoskeletal from a non-musculoskeletal problem
 - Continuously correct deficiencies in the examination as appropriate:
 - Clarify/elaborate history
 - Complete additional physical examination or tests, as necessary
 - Identify need for consultation/referral regarding additional diagnostic tests
- Diagnosis and Prognosis
 - Through clinical reasoning, determine diagnosis through evaluation of examination findings
 - Establish clinical judgement regarding examination findings as related to functional limitations, impairments, disabilities, and patient goals, for each area of symptoms or function including:
 - Nature and severity of problem(s); associate/disassociate and prioritize
 - Probable cause(s) of problem

- Location and type of involved structures
- Body structures/ potential anatomical structures involved:
 - Irritability, stage and stability of the condition(s)
 - Possible indications, cautions and/or contraindications to manual physical therapy and/or other physical therapy management
 - Potential impairments in body systems or structures contributing to symptoms/pathological sources of symptoms
 - Impairments in individual, societal and environmental factors/psychosocial and socioeconomic stressors (e.g., support provided by family unit and/or caregivers) which may affect management
- Organize examination findings into clusters, syndromes, or categories to establish a diagnosis or diagnoses
- Interpret and analyze examination data with emphasis on relationship of symptoms to movement and tissue irritability
- Compare diagnosis by OMPT with the referral diagnosis if present
- Assess appropriateness for referral to or consultation with another health care professional, including physical therapist, based on the information gathered
- Provide timely, accurate and clear communication of the nature of the problem and prognosis for the injury/dysfunction(s) to the patient/client and caregivers, taking into consideration the functional, psychological, social, and cultural needs and values of the individuals
- Provide timely, accurate, clear written and verbal communications to other health care providers and/or community personnel involved in the care of the patient/client
- Determine the prognosis. This encompasses the complexity of the patient/client's dysfunctions/conditions, the level of optimal improvement that may be attained through intervention, and the amount of time required to reach predicted levels of improvement during the course of OMPT
- Establish intervention goals with predicted outcomes and timeframes, taking into consideration the patient's expectations and functional goals
 - Correction of existing problems with focus on importance rank according to patient presentation, including:
 - Relief or decrease of symptoms
 - Normalization of body structures/normalization of tissues
 - Attainment of optimal movement and functional abilities
 - Management of existing problems which cannot be corrected:
 - Self-management of symptoms (e.g., ability to function with established level of postural or repetitive movement stress; ability to perform a specified activity level while maintaining an established level of medication intake)
 - Maintenance or improvement of function (e.g., acquiring the option to perform a greater number of movement tasks or perform the same amount of activity with fewer symptoms and established strategies for modifying function)
 - Prevention
 - Identify predisposing and risk factors for progression and/or recurrence of the problem
 - Minimize/manage predisposing and risk factors
 - Attain improved functional performance and/or fitness level

- Reexamination
 - Choose examination measures (to serve as dependent variables) to measure initial response to treatment
 - Subjective measures (e.g., evidence-informed functional outcome tools including those that document level of pain with performance of a functional task)
 - Objective measures (e.g., range of motion) including a functional measure and when indicated, evidenced-informed outcome tests and measures
 - Combined subjective and objective measures (e.g., improved quality of movement and reduced level of pain)
 - Analysis of response to motion and manual intervention and how between-visit symptoms are related to movement
 - Standardized outcome assessment tools
- Prioritization and Plan of Care
 - Identify OMPT intervention priorities
 - Correlate intervention(s) with identified patient problems, patient goals and/or outcomes, and relate to hypothesis
 - Assess the order in which each patient problem will be treated
 - Assess extent of manual intervention(s) for each patient problem and relate to hypothesis in order to achieve patient goals and outcomes
 - Assess extent of movement/exercise-based interventions and relate to hypothesis in order to achieve patient goals and outcomes
 - Alter manual intervention(s) based on tissue response, signs and symptoms
 - Adapt manual intervention(s) based on patient preferences and sensitivities
 - Select manual intervention(s) based on the best evidence available for the specific situation
 - Plan intervention approach
 - Patient education and/or family education for:
 - Symptom management (e.g., self-mobilization; pain management) joint mobilization/manipulation (thrust/non-thrust to all joints and joint complexes of the axial and appendicular systems)
 - Assistive devices or immobilization (e.g., collars, taping, splinting)
 - Ergonomic instruction
 - Activities of daily living (ADL) facilitation
 - Prognosis for the existing condition
 - Activities to prevent recurrence of current dysfunction
 - Activities to promote health/fitness
 - Manual intervention for improvement of home, work, and recreational function
 - Normalizing range of motion, considering patient's age, sex, body type, habitual postures, and pertinent histories
 - Joint accessory (arthrokinematic) motion
 - Passive muscle flexibility
 - Connective tissue/soft tissue mobility
 - Mobility of neural elements
 - Pain inhibition/reduction
 - Edema control
 - Individualized therapeutic exercise prescription
 - Functional retraining/re-education
 - Intervention or instruction in the proper use of physical agents regarding joint position, posture, and desired tissue status

- Plan specific manual intervention strategies and identify indications/contraindications for the following considering the strength of available, relevance evidence
 - Type of manual intervention and exercise
 - Frequency of intervention
 - Intensity of intervention (graded mobilizations, exercise dosage for varied resistance, range, etc.)
 - Duration of intervention
 - Type of dosage of home/independent exercise programs
- Implementation of Plan of Care
 - Educate patient, including education of family and/or supportive personnel as appropriate
 - Discuss examination findings, diagnosis, and prognosis for various types of interventions outlined in plan of care
 - Outline expected outcomes for designed treatment approach and strategy
 - Discuss/negotiate acceptable treatment goals, treatment plan, and responsibilities with the patient
 - Address patient concerns/questions regarding his/her condition in a manner that provides reassurance and helps to allay patient fears surrounding treatment
 - Outline responsibility of patient in order to achieve established treatment goals
 - Actively engage cooperation of patient, identifying:
 - Appropriate methods, style, and level of communication with the patient and with individuals involved with the patient's treatment program (i.e., patient's physician, family, supportive health personnel)
 - Effect of communication on recipient; enact alternative means of communication as needed
 - Educate patient in home care treatment program, providing education/training in strategies:
 - For relief of symptoms, normalization of tissue status, and attainment of optimal function
 - For maintenance of enhanced function following intervention
 - To prevent recurrence of patient's problem
 - Provide education in pain science
 - Obtain appropriate consent as applicable
- Perform procedural interventions
 - Administer intervention procedures/techniques:
 - Manual therapy including:
 - Joint mobilization/manipulation (thrust/non-thrust to all joints and joint complexes of the axial and appendicular system)
 - Soft tissue mobilization/manipulation (fascial, myofascial, integumentary, lymphatic drainage)
 - Mobilization of neural elements
 - Therapeutic exercise, incorporating elements of postural control, motor control, motor learning, and coordination including:
 - Stabilization (segmental, regional, global): manual and non-manual
 - Muscle performance, including qualities of flexibility, extensibility, strength, power, and endurance
 - Vestibular rehabilitation
 - Functional movement training, utilizing concepts of neuromuscular re-education/proprioceptive training
 - Relaxation exercise/techniques using manual contacts to increase effectiveness of patient/client response

- Pain inhibition
 - Effusion management
 - Specific-directed at target tissues
 - Adaptive/assistive devices and equipment using manual palpation to ensure proper placement, fit, function
 - Ergonomic instruction/consultation
 - Immobilization procedures (taping, splinting, binders, collars)
 - Physical agents
 - To enhance or facilitate the effectiveness of a manual therapy intervention
 - To address pain/symptoms which may be impairing activity level/function
- Re-examination
 - Assess intervention response
 - Detect changes in patient's status in response to intervention, identifying:
 - Change in symptoms
 - Development of new symptoms
 - Changes in patient status:
 - During administration of procedures/techniques
 - At the conclusion of initial intervention
 - Before and after each subsequent intervention session
 - At the conclusion of the overall course of intervention
 - Change or lack of change in tissue response in regard to:
 - Nature/impairment/pathology/hypothesis/etiology
 - Severity
 - Stage of condition
 - Irritability
 - Changes in activities/functional level
 - Analyze significance of changes
 - Assess the relationship between the anticipated result of implemented intervention and the actual result using:
 - Pre-intervention measures chosen to assess intervention responses
 - Other subjective or objective data arising out of the course of treatment
 - Evidence-informed outcomes tests and measures
 - Assess cause of change (e.g., effect of most recent procedure/technique/intervention, result of home program, passage of time, result of activity, progression of disorder, or changes in patient status independent of intervention)
 - Assess change
 - Describe anticipated nature and rate of change
 - Compare and interpret discrepancies between anticipated and observed responses
 - Identify factors or conditions which limit progress (e.g., age, physical condition, psychosocial factors, related/associated medical and musculoskeletal conditions, cultural or gender issues)
 - Identify adverse changes in individual's status:
 - Identify red flag(s)
 - Differentiate urgent from non-urgent symptoms
 - Re-examine/implement modified plan of care
 - If the anticipated results are not achieved, decide whether:

- The appropriate hypothesis and potential structure(s)/tissues at fault have been identified
 - The appropriate exam procedure was chosen and performed correctly
 - The specific intervention strategy is appropriate and has been implemented correctly
 - The intervention approach is appropriate for addressing the patient's problem
 - Manual intervention is appropriate for addressing the patient's problem
 - Referral to another health care provider is appropriate
 - The patient has been given sufficient education to report confidence in his/her ability to follow through with self-care instructions
 - Implement modified plan of care to address initial or revised hypothesis
- Confirm/modify goals
 - Assess the extent of goal achievement
 - If goals are achieved, plan disposition/discharge
 - If goals are not achieved, reassess treatment strategy/approach and/or working hypothesis
 - If patient reaches maximum therapeutic benefit, discharge
 - Assess whether intervention goals are realistic
 - Re-evaluate and modify hypothesis to set a new program
 - Modify treatment goals and plan of care based upon re-examination data, including patient's ability to participate in recommended plan of care
- Make referrals to other providers as needed
 - Make referral to appropriate health care provider for non-musculoskeletal conditions
 - Changes in patient status during administration of procedures/techniques, at the conclusion of initial treatment, and before and after each subsequent treatment session
 - Make referral to other providers for additional testing
 - Diagnostic imaging
 - Psychological screening
 - Nutrition screening
 - Communicate as appropriate with other health care providers regarding patient prognosis, treatment plan, and response to treatment
- Outcomes
 - Assess the impact of the OMPT interventions at the end of episode of care on the following:
 - Pathology/pathophysiology
 - Impairments
 - Functional limitations
 - Disability
 - Risk reduction/prevention
 - Health, wellness and fitness
 - Societal resources
 - Patient/client satisfaction
 - Discharge (end OMPT services) when the anticipated goals and expected outcomes have been achieved
 - Discontinue services when:
 - The patient/client declines to continue care

- The patient/client is unable to continue due to medical or psychosocial complications
 - The OMPT practitioner determines that the patient/client will no longer benefit from services
- Document and discuss the rationale for discontinuation of services with the patient/client, family members, and other relevant health care providers
- Provide for appropriate patient referral or follow up
- Documentation
 - “Physical therapy examination, evaluation, diagnosis, prognosis, and plan of care (including interventions) shall be documented, dated, and authenticated by the physical therapist who performs the service. Interventions provided by the physical therapist or selected interventions provided by the physical therapist assistant under the direction and supervision of the physical therapist are documented, dated, and authenticated by the physical therapist, or when permissible by law, the physical therapist assistant” (APTA Guidelines: Physical Therapist Documentation of Patient/Client Management, June 2005; BOD G03-05-16-41).
 - Select correct description and billing codes in relation to orthopaedic manual physical therapy services
 - Comply with state practice acts regarding scope of practice and accepted terminology related to OMPT for all elements of patient/client management
 - Accurately document all elements of patient/client management:
 - Referral for physical therapy
 - History and physical examination findings and data from outcomes instruments
 - Physical therapy diagnosis/hypothesis(es)
 - Indications for and contraindications to OMPT examination and management
 - Informed consent as applicable
 - Prognosis
 - Goals and plan of care; modifications to goals and plan of care
 - Progress reports and summaries as required by physicians, other caregivers and payers
 - Summaries of relevant data following conclusion of current episode of care, including reason for discharge, current status, degree of goal achievement, and discharge plan.
 - Additional information (including diagnostic labels) from other health care professionals, and referral, when appropriate, to appropriate practitioners or resources
 - Peer review findings, record reviews, case conferences, patient care rounds, and patient/client family meetings

IV. Practice Settings

The clinical curriculum of all accredited fellowship programs must include a variety of practice settings, as noted below. A fellow 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 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 (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 orthopaedic manual physical therapy fellowship programs are:

- Outpatient facility.

V. Patient Populations

The clinical curriculum of all accredited fellowship programs must include a variety of patient populations, as noted below, specific to sex and age. A fellow 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 fellowship program is unable to provide each fellow 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 orthopaedic manual physical therapy fellowship programs are:

Age

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

VI. 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 list below).

If a fellowship program is unable to provide each fellow 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 located on the [ABPTRFE website](#) when submitting documentation to ABPTRFE.

Medical Conditions Orthopaedic Manual Physical Therapy	
Nervous System	
<i>Conditions Seen Frequently</i>	
Cervicogenic Headache	
Cervical Radiculopathy	
Lumbar Radiculopathy	
<i>Conditions Seen Occasionally</i>	
Cauda Equina Syndrome	
Entrapment Neuropathy (cubital, radial, muscular)	
Myelopathy	
Neurogenic Stenosis	
Thoracic Outlet Syndrome	
<i>Conditions Seen Rarely</i>	
Bells' Palsy	
Concussion	
Intercostal Neuralgia	
Wrist/Hand Nerve Compression	
Musculoskeletal System	
<i>Conditions Seen Frequently</i>	
Cervical Postural Impairment	
Cervical Sprain/Strain	
Thoracic Sprain/Strain	
Lumbar Instability	
Lumbar Sprain/Strain	
Facet Joint Dysfunction (cervical, thoracic, lumbar)	
Spondylolisthesis	
Stenosis	
Sacroiliac Dysfunction	
Rib Dysfunction	
Scapulohumeral Dysfunction	
Shoulder Adhesive Capsulitis	
Shoulder Impingement	
Shoulder Labral Pathology	

Rotator Cuff Pathology
Epicondylgia (medial, lateral)
Femoroacetabular Impingement
Hip Osteoarthritis
Hip Tendinopathies
Trochanteric Pain Syndrome
Knee Joint Dysfunction
Knee Ligamentous Injuries
Knee Osteoarthritis
Knee Tendinopathies
Meniscal Pathology
Patellofemoral Dysfunction
Ankle/Foot Joint Dysfunction
Ankle/Foot Sprain/Strain
Ankle/Foot Tendinopathies
Plantar Fasciitis
<i>Conditions Seen Occasionally</i>
Shoulder Instability (subluxation)
Hip Labral Dysfunction
Hip Muscle Strain
Elbow/Forearm Joint Dysfunction
<i>Conditions Seen Rarely</i>
Temporomandibular Dysfunction
Acromioclavicular Dysfunction
Sternoclavicular Dysfunction
Costochondritis
Thoracic Instability
Coccygeal Dysfunction
Pelvic Girdle Dysfunction
Piriformis Syndrome
Pubic Symphysis Dysfunction
Hip Avulsion Fracture
Hip Microinstability
Thigh Contusion
Thigh Muscle Strain

Osgood-Schlatter Disease
Slipped Capital Femoral Epiphysis
Myositis Ossificans
Gastrocnemius Strain
Distal Tibiofibular Syndesmosis
Elbow/Forearm Instability (UCL, posterior-lateral rotary instability)
Wrist/Hand Instability (triangular fibrocartilaginous complex)
Wrist/Hand Joint Dysfunction
Wrist/Hand Tendinopathies (De Quervain's, trigger finger)
Pregnancy/Postpartum Musculoskeletal Dysfunction

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