# Neurologic Physical Therapy Residency Curriculum

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**Purpose of the Document**

This document reflects the work of the APTA Neurologic Residency Curriculum Task Force beginning in February 2012 to produce a resource offering suggestions for curricular content and methods of implementation appropriate for post-professional education within a Neurologic Physical Therapy Residency Program. The Task Force was guided by the Neurologic Physical Therapy Description of Specialty Practice (2004), the Normative Model of Physical Therapist Professional Education, and the International Classification of Functioning, Disability and Health (ICF) in developing this document. The primary intention of this document is to assist individuals who are developing curricula for new residency programs. Content was selected to reflect current best practice. Specific tests and measures were not included in an effort to prevent the document from becoming obsolete in the near future. The Task Force acknowledges that this is not an all-inclusive list of curricular content or learning objectives for neurologic residency programs. For example, rather than including objectives for all possible interventions, an attempt was made to embed a broad spectrum of interventions throughout the document.

**Use of the Document**

This document is intended to provide neurologic residency directors, faculty, and residents with examples of didactic and clinical practice learning objectives, instructional methods, and methods of knowledge/competency assessment to guide neurologic residency programs in their curricular development. The topics that are addressed represent key knowledge areas and practice expectations outlined within the Neurologic Physical Therapy Description of Specialty Practice (DSP). This document is not intended to serve as a standard curriculum to be adopted by all programs. Programs are encouraged to select and/or modify the objectives and learning experiences to best meet their individual curricular needs and resources. For example, program faculty may decide that learning content related to a specific topic is optimally met by addressing didactic objectives only. Similarly, program faculty may elect to focus on just one of the instructional methods that are suggested for a topic, or they may decide to revise these or develop new methods on their own. Strict adherence to this curriculum does not ensure that the program will meet all of the criteria for credentialing as established by the American Board of Physical Therapy Residency and Fellowship Education (ABPTRFE); all programs must comply with the curricular requirements for credentialing of neurologic residency programs as set forth by the ABPTRFE.

**Task Force Members**

This document was prepared by a special task force selected by the APTA Neurology Section. Members of the task force include:

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| DSP Topic | Sample Didactic Objectives | Sample Clinical Practice Objectives | Sample Instructional Methods | Sample Methods of Assessment |
|---|---|---|---|---|
| **I. KNOWLEDGE AREAS** | | | | |
| **A. Foundation Sciences** (including changes across the lifespan) | | | | |
| **Anatomy/Neuroanatomy (CNS, ANS, PNS)**<br>• *Vascular structures-normal and pathological*<br>• *Nervous system-including but not limited to: neurotransmitters; neuroanatomical changes across the lifespan; cross section detail of structures*<br>• *Hemispheric specialization*<br>• *Respiratory structures*<br>• *Musculoskeletal structures* | • Predict alterations in body structure and function given an occlusion of specific CNS arteries (e.g., anterior, middle, and posterior cerebral arteries).<br>• Relate lesioned areas on a brain, brainstem, or spinal cord section to specific anatomical structures and functions.<br>• Relate neuroanatomical changes (e.g., gray and white matter, synapses) across the lifespan with changes in sensory, motor, and cognitive functions. | • Given a patient with stroke caused by occlusion of a CNS artery, select appropriate examination tests and measures based on the patient's predicted alterations in body structure and function.<br>• Given a MRI or CT scan of a patient with a stroke, identify the location of the lesion and predict the patient's alterations in body structure and function and activity.<br>• Apply knowledge of neuro-anatomical changes across the lifespan to select age-appropriate tests and measures for examination of a patient with a neurologic condition. | • Analyze case studies of patients with different neurovascular and neuroanatomical lesions.<br>• Attend neuroanatomy lectures and labs.<br>• Conduct self-directed review of neuroanatomy using textbooks, diagrams, models, CT and MRI images, dissected human brains and spinal cords, or web-based neuroanatomy tutorials, and review questions. | • Given a clinical case with a nervous system lesion, the resident identifies neuroanatomical structures that are involved and generates possible lesion locations (written or oral exam).<br>• Evaluate a live patient assessment by the resident with rationale for measures chosen based on anticipated pathology.<br>• Evaluate written or oral case study of neurologic patient treated by resident with detailed explanation of neuroanatomical |

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| | | | | basis of patient's impairments and activity limitations.<br>• Evaluate teaching session by resident on neuroanatomy. |
| **Neuroplasticity**<br>• *Intercellular responses to injury*<br>• *Cortical remodeling after injury*<br>• *Activity-dependent neuroplasticity*<br>• *CNS responses to learning and inquiry* | • Identify neuro-anatomical and neuro-physiological processes that may underlie neuroplastic changes associated with learning, memory, and recovery from CNS injury.<br>• Synthesize current evidence regarding principles of behavioral training that drive neuroplastic changes associated with motor learning and/or recovery following neurologic injury or disease.<br>• Critically examine the relevance and feasibility of application of current neuroplasticity concepts to the treatment of individuals with | • Articulate the current principles of neuroplasticity processes to health care professionals.<br>• Design and implement an exercise program for a patient with brain or spinal cord injury that applies evidence-based principles of training to maximize plasticity.<br>• Apply evidence for interventions designed to maximize neuroplasticity (e.g., constraint-induced movement therapy, body weight-supported treadmill | • Discuss application of neuroplasticity concepts to patient cases with mentor.<br>• Attend lectures or continuing education courses on neuroplasticity.<br>• Complete guided readings of animal and human studies on interventions designed to maximize neuroplasticity in patients with neurologic diagnoses with review questions. | • Evaluate a live patient treatment session by the resident with a rationale for prognosis given favorable or unfavorable factors that influence neuroplastic changes.<br>• Evaluate presentation by resident on neuroplasticity processes, concepts and applications to neurologic patient populations.<br>• Evaluate written or oral case |

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| | neurologic conditions across lifespan. | training) in patients with specific neurologic diagnoses. | | study of neurologic patient treated by resident that describes the application and outcomes of an exercise program designed to maximize neuroplastic changes.<br>• Submit systematic review paper on intervention designed to maximize neuroplasticity in patients with neurologic diagnoses. |
| **Neurophysiology**<br>• *Pain-neurogenic pain; pain related to non-neurologic structures*<br>• *Perception*<br>• *Sensory and motor physiology*<br>• *Impact of neurological conditions on other body systems* | • Compare and contrast the etiology, clinical characteristics, and neurophysiological basis for neurogenic vs. non-neurogenic pain (e.g., painful diabetic peripheral neuropathy vs. low back pain).<br>• Distinguish between the | • Given a patient with pain complaints, differentiate between a neurogenic vs. non-neurogenic origin of pain based on the patient's examination findings. | • Analyze case studies of patients with different painful neuropathies (e.g., radiculopathies, polyneuropathies, phantom limb pain, central post- | • Given a clinical case of a patient with pain complaints, the resident identifies the etiology and neurophysiologic basis of the pain (written or oral |

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| • *System responses to trauma and stress and exertion*<br>• *Positive and negative symptoms related to neurological conditions* | etiology, clinical characteristics, and neurophysiological basis of common sensory vs. perceptual disorders (e.g., homonymous hemianopsia vs. unilateral neglect) following brain injury.<br>• Compare and contrast nervous and immune system effects of acute vs. chronic stress.<br>• Relate the effects of autonomic nervous system dysfunction to abnormal exercise responses. | • Given a patient with brain injury, differentiate between sensory vs. perceptual disturbances based on the patient's examination findings.<br>• Differentiate between normal and abnormal symptoms of stress in patients with neurologic conditions.<br>• Apply exercise interventions appropriately and safely in individuals with known or possible autonomic nervous system dysfunction. | stroke pain).<br>• Analyze case studies of patients with sensory (e.g.., visual, auditory, somatosensory, vestibular) and/or perceptual disorders (e.g., unilateral neglect, pusher syndrome, agnosias).<br>• Attend neurophysiology lectures and labs.<br>• Perform self-directed review of neurophysiology including sensory and motor pathways using textbooks, diagrams, dissected human brains and spinal cords, or web-based tutorials , and review questions. | exam).<br>• Given a clinical case of a patient with brain injury, the resident identifies the etiology and neurophysiologic basis of sensory and/or perceptual deficits (oral or written exam).<br>• Evaluate a live patient assessment by the resident with detailed explanation of neurophysiologic basis of patient's impairments and activity limitations.<br>• Evaluate teaching session on neurophysiology. |

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| **Skill Acquisition/ Motor Learning**<br>*Movement Science*<br>*Motor learning* | • Discuss the component parts of a theoretical model of motor skill acquisition and retention.<br>• Discuss the interrelationship among kinematic and kinetic variables of a specific task.<br>• Differentiate explicit and implicit memory systems and their impact on motor skill acquisition post neurologic injury. | • Defend elements of an intervention plan by applying knowledge of the principles of motor skill acquisition.<br>• Design an intervention plan for a patient with TBI that reflects appropriate application of implicit and explicit learning and memory.<br>• Justify task selection and training intensity for a client with neurologic involvement based on current research. | • Review current articles addressing motor skill acquisition in neuro-rehabilitation.<br>• Review the intervention plan of a current patient to justify the parameters addressing motor skill acquisition with mentor.<br>• Conduct chart review of a discharged patient to assess effectiveness of motor skill acquisition plan and its progression across PT program. | • Evaluate resident's knowledge of design and progression of motor skill acquisition during live patient assessment.<br>• Evaluate written case review by resident with justification of motor skill acquisition plan. |
| **Motor Control**<br>• *Individual, task, and environmental constraints on movement*<br>• *Theories of motor control: reflex, hierarchical, motor* | • Explain how the organization and control of movement is constrained by factors within the individual, the task, and the environment.<br>• Compare and contrast | • Given a patient with a brain injury, manipulate functional task difficulty (e.g., bed mobility, transfers, walking) and/or the environment to | • Discuss application of motor control theories to patient cases with mentor.<br>• Attend lectures or continuing | • Evaluate live patient assessment and treatment session by resident with rationale for assessments |

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| *programming, systems, dynamic action, ecological*<br>• *Clinical applications of motor control theories* | the following theories of motor control: reflex, hierarchical, motor programming, systems, dynamic action, and ecologic, including basic neural elements used to explain the control of movement, limitations, and clinical applications.<br>• Compare and contrast neurofacilitation and task-oriented approaches to neurologic rehabilitation in regards to their underlying assumptions about movement control, functional recovery, and clinical assessment and treatment practices. | progress the patient to achieve his/her functional goals.<br>• Given a patient with a neurologic diagnosis, apply the most current motor control theories for the assessment and treatment of the patient to achieve the patient's functional goals. | education courses on motor control theories and their clinical applications.<br>• Complete guided readings of chapters or articles about motor control theories and their clinical applications with review questions. | and treatments according to motor control theories.<br>• Given a mock patient, resident demonstrates the application of different motor control theories to achieve functional goals.<br>• Evaluate written or oral case study of neurologic patient treated by resident that describes the application and outcomes of a rehabilitation program that utilizes current motor control theories.<br>• Administer quiz or exam with questions on readings of different motor control theories and their clinical |

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| | | | | applications. |
| **B. Behavioral Sciences** | | | | |
| **Cultural competence**<br>• *Cultural social system* | • Discuss cultural beliefs and practices that influence health care delivery in neuro-rehabilitation.<br>• Broaden knowledge of health care systems supportive of cultural diversity (interpreter services, health literacy, complementary health programs). | • Conduct a patient-centered interview demonstrating cultural awareness.<br>• Create patient instructional materials reflective of sensitivity to culture / health literacy issues.<br>• Interact with interpreters / family members in a manner that best represents a patient's goals and dignity.<br>• Negotiate plans of care / adapt interventions to meet a patient's unique cultural needs. | • Analyze a clinical narrative scenario with cultural competence issues.<br>• Review articles on cultural competence issues in rehabilitation at mentoring session.<br>• Review videotaped patient interviews to assess sensitivity to culture. | • Analyze patient cases reflecting how culture influenced clinical decision making (oral or written analysis).<br>• Perform self-reflection and analysis of own health care values, beliefs, and biases related to a specific topic (e.g., wellness) and the impact these beliefs may have on the resident's role as a neurologic rehabilitation health provider. |
| **Cognitive/behavioral dysfunction**<br>• *Expected emotional/behavioral responses to illness and recovery*<br>• *Affective disorders*<br>• *Impact of personality on* | • Compare and contrast different dysexecutive syndromes in neurologic disease.<br>• Integrate knowledge of emotional and behavioral response to injury or illness across | • Select and accurately interpret screening tools to identify cognitive or behavioral barriers.<br>• Collaborate with interdisciplinary team members to | • Review literature and present an article that focuses on physical therapy management of individuals with cognitive/ | • Administer quiz or exam with questions on management of cognitive and behavioral deficits in neurologic |

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| *illness and recovery*<br>• *Impact of substance abuse disorders on the movement system*<br>• *Learning disorders*<br>• *Normal and dysfunctional sexual behavior*<br>• *Memory, Attention, Cognitive processes and executive functions* | the patient/client management model.<br>• Synthesize the current literature regarding the effects of cognitive dysfunction (e.g., attention, memory, executive dysfunction, initiative) on function.<br>• Apply current research findings to maximize skill development in cognitively impaired patients. | address cognitive or behavioral impairment.<br>• Accurately document cognitive/ behavioral information within the P.T. scope of practice.<br>• Modify the approach to patient management based upon cognitive/ behavioral impairments.<br>• Apply and evaluate the effectiveness of strategies to assist individuals with cognitive and motivation deficits to engage in exercise. | behavioral impairments.<br>• Attend lecture on cognitive/ behavioral dysfunction.<br>• Conduct evaluation and/or treatment mentoring sessions with patients with cognitive dysfunction.<br>• Attend mentoring session with neuro-psychologist on optimizing management of patients with cognitive/ behavioral impairments. | patients.<br>• Evaluate written or oral case study by resident on the management of the cognitively impaired patient to optimize recovery.<br>• Conduct medical record review of documentation by the resident on a patient with cognitive/ behavioral dysfunction. |
| **Perceptual disorders** | • Compare and contrast various perceptual disorders prevalent within the neurologic population, such as visual-spatial neglect.<br>• Select and justify valid and reliable tests and measures frequently | • Apply valid and reliable tests and measures to determine the presence of perceptual disorders in select patient cases.<br>• Design a treatment | • Attend lectures and continuing education courses related to perceptual disorders.<br>• Review articles on perceptual disorders and | • Administer written exam requiring application of assessment and treatment methods utilized in perceptual disorders. |

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| | used to assess perceptual disorders.<br>• Defend treatment options and progression based on current available evidence. | program and progression of that program utilizing appropriate treatment options as outlined in the literature.<br>• Interpret the findings of applied tests and measures.<br>• Develop a prognosis and project reasonable goals based on findings of applied tests and measures. | discussion with mentor.<br>• Conduct specialty observation experiences with other disciplines involved in the assessment and treatment of perceptual disorders (e.g., neuropsycholo-gists, OTs, behavioral neurologists).<br>• View web-based videos related to perceptual disorders.<br>• Read books describing perceptual disorders (e.g., books by Oliver Sacks). | • Evaluate resident journal/book club presentation of article(s)/text(s) about perceptual disorders.<br>• Evaluate specialty observation specific to perceptual disorders using observational checklist.<br>• Evaluate live/video patient exam by resident requiring assessment of patient with a perceptual disorder<br>• Administer pre/post tests of web based video about perceptual disorders. |
| **Teaching and learning theory**<br>• *Learning theories*<br>• *Learning styles*<br>• *Teaching strategies/* | • Compare and contrast how learning experiences differ for students in a classroom versus a clinical | • Develop a didactic and laboratory component of a clinical presentation taking into | • Conduct didactic/ laboratory teaching sessions for PT students, clinical staff, | • Evaluate effectiveness of resident teaching session(s) (patients, clinical |

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| *methods*<br>• *Domains of learning*<br>• *Measurement of learning*<br>• *Educational theory and methods related to patients/clients with neurological conditions* | teaching environment.<br>• Discuss principles of adult learning and apply them to patients with neurologic deficits across the lifespan, specifically how they should change based on age.<br>• Critique elements of effective lectures and learning objectives. | consideration the target audience and their current skill level.<br>• Modify a home exercise program or other patient education materials based on a patient's cognitive ability.<br>• Engage in a peer assessment of a presentation and provide a critical review. | mentors and/or residents.<br>• Create home exercise programs or educational modules for patients with neurologic diagnoses.<br>• Perform a case analysis taking into consideration learning barriers. | staff, mentors, peers, students, or self).<br>• Evaluate patient education materials developed by resident in terms of application of teaching and learning theories (mentor and peers).<br>• Evaluate case analysis by resident taking into consideration learning barriers. |
| **Communication Skills**<br>• *Principles of empathy,*<br>• *Behavior modification strategies,*<br>• *Communication with persons who are sensory or cognitively impaired,*<br>• *Listening and observation techniques,*<br>• *Conflict management techniques.* | • Utilize conflict management techniques in a patient/family scenario.<br>• Compare and contrast strategies to modify communication style to accommodate those with cognitive impairment.<br>• Propose patient interviewing and communication strategies based upon | • Demonstrate empathetic listening skills in a patient interview<br>• Employ active listening techniques when communicating with a patient/family.<br>• Predict and attempt to diffuse a patient/family situation that could potentially become a | • Participate in a role playing session with mentor that involves conflict management.<br>• Conduct session with speech/ language pathologist to develop a management plan for a patient with cognitive | • Evaluate a patient interaction, either live or video, focusing on empathy/active listening skills with mentor.<br>• Perform medical record review of patient treated by resident and assess resident's documentation of |

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| | education level of the patient/ caregiver.<br>• Describe differences in communication styles across the lifespan.<br>• Differentiate non-verbal and verbal communication and their impact on effective communication. | significant conflict.<br>• Initiate and respond to communication regarding palliative care, hospice, and end-of-life issues. | impairment.<br>• Analyze a video of a patient interview for effective communication techniques.<br>• Prepare patient education materials that account for factors contributing to health literacy. | history portion of examination.<br>• Evaluate patient education materials developed by resident in terms of factors contributing to health literacy utilizing appropriate rubrics. |
| **Ethical Issues in Practice**<br>• *Ethics and related decision-making* | • Identify and discuss the essential components of an ethical decision-making model and their relevance to neurologic physical therapist practice.<br>• Apply an ethical decision-making model such as the RIPS model (realm, individual process, situation) to a case involving a patient with neurologic involvement.<br>• Differentiate the key principles of bioethics, including autonomy, beneficence, non- | • Analyze when and which one(s) of the rules, regulations, and laws governing physical therapist practice are applicable to an ethical issue involving a neurologic patient.<br>• Defend a clinical decision involving an ethical issue, distress, or dilemma within the context of an ethical decision-making model.<br>• Advocate for extended /long term | • Analyze a patient case that exemplifies an ethical issue relevant to neurologic practice (e.g., competence related to cognitive impairment, access to care, resource allocation).<br>• Analyze a patient case that involves an ethical issue from multiple | • Evaluate a written case analysis highlighting an ethical issue the resident faced with a patient, with self-reflection of the decisions made within the case. |

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| | maleficence, and justice. | funding for health care services for an individual with neurologic involvement within a health care institution or community. | perspectives (e.g., patient, providers, caregivers). | |
| **C. Clinical Sciences** | | | | |
| **Movement Analysis**<br>• *Kinesiology, including knowledge of:*<br>  ○ *Electromyographic patterns during functional tasks and postural control activities.*<br>  ○ *Biomechanics.*<br>  ○ *Joint morphology.*<br>• *Pathokinesiology, including knowledge of:*<br>  ○ *Automatic control of posture and movement.*<br>  ○ *Voluntary control of movement, including timing, speed, and sequencing.*<br>  ○ *Relationship between* | • Compare and contrast current frameworks (e.g., Gentile's taxonomy, Hanke, Hedman's motor control framework, Rancho Gait analysis, kinematic and kinetic analysis) used clinically for movement analysis.<br>• Given a specific functional task, be able to identify the movement sequence, phases of movement and biomechanical requirements of optimal movement.<br>• Given a specific functional task, be able to hypothesize possible underlying impairments that may limit optimal movement. | • When observing a patient performing a specific functional task, identify impairments in movement sequences, phases of movement, and possible underlying barriers to optimal movement. throughout the task.<br>• Compare optimal movement to patient's actual movement and identify differences between them.<br>• Given a patient with movement impairment, be able to construct interventions to address identified | • Conduct mentor session on the application of movement analysis with patients.<br>• Attend lectures on movement analysis theory and application.<br>• Analyze videos of patients performing specific functional tasks for movement impairments.<br>• Review articles and compare and contrast EMG patterns obtained with performance of functional activities by | • Evaluate live patient assessment and treatment session by resident with rationale for interventions based on movement analysis.<br>• Evaluate the movement analysis of a neurologic patient performed by resident.<br>• Administer written quizzes and exams on movement analysis.<br>• Perform a video |

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| *spasticity and movement.*<br>• *The potential impact of movement impairments on the musculoskeletal system over time.* | • Predict possible movement impairments that may have detrimental effects on the musculoskeletal system over time. | activity limitations.<br>• Modify body structure/function and/or activity interventions based upon ongoing movement analysis. | individuals with different neurologic pathologies. | assessment of patient case, before and after intervention. |
| **Medical management (pharmacology, imaging, additional tests)**<br>• *Pharmacology, including knowledge of:*<br>○ *Drug reactions and dosage effects*<br>○ *Effects on the musculoskeletal and nervous systems*<br>○ *Interaction of pharmacological agents*<br>○ *Long term use of drugs*<br>○ *Toxicology*<br>• *Integrates instruments, tests, screens, and evaluations used or performed by other health care professionals*<br>• *Neuroimaging [MRI, fMRI, CT scan, PET* | • Synthesize current research on medical, surgical, and pharmacological management of patients with neurologic diseases/conditions.<br>• Compare and contrast drugs used to treat spasticity in terms of their mechanisms of action, mode of administration, symptom effects, clinical applications, and side effects.<br>• Predict the effects of a CNS-acting drug based on the mechanisms of action.<br>• Compare and contrast neuroimaging techniques [MRI, fMRI, CT scan, PET scan, diffusion tensor imaging (DTI), cerebral | • Apply and modify appropriate and timely physical therapy assessments and interventions for patients with neurological conditions in accordance with their medical/surgical managements.<br>• Apply knowledge of the actions and side effects of drugs and/or other treatments (e.g., Botox, intrathecal baclofen, deep brain stimulation) used to treat movement disorders to evaluate the effectiveness of these interventions | • Attend lectures and courses on medical/ surgical management of neurologic patients.<br>• Conduct self-directed review using textbooks, articles, web-based tutorials, with review questions.<br>• Log and research medications prescribed, or non-PT tests ordered on resident's own patients.<br>• Discuss role of medications, tests, screens, evaluations used by other professionals and | • Evaluate live patient assessment by resident with evaluation of patient function before and after a pharmacologic intervention.<br>• Evaluate written or oral case study of neurologic patient treated by resident with explanation of how medications, non-PT tests and evaluations, and/or imaging affected the PT management of the patient.<br>• Evaluate teaching sessions on |

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| *scan, diffusion tensor imaging (DTI)]* | angiography] in terms of indications, advantages and disadvantages, and cerebral landmarks.<br>• Describe the principles, indications and interpretation of repetitive stimulation tests, evoked potentials (brainstem, visual, and somatosensory), H-reflex testing and F-wave testing.<br>• Articulate the NCV and/or EMG test findings that would differentially diagnose specific neuromuscular disorders. | to maximize the patient's function.<br>• Recognize normal and abnormal effects of CNS-acting drugs in patients with affective and psychotic disorders.<br>• Integrate results from tests, screens, and evaluations used by other health care professionals (e.g., EMG, nerve conduction, evoked potentials, genetic, vestibular testing, CSF analysis) into the evaluation and treatment of patients with neurologic dysfunction.<br>• Advocate for the use of different imaging techniques in the management of patients with neurologic conditions. .<br>• Consistently consider how medications that | imaging in the management of individuals with neurologic conditions with mentor.<br>• Conduct shadowing sessions with other health care professionals to learn about medications, specific tests, screens, and evaluations and imaging used with neurologic populations.<br>• Evaluate a person with spasticity in a mentored situation to determine whether the person is a candidate for intrathecal baclofen or botulinum toxin treatments.<br>• Analyze the | pharmacology, diagnostic tests, or imaging techniques relevant to neurologic populations.<br>• Administer quizzes or exams with questions on medical management of neurologic patients.<br>• Perform case analysis of a report of NCV and EMG test results, requiring resident to make appropriate clinical correlations for diagnosis and identify implications for plan of care, including referral to another health care professional if appropriate. |

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| | | neurologic patients are taking could impact their clinical picture. | findings from a kinesiologic EMG gait analysis of a patient post-TBI in a mentored situation to justify a specific surgical intervention (ex: a muscle transfer at the knee) or an appropriate plan of care. | |
| **Epidemiology**, including knowledge of:<br>• *Prevalence of neurologic disease/ conditions/ signs/ symptoms*<br>• *Incidence of neurologic disease/ conditions/ signs/ symptoms*<br>• *Prognostic indicators in neurologic disease/ conditions/ signs/ symptoms*<br>• *Risk factors relevant to health status across the life span*<br>• *Morbidity, mortality, and natural history of neurologic conditions* | • Compare the prevalence, incidence, and major signs and symptoms of neurologic diseases/conditions.<br>• Predict potential health problems of the patient with neuromuscular dysfunction including problems of safety, immobility, reoccurrence and chronicity.<br>• Develop prevention programs for various neurologic patient populations based on knowledge of disease process. | • Apply knowledge of epidemiology and examination findings in a patient with neurologic dysfunction to recommend a differential diagnosis.<br>• Predict realistic patient goals across all domains of the ICF for individuals with progressive and non-progressive neurologic conditions/ disease.<br>• Design an exercise program to promote and maintain health and wellness in an | • Analyze case studies of patients with different presenting signs and symptoms to determine a differential diagnosis.<br>• Discuss clinical decision-making process regarding patient physical therapy prognoses with mentor.<br>• Perform self-directed review of epidemiologic factors related to neurologic | • Evaluate live patient assessment by resident with defense of functional prognosis based on medical history and exam results.<br>• Grading of written or oral case study of neurologic patient treated by resident with detailed explanation of clinical decision-making regarding patient's physical |

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| | | individual with chronic neuromuscular disease/ dysfunction.<br>• Apply knowledge of epidemiology to discuss role of physical therapy in population management in different neurologic conditions. | disease/ conditions using textbooks, journal articles, web-based tutorials, and review questions. | therapy prognosis<br>• Evaluate expected versus actual treatment outcomes for resident's own patients.<br>• Evaluate resident's prescribed home programs for own patients at discharge.<br>• Evaluate paper written by resident on health and wellness programs for patients with chronic neurologic conditions.<br>• Administer quizzes or exams with questions on epidemiology of neurologic conditions. |
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| **Scientific Inquiry and Practice** | • Describe optimal research designs to | • Apply knowledge of sensitivity and | • Critique a current research article | • Compile and interpret |

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| • *Research Design*<br>○ *qual/quant design*<br>○ *theory develop*<br>○ *principles of measurement*<br>○ *sensitivity / specificity*<br>○ *reliability/validity*<br>• *Stats*<br>○ *parametric/non-parametric*<br>○ *descriptive stats*<br>○ *statistical inference*<br>○ *statistical testing*<br>○ *ANOVA, correlation, regression concepts of statistical power* | study diagnosis, prognosis, and intervention questions.<br>• Interpret measures of precision (reliability, correlation, confidence interval, power) and accuracy (sensitivity, specificity, responsiveness, LR, OR, etc) retrieved from the data table of a research article.<br>• Apply knowledge of EBP-related statistics to a patient case. | specificity in selecting optimal screening and confirmatory tests and measures related to neurologic practice.<br>• Perform selected tests and measures using standardized techniques to optimize measurement precision.<br>• Evaluate current practice within your clinic regarding outcome tools used to address a specific patient problem versus current best evidence. | using a journal club format with emphasis on data interpretation.<br>• Compare and contrast two research articles on the same topic that have disparate findings.<br>• Prepare an IRB research proposal or design a study for a neurologic population.<br>• Attend lectures or continuing education courses on research design and statistics. | research data/ psychometric properties of a specific test / measure or intervention relevant to patient load.<br>• Present a research article at journal club to colleagues who provide feedback to the resident on data interpretation.<br>• Critique decisions made in a patient case based on analysis of current research findings. |
| **II. PRACTICE EXPECTATIONS** | | | | |
| **A. Professional Roles, Responsibilities, and Values** | | | | |
| **Professional Roles, Responsibilities, and Values**<br>*includes content addressing leadership, virtuous behavior, education, and consultation areas of the DSP* | • Distinguish the core values associated with the attributes of professional competence and discuss how these evolve as expertise is developed. | • Advocacy: Write a letter of medical necessity to justify the purchase of medical equipment or continued physical therapy services. | • Observe a mentor/ clinical expert engaged in patient care; discuss attributes of professionalism or factors that | • Review a clinical narrative to identify and discuss elements of professionalism and/or expert practice that are |

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| | • Identify, develop, and implement approaches to strengthening the core values of professionalism within the practice environment.<br>• Distinguish characteristics of reflection and its role in guiding clinical decision-making. | • Negotiate frequency and length of physical therapy services capable of optimizing outcomes while demonstrating fiscal responsibility consistent with the patient's resources.<br>• Recognize the limits of the physical therapy scope of practice and make appropriate referrals to other medical professionals. | affected clinical decision-making after session ends.<br>• Participate in a health awareness or screening event within a community/ health system and discuss challenges associated with this experience with a mentor.<br>• Consult with a community agency working with a neurologic population. | demonstrated.<br>• Analyze own awareness and performance in behaviors representing the APTA core values of professionalism using the APTA self-assessment tool.<br>• Summarize findings and recommenda-tions made while offering consultation services for a neurologic patient's return to work. |
| **Evidence Based Practice (EBP)**<br>• *Evaluates the efficacy and effectiveness of new and established examination tools, interventions, and technologies.*<br>• *Appropriately applies new research information, methods, or* | • Justify search engine selection and explain techniques for narrowing/ expanding a search.<br>• Differentiate levels of evidence in the hierarchy for diagnosis, prognosis, and intervention questions.<br>• Appraise the quality of | • Articulate meaningful, searchable clinical questions.<br>• Justify physical therapy goals and length of stay using evidence from relevant prognosis studies.<br>• Modify a patient | • Scrutinize a research article using a critically appraised topic worksheet.<br>• Consult with an institutional medical librarian to enhance searching skills to answer a specific | • Resident assesses own EBP competencies and self-efficacy in completing these.<br>• Resident assesses own attitudes toward consistent and |

| DSP Topic | Sample Didactic Objectives | Sample Clinical Practice Objectives | Sample Instructional Methods | Sample Methods of Assessment |
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| *instruments to clinical practice.*<br>• *Participates in planning and conducting clinical research.* | research exploring intervention, diagnostic, and prognostic questions.<br>• Appraise the quality of a systematic review.<br>• Assess the applicability and quality of a clinical practice guideline. | care plan after reviewing an evidence-based summative review.<br>• Introduce a new intervention or modify an existing clinical protocol to reflect current best evidence for a particular patient.<br>• Design and conduct a systematic review or case study related to neurologic physical therapy. | question.<br>• Create an EBP learning module to advance EBP within your clinic.<br>• Analyze clinical decision making in a specific patient case using EBP principles. | rigorous use of EBP.<br>• Evaluate a written assignment by resident involving a critically appraised topic.<br>• Evaluate a grand rounds presentation by resident exemplifying the use of EBP in clinical decision making.<br>• Submit an abstract or paper of a case study or systematic review. |

| DSP Topic | Sample Didactic Objectives | Sample Clinical Practice Objectives | Sample Instructional Methods | Sample Methods of Assessment |
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| **B. Patient/Client Management** | | | | |
| **Examination** *(includes history, systems review, tests and measures--large section of DSP)* | • Differentiate interview strategies that optimize the patient's perspective on illness and apply active listening.<br>• Generate and defend hypotheses relating body structure/function impairments to movement dysfunction.<br>• Interpret neurologic signs and symptoms to determine if patient's presentation is within the scope of PT practice.<br>• Defend selection of test and measures based on patient history, interview, systems review, and movement analysis. | • Implement patient interview strategies designed to elicit knowledge of patient-identified problems and patient beliefs regarding health, medical concerns, and illness.<br>• Modify examination strategy based on knowledge of the health condition or patient impairments.<br>• Interpret screening tool findings to determine need for referral to another health care provider versus need to monitor within PT.<br>• Prioritize test and measures to inform clinical decision-making across all ICF domains.<br>• Apply tests and measures in an efficient manner using standardized techniques. | • Review videotape of the resident performing a patient examination and engage resident in self-reflection of performance.<br>• Observe mentor performing a patient examination, with mentor/resident discussion after session. | • Evaluate live patient examination by resident with written feedback specific to examination.<br>• Videotaped movement analysis: resident plans patient examination strategy following review of videotaped segments depicting patient movement. |

| DSP Topic | Sample Didactic Objectives | Sample Clinical Practice Objectives | Sample Instructional Methods | Sample Methods of Assessment |
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| | | • Select and analyze functional tasks of relevance to the patient.<br>• Interpret data derived through systems review. | | |
| **Evaluation**<br>• *Predicts present or potential disability based on impairments, functional limitations, (including results from task or motion analysis) and potential for recovery.*<br>• *Develops clinical judgments based on data collected from the examination.*<br>• *Differentiates impairments/functional limitations that require compensatory movement strategies vs strategies that focus on recovery of normal movement.*<br>• *Links impairments, functional limitations, and psychosocial factors to the patient/client's* | • Appraise examination findings and develop a diagnosis, prognosis, and plan of care citing current available evidence.<br>• Differentially diagnose body function impairments that are consistent/ inconsistent with health condition or medical diagnosis.<br>• Identify emergent and non-emergent signs and symptoms.<br>• Discriminate between impairments, activity limitations, and participation restrictions that are amenable to treatment.<br>• Defend the rationale supporting the decision to address specific | • Proficiently synthesize all findings from the examination to develop a concise diagnosis, prognosis, and plan of care for the complex neurologic patient that is specific and patient centered.<br>• Formulate a detailed plan of care for complex patients with various neurologic diagnoses considering all relevant factors such as social considerations, preexisting conditions, living environment, and | • Participate in peer reviews of patient cases with emphasis on comparing and contrasting the diagnosis, prognosis and plan of care.<br>• Present patient cases with validation of the clinical reasoning process for the diagnosis, prognosis and plan of care.<br>• Clinical practice with detailed written evaluation of patient case demonstrating a linkage with enablement/ disablement | • Provide summative mentor and peer feedback regarding the clinical reasoning process underlying the resident's evaluation of a neurologic patient.<br>• Critique case studies of neurologic patients with emphasis on the appropriateness of the therapist's diagnosis, prognosis, and plan of care. |

| DSP Topic | Sample Didactic Objectives | Sample Clinical Practice Objectives | Sample Instructional Methods | Sample Methods of Assessment |
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| *and caregiver's expressed goals.*<br>• *Interprets observed movement and function.*<br>• *Integrates instruments, tests, screens, and evaluations used or performed by other health care professionals.* | impairments, activity limitations, and participation restrictions citing current evidence. | resources.<br>• Revise the evaluation for each patient case based on emerging information such as length of stay, disposition, caregiver involvement, and resources.<br>• Interpret screening tool findings to determine need for referral to another health care provider vs. need to monitor within PT. | model(s). | |
| **Diagnosis**<br>• *Interprets data from the examination to develop a differential diagnosis*<br>• *Differentiates impairments/ functional limitations/ disabilities which are amenable to intervention*<br>• *Refers patient/client to other professionals for findings that are outside the scope of the physical therapist's knowledge, experience,* | • Evaluate examination findings and identify a differential diagnosis in a complex neurologic patient case.<br>• Differentiate symptom clusters that are outside the scope of physical therapy practice and identify the appropriate practitioner for referral.<br>• Defend the differential diagnosis citing current evidence. | • Proficiently synthesize all findings from the examination to develop a differential diagnosis for a complex neurologic patient.<br>• Organize and discuss examination findings with patient/caregiver including functional relevance, need for referral, and to what | • Participate in peer reviews of patient cases with emphasis on developing a differential diagnosis through review of examination data.<br>• Present patient cases with validation of the diagnosis.<br>• In clinical practice develop | • Provide mentor/peer assessment of diagnostic process underlying the resident's evaluation of a neurologic patient through summative feedback.<br>• Evaluate a live patient exam by the resident with |

| DSP Topic | Sample Didactic Objectives | Sample Clinical Practice Objectives | Sample Instructional Methods | Sample Methods of Assessment |
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| *or expertise* | | extent findings may influence patient/ caregiver goals.<br>• Revise or confirm the diagnosis for each patient case based on emerging information such as test results, consultations, and response to treatment. | differential diagnoses based on interpretation of examination data and current literature. | incorporation of written component addressing diagnosis.<br>• Critique case studies of neurologic patients with emphasis on the appropriateness of the therapist's diagnosis. |
| **Prognosis**<br>• *Predicts optimal level of improvement in function.*<br>• *Predicts amount of time to achieve optimal level of improvement in function.*<br>• *Collaborates with patient/client and family in setting goals.*<br>• *Develops a plan of care that prioritizes interventions related to the recovery process, patient/client goals, resources, health, and wellness.* | • Discuss prognostic indicators, based upon research findings, for a given diagnosis and patient scenario.<br>• Identify potential barriers to achieving optimal patient outcomes.<br>• Analyze the relationship between medical diagnosis, patient characteristics, and other prognostic variables in predicting functional outcomes following nervous system lesions. | • Given a patient with neuromuscular dysfunction, predict optimal level of improvement in function.<br>• Given a patient with neuromuscular dysfunction, determine the optimal frequency/duration of interventions to achieve optimal outcomes.<br>• Adjust prognosis given barriers to recovery and resources available.<br>• Collaborate with the | • Perform a retrospective chart review, focused on assessment of accuracy of prognosis/length of stay<br>• Analyze outcome data for a rehab department (FIM, Press-Ganey).<br>• Conduct mentor sessions with expert clinician, focused on prediction/ prognosis.<br>• Conduct a journal club discussion | • Administer a written exam with questions related to prognosis.<br>• Evaluate a live patient examination by the resident with feedback on the accuracy of prognosis/length of stay prediction. |

| DSP Topic | Sample Didactic Objectives | Sample Clinical Practice Objectives | Sample Instructional Methods | Sample Methods of Assessment |
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| | | patient/client and family in setting therapeutic goals.<br>• Develop a plan of care that prioritizes interventions related to the recovery process, patient/client goals, resources, health, and wellness. | focused on prognostic indicators in neurologic patients. | |
| **Intervention**<br>• Coordination, communication, and documentation | • Evaluate various methods (e.g. case conferences versus documentation) to communicate examination findings across settings.<br>• Compare and contrast methods of cost-effective resource utilization within both an inpatient and outpatient setting.<br>• Perform data collection, analysis, and report of patient outcomes. | • Effectively organize and document elements of examination, evaluation, diagnosis, prognosis, and intervention integrating the patient's impairments, activity limitations, and participation restrictions.<br>• Adapt communication to meet the educational and cognitive level of the patient and caregiver. | • Perform a retrospective chart review, focused on the quality of communication across settings.<br>• Conduct mentor/peer assessment of communication with patients and caregivers.<br>• Conduct mentor/peer assessment of patient documentation. Analyze outcome data for a rehab department. | • Provide mentor/peer assessment of the coordination, communication, and documentation of the care provided by the resident through summative feedback.<br>• Evaluate live patient treatment by resident with incorporation of written component addressing coordination, communication, |

| DSP Topic | Sample Didactic Objectives | Sample Clinical Practice Objectives | Sample Instructional Methods | Sample Methods of Assessment |
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| | | • Collaborate and coordinate with agencies such as, home care agencies, equipment suppliers, and payer groups.<br>• Effectively communicate with all team members and agencies an efficient and timely discharge plan. | | and documentation of the care provided.<br>• Evaluate oral presentation of patient outcomes, methods of cost-effective resource utilization, and/or results of retrospective chart review addressing of communication across settings by resident. |
| **Intervention**<br>• Patient/client-related instruction | • Discuss models and theories of health behavior change (i.e. transtheoretical model) and their impact on patient-related instruction.<br>• Synthesize current literature utilizing social media and other web applications/technology to enhance patient-related | • Adapt patient and caregiver instruction to meet the educational and cognitive level of the patient and caregiver.<br>• Develop and educate patient and caregiver on home exercise/ instruction program that takes into account the patient's stage in | • Provide mentor/peer assessment of patient and caregiver instruction.<br>• Analyze a patient case and provide a self-assessment of patient-related instruction. | • Evaluate live patient treatment session by resident with incorporation of written component addressing patient-related instruction.<br>• Provide oral presentation of patient case with self-assessment |

| DSP Topic | Sample Didactic Objectives | Sample Clinical Practice Objectives | Sample Instructional Methods | Sample Methods of Assessment |
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| | instruction. | recovery process, goals, resources, health and wellness, and self-efficacy. | | of patient-related instruction. |
| **Intervention:** Procedural interventions for motor skill acquisition: emphasis on remediation/recovery<br>• Therapeutic exercises | | | | |
| **a. Task-specific training**<br>• *Training variables: manipulation of variables such as frequency, intensity, duration, speed, type* | • Analyze current literature regarding therapeutic interventions to optimize function in patients with movement impairments (e.g., bradykinesia, akinesia, rigidity, ataxia, and gait and balance dysfunction).<br>• Compare and contrast static, dynamic, reactive, and anticipatory balance tasks and defend the importance of each in balance recovery. | • Develop and implement a progression of interventions that is specific to the participation needs of the patient (i.e., sport, work roles) and to the patient's individual constraints.<br>• Provide task-specific training that integrates evidence-based technologies.<br>• Monitor, adjust and modify the type and intensity of exercise, given the changes across the lifespan or across disease progression.<br>• Modify an existing intervention plan, given the potential benefit relative to the physiological or | • Review patient cases related to task-specific training with mentor.<br>• Attend didactic session focusing on intervention review articles.<br>• Communicate with team members at a multidisciplinary neurologic clinic.<br>• Observe and assist patients participating in a group exercise class for people with neurologic diagnoses. | • Evaluate live patient treatment by resident of task-specific training.<br>• Evaluate review paper by resident related to task-specific training for a neurologic patient population.<br>• Evaluate case report review by resident related to a task-specific training intervention.<br>• Evaluate the resident teaching group exercise class for people with neurologic diagnoses. |

| DSP Topic | Sample Didactic Objectives | Sample Clinical Practice Objectives | Sample Instructional Methods | Sample Methods of Assessment |
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| | | fiscal cost to the patient.<br>• Design an evidence-based group exercise program to maximize functional capacity for individuals with neurologic conditions/ diseases that includes adaptations to exercises to allow individuals with differing functional capabilities to participate.<br>• Develop and implement a progressive balance intervention plan by manipulating parameters such as base of support, task and speed.<br>• Given a patient with balance deficits, design and implement a balance training program that addresses the patient's specific static, dynamic, | | |

| DSP Topic | Sample Didactic Objectives | Sample Clinical Practice Objectives | Sample Instructional Methods | Sample Methods of Assessment |
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| | | anticipatory, and reactive balance control impairments. | | |
| **b. Training to address activity limitations/ functional training**<br>• *Involves manipulation of motor control variables through task set-up and cuing.*<br>• *Uses principles of motor learning.*<br>• *Involves ongoing movement analysis to modify training for safe progression.*<br>• *Environmental assessment and modification.*<br>  ○ *Analyzes the interaction between multiple system impairments and environment* | • Propose methods of creating progressive challenges for motor skill acquisition for postural control, arm use, and locomotion.<br>• Justify clinical decision making related to feedback and practice conditions.<br>• Analyze a novel task that has meaning to a patient, identifying its component parts and the motor solutions the patient currently uses to address these.<br>• Apply a systematic and thorough method to assess task performance in meaningful environments for the patient.<br>• Identify potential barriers to environmental access for an individual in a wheelchair.<br>• Examine the role of the | • Modify environmental or task constraints to promote optimal movement strategies and minimize compensatory motions.<br>• Incorporate concepts of repetition and skill training to optimize opportunities for skill practice.<br>• Provide feedback appropriate to the patient's current phase of motor skill acquisition.<br>• Modify manual cuing based on movement observation.<br>• Use ongoing movement analysis to progress required limb and postural control within an intervention session.<br>• Recommend home | • Provide mentoring session addressing progression of functional training for a specific task.<br>• Resident self-reflects on analysis of motor learning variables used in a specific training session.<br>• Resident observes expert clinician's ability to optimize movement capabilities.<br>• Conduct home assessment of neurologic patient with mentor. | • Evaluate live patient assessment requiring resident to show progression of training variables for motor skill acquisition.<br>• Conduct video analysis of patient intervention session requiring resident to analyze use of feedback and practice conditions or address task initial conditions and movement execution strategies used in training.<br>• Administer written examination requiring resident to offer |

| DSP Topic | Sample Didactic Objectives | Sample Clinical Practice Objectives | Sample Instructional Methods | Sample Methods of Assessment |
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| | physical therapist in facilitating environmental access across the spectrum of care. | modifications that are reasonable to complete and demonstrate fiscal responsibility. | | solutions addressing environmental barriers within the home of a patient. |
| **c. Interventions to address body structure/ function impairments**<br>• *Aerobic capacity/endurance*<br>• *Neuromuscular education/ re-education and strengthening*<br>• *Muscle flexibility/ ROM*<br>  ○ *Serial casting*<br>  ○ *Joint mobilization*<br>• *Pain management*<br>• *Postural control* | • Synthesize the evidence regarding the efficacy of aerobic exercise and strengthening programs to improve function in neurologic patient populations.<br>• Discuss indications for and limitations of the use of electrotherapeutic modalities (i.e., biofeedback, electrical stimulation) in the patient with neuromuscular dysfunction.<br>• Defend the importance of and effectively demonstrate techniques for maintaining PROM in individuals with neuromuscular dysfunction.<br>• Predict potential causes of pain and identify evidence-based | • Design and progress evidence-based aerobic capacity/ reconditioning and strengthening programs for patients with neuromuscular dysfunction.<br>• Select and apply appropriate EMG biofeedback/ electrical stimulation parameters to treat impairments (muscle weakness and pain) in the patient with neuromuscular dysfunction.<br>• Select appropriate patients for and implement a serial casting program for the reduction of lower extremity muscular contractures. | • Participate in clinical practice with emphasis on incorporating principles of aerobic conditioning and strengthening.<br>• Participate in didactic/ laboratory learning opportunities related to interventions to address body structure/function impairments.<br>• Analyze cases with evaluation of interventions to address body structure/function impairments.<br>• Observe health care professionals in a | • Perform psychomotor skills assessment with competency checklist.<br>• Evaluate live patient exam/ treatment integrating assessment and/or interventions to address body structure/ function impairments.<br>• Mentor assesses case analysis by resident that pertains to interventions addressing body structure/ function impairments. |

| DSP Topic | Sample Didactic Objectives | Sample Clinical Practice Objectives | Sample Instructional Methods | Sample Methods of Assessment |
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| | interventions to prevent and or manage pain in individuals with neuromuscular dysfunction.<br>• Compare how the nervous system organizes and adapts sensory information for postural control under changing tasks (i.e., quiet stance, in response to perturbations, and locomotion) and environments (i.e., no sensory conflict vs. situations in which there is disagreement among sensory inputs). | • Educate individuals with neuromuscular dysfunction on injury and muscle overuse prevention.<br>• Select and implement effective interventions (e.g., physical agents, TENS, iontophoresis, positioning and ROM) for pain management in individuals with neuromuscular dysfunction.<br>• Utilize sensory organization/ re-weighting techniques to enhance adaptive balance control for a patient with a given postural control impairment. | pain management clinic. | |
| **Intervention:** Prescription, application, fabrication of devices and equipment: emphasis on compensation | | | | |
| **Intervention**<br>• Prescription, application, and as appropriate, fabrication of devices and equipment including assistive, adaptive, | • Compare and contrast potentially appropriate device and equipment needs of patients with neurologic disorders based upon their current | • Utilize gait analysis techniques to accurately identify the device needs of patients with neurologic | • Attend lecture on orthotics/ prosthetics/ assistive devices.<br>• Analyze gait in live or videotaped | • Review written gait analysis reports from assessments of patients with device needs. |

| DSP Topic | Sample Didactic Objectives | Sample Clinical Practice Objectives | Sample Instructional Methods | Sample Methods of Assessment |
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| orthotic, protective, supportive, or prosthetic: emphasis on compensation. | status and outcome goals.<br>• Predict the impact of a device on efficiency of movement and biomechanics.<br>• Adapt a device for use in the neurologic population, considering tone, cognition, and abnormal movement patterns.<br>• Anticipate the impact of a device or equipment across a wide range of functional activities and social/environmental contexts.<br>• Promote optimal function with the least restrictive devices.<br>• Relate knowledge of electrophysiologic principles and waveform characteristics (amplitude, duration, frequency, rate of rise/ fall) to the selection of FES electrical stimulation parameters in a specific patient case. | disorders.<br>• Accurately identify when a device requires modification or is no longer needed.<br>• Utilize the appropriate device within the rehabilitation process.<br>• Be able to teach proper donning/doffing techniques to the patient/family and modify techniques as a patient's abilities change.<br>• Provide accurate instructions to an FES user with a home unit to optimize the patient's understanding of amplitude, frequency, and ON/ OFF cycles and their relationship to muscle fatigue. | neurologic patients with device needs.<br>• Provide mentoring sessions on patients with specific device needs.<br>• Participate in gait lab/clinic.<br>• Observe a prosthetist/ orthotist in the fabrication process.<br>• Develop patient/family education materials regarding use of devices and equipment. | • Evaluate live assessment/ treatment session of neurologic patient with device or equipment needs by resident.<br>• Administer written or oral examination requiring justification of device prescription or FES parameter settings for a patient case. |

| DSP Topic | Sample Didactic Objectives | Sample Clinical Practice Objectives | Sample Instructional Methods | Sample Methods of Assessment |
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| **Intervention**: Specialized interventions for neurologic physical therapy | | | | |
| **a. Respiratory training to address breathing pattern, volitional cough, air flow control** | • Describe characteristics of normal and paradoxical breathing patterns that may result from neurologic injury.<br>• Relate knowledge of diaphragmatic and intercostal muscle paralysis to impairments in inspiratory and expiratory volumes.<br>• Describe the mechanics and neurologic control associated with a normal cough.<br>• Justify a safe and effective strategy for weaning a patient from mechanical ventilation or a tracheostomy tube. | • Relate measurements of chest expansion, vital capacity, and air flow control to knowledge of a patient's neurologic health condition.<br>• Project realistic goals addressing coughing function based on knowledge of the patient's health condition.<br>• Instruct a patient with impaired respiratory muscle function in effective assisted coughing techniques.<br>• Instruct a patient and his family in the rationale for and proper donning of an abdominal binder.<br>• Correctly interpret data obtained from clinical measures and symptom observation as a patient's tracheostomy tube is | • Read journal articles addressing respiratory training effectiveness across different neurologic health conditions.<br>• With the assistance of a mentor, review results of pulmonary function studies in individuals with neurologic involvement.<br>• Observe patient care rendered by a respiratory therapist. | • Evaluate live patient treatment by resident that addresses respiratory impairments of a neurologic patient.<br>• Administer written exam with questions requiring assessment of lab values, pulmonary function test values, or measurements of chest expansion. |

| DSP Topic | Sample Didactic Objectives | Sample Clinical Practice Objectives | Sample Instructional Methods | Sample Methods of Assessment |
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| | | plugged.<br>• Educate patients with decreased vital capacity on the impact of noninvasive ventilation on survival and quality of life. | | |
| **b. Seating/positioning to address activity limitations** | • Describe the components of a mat evaluation and functional assessment in relation to seating evaluation and wheelchair prescription.<br>• Differentiate the advantages and disadvantages of manual wheelchairs, power mobility devices, and power wheelchairs.<br>• Recognize the role of the physical therapist with the vendor, patient, caregiver, and payer in determining a patient's seating and wheelchair needs. | • Perform a mat evaluation and functional assessment in preparation for recommending a seating system and wheelchair.<br>• Write a letter of medical necessity providing appropriate justification for the recommended seating system and wheelchair<br>• Evaluate the outcome of this process including any issues that may have arisen with the vendor, patient, caregiver, and/or payer. | • Participate in didactic/ laboratory learning opportunities related to seating/ positioning evaluation and prescription.<br>• Perform mat evaluations and functional assessment during patient treatment sessions<br>• Observe health care professionals in a wheelchair clinic.<br>• Analyze cases with regards to evaluation of outcomes of | • Administer written exam addressing components of a seating evaluation and wheelchair prescription.<br>• Evaluate live patient exam by resident incorporating mat evaluation/ functional assessment.<br>• Assess resident skills observed within wheelchair clinic using observational checklist.<br>• Evaluate case analysis by resident of |

| DSP Topic | Sample Didactic Objectives | Sample Clinical Practice Objectives | Sample Instructional Methods | Sample Methods of Assessment |
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| | | | seating/ positioning interventions. | patient assessment and intervention of a neurologic patient with seating/ positioning needs. |
| **c. Vestibular** | • Compare and contrast the signs and symptoms of peripheral and central vestibular disorders.<br>• Given a patient case, interpret diagnostic testing (ENG, Rotational chair test, audiogram, VEMP) in order to identify potential differential diagnosis<br>• Use current research findings to defend intervention plan for BPPV, peripheral vestibular loss, central vestibular impairments. | • Develop a progression of intervention that is specific to the participation needs of the patient (i.e., sport, work roles)<br>• Modify plan of care to allow for a change in patients symptoms or presentation (severity of dizziness, headache, anxiety).<br>• Perform a comprehensive oculomotor exam and interpret findings accurately.<br>• Develop an intervention plan that includes eye/head coordination tasks | • Provide mentor sessions focused on review of oculomotor exam/intervention video<br>• Observe neuro-otologist examinations.<br>• Participate in lab rounds with vestibular team.<br>• Participate in Interdisciplinary journal club, focusing on current oculomotor/ vestibular research. | • Administer written exam that incorporates interpretation of eye movement video.<br>• Evaluate live patient exam by resident with assessment of oculomotor exam technique according to established rubrics. |

| DSP Topic | Sample Didactic Objectives | Sample Clinical Practice Objectives | Sample Instructional Methods | Sample Methods of Assessment |
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| | | appropriate for the patient with central vs. peripheral vestibular impairment.<br>• Design and implement an educational program for patients and families regarding rationale for recovery from a vestibular disorder. | | |
| **Outcome measures**<br>• *Selects appropriate outcome measures and participates in data collection*<br>• *Analyze and interpret data to modify own future practice* | • Identify appropriate outcome measures to address a specific neurologic health condition using established reliability and validity data.<br>• Differentiate outcome measures based on properties such as the domain they address, their intended purpose and type of measure (generic, disease-specific, etc).<br>• Appraise studies of outcome measures that are relevant to the practice setting. | • Apply knowledge of the practice setting when selecting appropriate outcome tools.<br>• Apply knowledge of patient-related factors (age, stage of recovery, capability, goals) to the selection of meaningful outcome measures.<br>• Apply knowledge of an outcome's responsiveness (MDC, MDIC, effect size) to measure patient progress and set meaningful | • Provide mentoring session discussion of evidence-based outcome measure in neurologic patient populations.<br>• Analyze cases comparing outcome measure choices to patient-negotiated goals.<br>• Resident self-reflects on choice of outcome measures in live patient | • Evaluate case presentation of report review by resident with emphasis on rationale of outcome measures used.<br>• Administer written exam requiring justification of outcome measure selection for a patient case.<br>• Evaluate live patient exam by resident with regards to |

| DSP Topic | Sample Didactic Objectives | Sample Clinical Practice Objectives | Sample Instructional Methods | Sample Methods of Assessment |
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| | | goals. | assessment. | decision making process for selection of outcome measures. |

# *Compendium of Instructional Resources for Neurologic Physical Therapy Residency Programs*

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## Introduction

The APTA Neurology Section 2012-2016 Strategic Plan includes an objective to increase the number of neurologic residency programs accredited by the American Board of Physical Therapy Residency and Fellowship Education (ABPTRFE). A survey of established and developing residency program directors suggested a need for financial support as well as resources that would assist with new program development. In 2010 the Section began a grant program for new programs. In 2011, the Neurology Section formed the Neurologic Residency Curriculum Task Force (NRCTF) to develop curricular resources to help in neurologic residency program development. In 2012, the Section published the Neurologic Physical Therapy Curriculum, based on the Phase 1 work of the NRCTF.

This *Compendium of Instructional Resources for Neurologic Physical Therapy Residency Programs* represents Phase 2 of Neurology Section support for newly developed residency programs. The NRCTF has assembled resources in the form of instructions, templates, samples, and other materials. Each document was submitted by a Task Force member, and was reviewed/edited by the balance of the Task Force. In addition, the *Compendium* was reviewed by Patty Scheets, Neurology Section Vice President, and Kendra Harrington, APTA Manager, Residency/Fellowship Accrediting and then reviewed/approved by the Neurology Section Board of Directors.

The *Compendium* provides:

1. Suggestions on writing important core program documents such as a program mission and objectives, with examples
2. Active learning experiences for residents, both didactic and clinical
3. Rubrics for assessing resident competency (e.g., test item writing, clinical performance evaluation) and program outcomes
4. Mentoring development/evaluation materials

We acknowledge that most Residency Program Directors will have strengths in some areas, but will require assistance in others. The purpose of the *Compendium* is to provide a broad array of materials from which to select, depending upon a particular program's own needs and resources. The *Compendium* is divided into sections on:

Writing Core Documents

Curriculum

Mentor Development/Assessment

Evaluation of Outcomes

All materials may be used/adapted freely, though it is expected that credit to the original contributor will be so noted. Finally, these resources are not meant to be exhaustive, however, they do represent areas that the Task Force felt would be most helpful to a new Program Director. In addition, it is highly recommended that developing programs review the ABPTRFE Evaluative Criteria and the Rules of Practice and Procedure located under the Application Resources area of ABPTRFE website to ensure that they are compliant with ABPTRFE standards for accredited residency/fellowship programs. There are also many resources available through the ABTRFE website that developing programs may find beneficial.

# Writing Core Documents

# Guidelines for Writing a Residency Mission Statement, Goals and Objectives

## THE MISSION STATEMENT

A Mission Statement should describe the residency program – why it exists and what it hopes to accomplish, in terms everyone can understand. It draws on **core beliefs**, and should focus on one common purpose. It should be specific to the program, not generic, and should be brief and targeted (1-3 sentences). Further, a Mission statement should:

- Define the residency program's underlying purpose and rationale: how will this program make a distinct contribution to the advancement of post-graduate neurologic physical therapy practice?
- Describe the principles and standards to be maintained and communicated in compelling terms
- Be public (e.g., on the program's website) and responsive to its constituents (a living document)
- Guide the program's planning and resource allocation decisions
- **Be congruent with the hospital/institution's mission**

A discussion with a small planning task force can help to determine the core **beliefs** that will give rise to the program mission. Consider:

- The beliefs, mission, and environment of the institution
- The values of the institution and the residency program
- What the program may be like in the future
- How this "preferred future" might meet the residency program's goals as well as community goals

*Example: The Program's mission is "to prepare physical therapists with advanced knowledge and skills in neurologic physical therapy integrated with a foundation in the basic and applied sciences and scientific inquiry."*

## RESIDENCY PROGRAM GOALS AND OBJECTIVES

Program goals and objectives should be consistent with the mission statement. They should be obtainable given current/expected resources. They should be regularly reviewed and updated. They must be SMART – specific, measureable, achievable, realistic, and time-referenced.

**Goals are:** broad statements (3-5) that emphasize how the mission will be achieved or continued during a time frame; these address only one area at a time, with each being achievable and realistic; they should reflect the goals of the PROGRAM, not the resident.

*Example of a Program goal: The Program will provide the necessary content and clinical experiences to prepare the resident for successful completion of the ABPTS specialist certification examination.*

**Objectives are:** more specific statements under each goal that describe the essential activities that must be completed to achieve each goal. The objective is also written according to what the PROGRAM will do, <u>not</u> what the resident will do.

*Example of a Program objective: The Program faculty will update the program curriculum semi-annually to assure the content is consistent with current evidence.* If the objective was written as follows: "The resident will demonstrate evidence-based knowledge and practice," it would be an objective for the resident, not the Program.

## RESIDENT GOALS AND OBJECTIVES

Resident goals should also be congruent with the mission statement and program goals, and are focused at the level of the individual resident. The definitions of goals and objectives are the same as above: a goal is a broad outcome statement for the resident, while the objectives describe more specifically outcomes/activities the resident should complete in order to meet the broad goal.

## METHODS OF ASSESSMENT

Once program and resident objectives have been established, it is important to identify logical and quantifiable methods of assessment that are linked to these objectives. This will assist the program in determining if they are successfully achieving their objectives or if modifications of stated objectives and/or assessment methods are required.

*Example of a program and resident goal with associated objectives and methods of assessment:*

| **Program Goals**<br>**The Program will:** | **Objectives** | **Method of Assessment** |
|---|---|---|
| Support the Institution's mission by assisting people with physical disabilities and related impairments to achieve significant functional improvements, through an increased number of accomplished patient-care providers in the area of neuromuscular preferred practice patterns A through I as defined by the *Guide to Physical Therapist Practice*.[1] | • Residency mentors will provide skilled supervision of the resident and integrate educational opportunities as they arise in the clinic. | • Annual review of residency faculty completed by members of Residency Committee.<br>• Mentor Feedback Forms completed for all mentors by each resident, reviewed by mentor and resident, and provided to Residency Director.<br>• Residency Director assesses mentors during a 1:1 mentored treatment session on an annual basis and provides summative feedback on their ability to provide skilled supervision of the resident and integrate educational opportunities within the clinic.<br>• At least 75% of Program's mentors have obtained board certification in neurology. |

| **Resident Goals**<br>**The Resident will:** | **Objectives**<br>**The Resident will:** | **Assessment Tool(s)** |
|---|---|---|
| Become an accomplished patient-care provider in the area of neuromuscular preferred practice patterns A through I as defined by the *Guide to Physical Therapist Practice*.[1] | • Pass 90% of 1:1 mentoring sessions.<br>• Complete all practical examinations with a score of at least 80%. | • Resident Evaluation Form<br>• Patient Practical Rubric |

The following *Mission, Goals, Objectives, and Methods of Assessment Sample Table* provides additional examples of program and resident goals and objectives.

**Mission**

**The Program's mission is to provide practicing physical therapists an advanced level of clinical training, which will enable them to take a leadership role in the treatment of individuals with neurologic impairments. This program will create an accomplished patient-care provider, a resource for physical therapists and those in the community, a contributor to evidence-based practice, and a consumer of the scientific literature. Residents completing the program will be prepared to sit for the Physical Therapy Specialist Certification Examination in Neurology.**

| **Program Goals**<br>**The Program will:** | **Objectives** | **Method of Assessment** |
|---|---|---|
| **1.** Support the Institution's mission by assisting people with physical disabilities and related impairments to achieve significant functional improvements, through an increased number of accomplished patient-care providers in the area of neuromuscular preferred practice patterns A through I as defined by the *Guide to Physical Therapist Practice* (2001). | • Residency mentors will provide skilled supervision of the resident and integrate educational opportunities as they arise in the clinic. | • Annual review of residency faculty completed by members of Residency Committee.<br>• Mentor Feedback Forms completed for all mentors by each resident, reviewed by mentor and resident, and provided to Residency Director.<br>  o Mentor's ability to provide skilled supervision and integrate educational opportunities specifically assessed.<br>• Mentors are assessed by the Residency Director during a 1:1 mentored treatment session on an annual basis. Summative feedback is provided their ability to offer skilled supervision of the resident and integrate educational opportunities within the clinic.<br>• At least 75% of Program's mentors have obtained board certification in neurology. |
| **2.** Prepare a curriculum that meets the requirements for specialist certification by the ABPTS. | • The curriculum will address substantial areas of the *Neurologic Description of Specialty Practice* (DSP, 2004.) | • Annual review of residency curriculum completed and disseminated through posted minutes by members of Residency Committee to ensure consistency with current DSP (2004).<br>• Program pass rate of NCS exam of at least 90%. |

| Program Goals<br>The Program will: | Objectives | Method of Assessment |
|---|---|---|
| **3.** Provide residents with an advanced level of clinical training and education in the area of neurologic physical therapy as outlined in the DSP (2004). | • Residency mentors will promote practical application of information presented during didactic/lab sessions through mentored treatment sessions and post-session review. | • Mentor Feedback Forms completed for all mentors by each resident, reviewed by mentor and resident, and provided to Residency Director.<br>o Mentor's ability to integrate curriculum into clinical practice specifically assessed.<br>• Mentors are assessed by the Residency Director during a 1:1 mentored treatment session on an annual basis. Summative feedback is provided their ability to promote practical application of information presented during didactic/lab sessions. |
| **4.** Facilitate the development and refinement of clinical decision-making through consistent clinical guidance and feedback. | • Residency mentors will provide a minimum of 150 hours of 1:1 patient treatment time with emphasis on guiding the resident's clinical decision-making through a process of hypothesis development, data collection, and reassessment utilizing evidence-based practice. | • Mentor Feedback Forms completed for all mentors by each resident, reviewed by mentor and resident, and provided to Residency Director.<br>o Mentor's ability to guide clinical decision-making specifically assessed.<br>• Mentors are assessed by the Residency Director during a 1:1 mentored treatment session on an annual basis. Summative feedback is provided their ability to guide clinical decision-making.<br>• Resident Time Sheet reflects a minimum of 150 hours of 1:1 patient treatment time with mentors. |

| Program Goals<br>The Program will: | Objectives | Method of Assessment |
|---|---|---|
| **5.** Prepare each resident to provide highly effective care for the neurologic patient population, specifically neuromuscular preferred practice patterns A through I, by means of evidence-based practice. | • Residency faculty will request that residents proficiently develop clinical questions, perform critical reviews of scientific literature, and demonstrate appropriate methods to answer these clinical questions (e.g. through case presentations and/or critically appraised topics) (Straus et al., 2005). | • Mentor Feedback Forms completed for all mentors by each resident, reviewed by mentor and resident, and provided to Residency Director.<br>o Mentor's ability to consistently assign and review clinical questions, literature reviews, and methods used to answer clinical questions specifically assessed.<br>• Residency Director assesses mentors during a 1:1 mentored treatment session on an annual basis and provides summative feedback on their ability to assign and review clinical questions, literature reviews, and methods used to answer clinical questions. |
| **6.** Provide each resident with the skills necessary to become a resource in the community that they serve. | • The residency program will provide opportunities for community service, teaching, and specialty observation at sites throughout the surrounding area in an effort to promote social responsibility. | • Residency Director will schedule and oversee at least 8 hours of community service, 3 hours of didactic teaching, and 32 hours of specialty observation.<br>• Resident Time Sheet will reflect required hours in each area. |
| **7.** Prepare each resident to fill the role of mentor and clinical specialist. | • Residency mentors will provide the resident opportunities for mentoring of Program staff during each residency rotation. | • Mentor Feedback Forms completed for all mentors by each resident, reviewed by mentor and resident, and provided to Residency Director.<br>o Mentor's ability to provide opportunities for mentoring specifically assessed.<br>• Resident Time Sheet reflects a minimum of 2 hours of 1:1 mentored treatment time with Program staff during each rotation. |

| Program Goals<br>The Program will: | Objectives | Method of Assessment |
|---|---|---|
| **8.** Promote advancement in the field of neurologic physical therapy, specifically neuromuscular preferred practice patterns A through I, by providing a program designed to advance the clinical skills of practicing physical therapists in the area of neurology. | • The residency program will provide patient experiences of neuromuscular preferred practice patterns A through I as defined by the *Guide to Physical Therapist Practice* (2001) through direct patient treatment or specialty observation. | • Residency Director will ensure resident completes at least 1,200 hours of patient care, 150 hours of mentored treatment time, and 32 hours of specialty observation.<br>• Resident Time Sheet will reflect required hours in each area. |

| Resident Goals<br>The Resident will: | Objectives<br>The Resident will: | Assessment Tool |
|---|---|---|
| **1.** Become an accomplished patient-care provider in the area of neuromuscular preferred practice patterns A through I as defined by the *Guide to Physical Therapist Practice* (2001). | • Pass 90% of 1:1 mentoring sessions.<br>• Complete all practical examinations with a score of at least 80%.<br>• Successfully complete all goals and objectives for each rotation.<br>• Complete at least 32 hours of specialty observation in specified areas. | • Resident Evaluation Form<br>• Patient Practical Rubric<br>• Rotation Goals and Objectives Form<br>• Resident Time Sheet |
| **2.** Complete a curriculum that meets the requirements for certification by the American Physical Therapy Association. | • Pass all written exams with a score ≥80%. | • Mid and Year-End Written Examinations |
| **3.** Complete an advanced level of clinical training and education in the area of neurologic physical therapy as outlined in the DSP (2004). | • Pass the ABPTS Neurologic Clinical Specialist Examination. | • ABPTS Neurologic Clinical Examination |
| **4.** Exhibit sound clinical decision-making. | • Pass 90% of 1:1 mentoring sessions.<br>• Complete all practical examinations with a score ≥80%. | • Resident Evaluation Form<br>• Patient Practical Rubric |
| **5.** Provide highly effective care for the neurologic patient population, specifically neuromuscular preferred practice patterns A through I, by means of evidence-based practice. | • Complete 2 case presentations with a score of ≥80%.<br>• Prepare and submit a poster presentation based on one of their patient case reports. | • Case Presentation Rubric<br>• Acceptance/denial e-mail from the APTA and/or PPTA |
| **6.** Demonstrate the skills necessary to become a resource in the community that they serve. | • Complete 8 hours of community service related to skilled physical therapy. | • Letter of support from community service organization |

| | | |
|---|---|---|
| | • Teach at least 3 hours of neurologic component of an entry-level physical therapy course. | • Teaching Assessment Rubric<br>• Student Feedback<br>• Professional Portfolio Rubric<br>  ○ Community service and teaching are included in a reflective writing section of their professional portfolio upon conclusion of residency program |
| **7.** Fill the role of mentor and clinical specialist. | • Complete 2 hours of mentoring during each rotation. | • Mentor Feedback Form |
| **8.** Promote advancement in the field of neurologic physical therapy, specifically neuromuscular preferred practice patterns A through I, by providing advanced clinical skills in the area of neurology. | • Complete 1,200 hours of patient care and 150 hours of mentored treatment time with a diverse neurologic patient population.<br>• Complete at least 32 hours of specialty observation in specified areas. | • Resident Time Sheet<br>  • for hours and mentoring<br>• Patient Tracking Form<br>  • to track patient diagnoses |

**References**:

American Physical Therapy Association. (2001). Guide to Physical Therapist Practice (2nd ed). *Phys* Ther, 81, 9–744.

American Physical Therapy Association. (2004). *Neurologic Physical Therapy: Description of Specialty Practice*. Alexandria, VA: American Board of Physical Therapy Specialties.

Straus, S.E., Richardson, W.S., Glasziou, P., Haynes, R.B. (2005). *Evidence-Based Medicine: How to Practice and Teach EBM* (3rd ed). Edinburgh, Scotland: Elsevier Churchill Livingstone.

# Writing Learning Objectives Linked to Resident Assessment

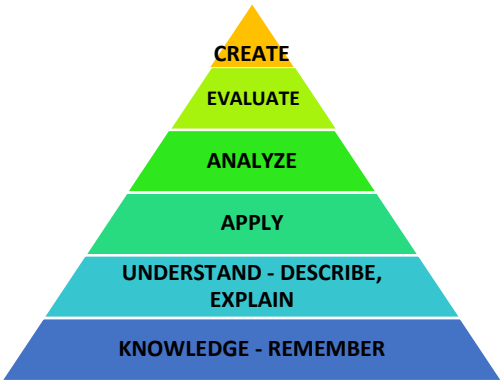
## HOW TO WRITE SPECIFIC LEARNING OBJECTIVES FOR DIDACTIC AND CLINICAL LEARNING EXPERIENCES

After establishing the resident goals and objectives, the next step is to write learning objectives that will lead to the successful attainment of resident goals. Objectives are the infrastructure upon which learning experiences and assessment are built. They are written first, followed by the design of a learning experience that should meet the objectives, and finally, the development of an assessment which will determine whether the resident actually met the objectives. Every learning experience should have some objectives: course objectives, objectives for assignments/observations, papers, etc. These represent what the resident will learn/accomplish by participating in the experience.

Learning objectives should:

- Be RESIDENT-CENTERED, e.g.,
  - By the end of this didactic session, the resident will analyze common gait characteristics of a client with post-polio syndrome
  - NOT: The mentor will provide video tapes and guidelines for analysis
- Be SPECIFIC, e.g.,
  - Define the parameters of xxx problem
  - Choose appropriate formulas
  - Etc.
  - NOT: Be able to solve a xxx problem
- Use CAREFULLY CHOSEN ACTION VERBS
  - These communicate the kind of intellectual effort that is expected, e.g.,
    - List the steps in the diagnostic process
    - Evaluate published clinical practice guidelines on BPPV
- Be MEASUREABLE
  - Define, explain, differentiate
  - NOT: understand, know, be familiar with, comprehend, learn, appreciate

Bloom's Taxonomy is invaluable for writing learning objectives. The Taxonomy lists categories of learning behaviors in a hierarchical fashion, ranging from simple to complex. These categories can be thought of as the goals of the learning process, and vary by degree of difficulty.




Each learning level has associated action verbs that can be used when writing objectives. For residents, most learning experiences should have objectives in the higher levels of the taxonomy.

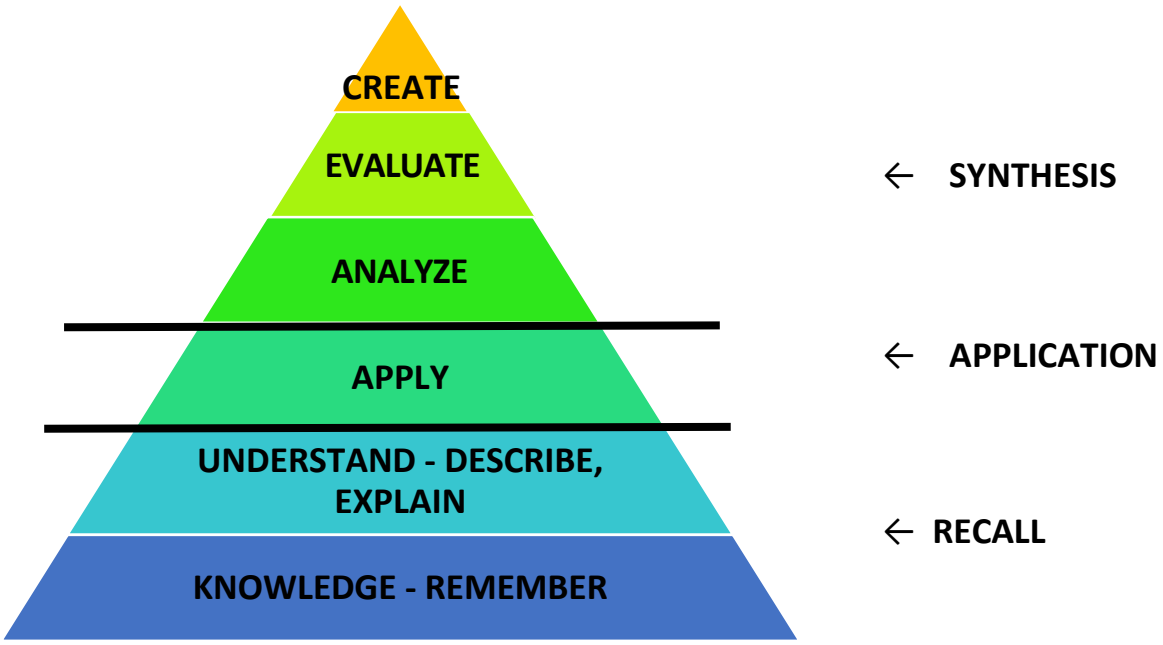
An excellent 2-page resource with action verbs at each level of the Taxonomy can be downloaded at this website:

http://www.aafp.org/online/etc/medialib/aafp_org/documents/cme/cmefacultydevelopment/learningobjectives.Par.0001.File.dat/LearningObjectivesGuidelines.pdf

## LEARNING OBJECTIVES SHOULD LINK TO RESIDENT ASSESSMENT

Learning objectives are shared at the outset of a course/assignment/experience, so they communicate expectations to the resident. For example, an objective that states, "List imaging tests used to diagnose hemorrhagic stroke" would convey a very different level of learning than "Locate an intracerebral hemorrhage on a CT Scan". They also guide the mentor/teacher in preparing content at the appropriate level of difficulty (e.g., reading about diagnostic tests vs. analyzing CT scans).

Finally, they guide the level of assessment (e.g., test questions). Three cognitive levels of assessment are: recall, application, and synthesis.




Examples of test questions written at the recall level, application, and synthesis level follow:

Recall level: tests isolated facts, e.g.:

For people with Parkinson's disease, Sinemet acts as a(n):

a. acetylcholine agonist.
b. central nervous system depressant.
c. dopamine replacement.*
d. monoamine oxidase inhibitor.

Application level: tests application of knowledge, e.g.:

Which of the following is a benefit of controlled-release Sinemet?

a. controls spasticity throughout the dose period
b. improves poor motor planning associated with Parkinson's disease
c. reduces symptoms of orthostatic hypotension
d. reduces effects of on-off phenomenon*

Synthesis level: tests the ability to come to a conclusion based on multiple sources of information, e.g.:

An 86 year-old patient with a 12-year history of Parkinson's disease began having episodes of "freezing" about 1 year ago. These especially occur when stepping in and out of the bathtub, and when negotiating stairs. He has experienced occasional falls which have recently increased in frequency to about 3 per week. The patient's wife is no longer able to assist him up from the floor after a fall so he has been spending more and more time in bed. His past medical history included hypertension and Type II diabetes, and he takes Glucotrol, Inderal, and Sinemet.

Following a recent Emergency Department visit for a fall which resulted in a concussion, this patient is referred for physical therapy. During the first session, the physical therapist should determine:

a. how long it has been since the patient's Sinemet dose has been adjusted.*
b. the patient's level of safety walking both with and without an assistive device.
c. the patient's score on the Freezing of Gait Questionnaire.
d. whether the patient has had a recent MRI of the brain.

**Learning objectives link to assessment by matching the action verb of the objective to the cognitive level of the test question.** Some examples:

Learning Objective: Define incomplete spinal cord injury *(recall)*

Question: According to the International Standards for Neurological Classification, the neurologic finding that distinguishes an incomplete from a complete spinal cord injury is the presence of:

a. an intact sacral reflex arc.
b. controlled emptying of the bladder.
c. normal deep tendon reflexes below the level of the lesion.
d. voluntary anal sphincter function.*

Learning Objective: Explain respiratory impairments associated with tetraplegia. *(application)*

Question: A patient with a complete C6 spinal cord injury will have compromised respiratory function secondary to:

a. an inability to utilize accessory muscles for inhalation.
b. loss of innervation to the diaphragm.
c. paralysis of muscles of forced expiration.*
d. reliance on prolonged mechanical ventilation.

Learning Objective: Prioritize physical therapy interventions for patients with acute paraplegia (*synthesis*)

Question: A patient with complete T12 paraplegia has just started spending periods of time sitting up in a wheelchair. He is wearing a plastic TLSO. During an early physical therapy session he should be trained in:

a. a lifting pressure relief completed every 60 minutes.
b. an efficient mode of wheelchair propulsion.*
c. how to perform an assisted cough.
d. rolling side to side using trunk rotation.

**Importantly, objectives written at the "analyze" or "application" level should *not* be tested with questions that ask for "recall" of information.**

**Reference**:

Ambrose, S.A., Bridges, M.W., Lovett, M.C., DiPietro, M., Norman, M.K. (2010). *How Learning Works: Seven Research-Based Principles for Smart Teaching.* San Francisco, CA: Jossey-Bass.

# Curriculum

# Planning the Curriculum of a Neurologic Residency Program

## OVERVIEW

The overall curriculum of a residency program involves the integration of learning from:

- **clinical practice and mentoring opportunities** that address the patient/ client management model and reinforce theory / foundational knowledge;
- **didactic experiences** that address the theoretical / foundational aspects of neurorehabilitation science and the practice expectations associated with professional roles, responsibilities, and values.

When developing a neurologic residency curriculum, it is important to make sure that the major content areas of the curriculum are related to the *Neurologic Physical Therapy Description of Specialty Practice* (DSP), a document that is published by the American Board of Physical Therapy Specialties Specialty Council on Neurologic Physical Therapy. This document is the official blueprint for the Neurologic Certified Specialist exam, and is updated every ten years. The publication of an updated DSP will require neurologic residency programs to modify the content of their curriculum to reflect the new DSP. The table below provides an example of how a program might link its curricular content to the DSP and identifies didactic and clinical experiences to support its desired curricular outcomes In fact, a table such as this one is required on the ABPTRFE application for a new neurologic residency program.

## SAMPLE TABLE RELATING CURRICULUM TO THE *DESCRIPTION OF SPECIALTY PRACTICE*

| Content Area | Related Area in DSP/DSAP | Location in Curriculum (e.g. semester, week) | Didactic Experiences | Clinical Experiences | Mentoring Hours Provided |
|---|---|---|---|---|---|
| Foundation Sciences | • Anatomy/ Neuroanatomy<br>• Neuroplasticity<br>• Neurophysiol-ogy<br>• Skill Acquisition/ Motor Learning<br>• Motor Control | • Graduate courses (Spring semester)<br>• Teaching labs (primarily Fall semester)<br>• Neuro resident conference (twice monthly)<br>• Grand Rounds, Professional Development inservices (weekly)<br>• Mentored Clinical Practice (3X/wk throughout 12 mos.)<br>• Specialized Clinic visits (variable throughout 12 mos.)<br>• Health Care Professional Shadowing (variable during 12 mos.)<br>• Research experiences (variable times)<br>• Case Study (Spring and Summer semesters) | • Graduate courses<br>• Neuroscience and neurorehab course lab instruction<br>• Neuro Resident Conferences<br>• Grand Rounds<br>• Professional Development inservices<br>• Independent Study | • Mentored Clinical Practice<br>• Health Care Professional Shadowing<br>• Specialized Clinic Experiences<br>• Research Experiences<br>• Case Study | 10-12 hours of mentored time with instructors in preparation for teaching neuroscience and neurorehab course labs related to content;<br>3 hour weekly clinical mentoring related to application of foundation sciences to patient management |
| Behavioral Sciences | • Cultural competence<br>• Ethical issues in practice | • Online cultural competence module and readings (available entire 12 mos.)<br>• Free Clinic (weekly )<br>• Mentored Clinical Practice (3X/wk )<br>• Health Care Professional Shadowing (variable) | • Online OSU cultural competence module and suggested readings<br>• Independent study | • Free Clinic (community outreach)<br>• Mentored Clinical Practice<br>• HCP shadowing and discussion of ethical issues | 3 hour weekly clinical mentoring as relevant to cultural and ethical issues |

| Content Area | Related Area in DSP/DSAP | Location in Curriculum (e.g. semester, week) | Didactic Experiences | Clinical Experiences | Mentoring Hours Provided |
|---|---|---|---|---|---|
| Professional Roles, Responsi-bilities, and Values | • Professional Roles, Responsibilities, and Values | • Mentoring inservice (first or second week of residency)<br>• Online readings (available throughout 12 mos.)<br>• Mentored clinical practice (3X/wk)<br>• Free Clinic (weekly in Summer) | • Annual Mentoring inservice<br>• Online readings on service learning and reflective practice | • Free Clinic (community outreach)<br>• Mentored Clinical Practice | Self-assessment and feedback from residency faculty on generic abilities |
| Patient/ Client Manage-ment | • Examination<br>• Evaluation<br>• Diagnosis<br>• Prognosis | • Graduate courses (Spring semester)<br>• Teaching labs (primarily Fall)<br>• Neuro resident conference (2X/mo.)<br>• Grand Rounds, Professional development inservices (weekly)<br>• Mentored Clinical Practice (3X/wk )<br>• Specialized Clinic visits (variable times)<br>• Free Clinic (weekly during Summer) | • Graduate courses<br>• Neurorehab course lab instruction<br>• Neuro Resident Conferences<br>• Grand Rounds<br>• Professional Development inservices<br>• Independent Study | • Mentored Clinical Practice<br>• Specialized Clinic Experiences<br>• Free Clinic | 3 hour weekly clinical mentoring as related to examination, evaluation, diagnosis, and prognosis of patients |

## Didactic Learning Experiences

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Didactic content is intended to broaden the resident's understanding of theoretical and foundational knowledge areas defined in the DSP (2004). Content may address:

| Knowledge areas * | |
|---|---|
| Foundation Sciences | anatomy/neuroanatomy, physiology/neurophysiology, movement science, physics |
| Behavioral Sciences | psychology/ neuropsychology, teaching and learning theory, communication, decision making |
| Clinical Sciences | kinesiology, pathokinesiology, pathology, pharmacology, motor development, psychiatry, epidemiology |
| Sciences Related to Critical Inquiry | research design, statistics |
| Practice Expectations * | |
| Professional Roles, Responsibilities, and Values | leadership, virtuous behavior, education, consultation, EBP |
| Patient/ Client Management | examination, evaluation, diagnosis, prognosis, intervention, outcomes |

*This content will need to be modified with each new publication of the DSP.

### MAKING DECISIONS ABOUT WHAT CONTENT TO COVER WITH DIDACTIC LEARNING EXPERIENCES

Using the DSP content areas listed above as a guide, program developers can identify the core topics to include in the didactic curriculum by assessing their program's strengths and the resources available to it.
For example:

- If there are program faculty with clinical / teaching expertise in certain content areas, it may be easy to capitalize on these resources and engage these individuals in the development of this portion of the curriculum;
- The patient population served by the program's clinic may help to guide curricular decisions:
    - If a clinic services a large population of individuals with a certain health condition, it may be important to develop the depth of resident learning in this area; for example, if a clinical facility specializes in the care of individuals with severe traumatic brain injury, it would be appropriate to develop didactic content addressing the examination and management of patients who are minimally conscious;
    - If a program has limited access to individuals with certain neurologic health conditions, a didactic unit may be developed to provide exposure to relevant concepts in patient /client management for these diagnostic categories;
    - If a program's clinical services do not cover the care of individuals across the lifespan, didactic content can be added to supplement deficient age ranges;
- A facility may be able to take advantage of pre-existing didactic learning opportunities; these may be sponsored by the clinical and / or academic groups associated with the program, or they may be provided by outside institutions / organizations:
    - For example, there may be an on-site journal club already established within a clinical facility; it may address a topic unique to another rehabilitation discipline, such as neuropsychology
    - Academic or continuing education classes or online educational modules may also be used as a means of providing didactic training
- A program's mission statement and goals may direct some of the didactic content decisions:

- For example, if one of a program's goals is to advance care to underserved neurologic populations, it may be important to provide foundational content addressing medical care concerns for the socially disadvantaged patient/ client;

## DEVELOPING CURRICULAR CONTENT FOR DIDACTIC EXPERIENCES

It can be challenging to begin the process of developing curricular content for a specific didactic unit within a residency program. The steps listed below are intended to provide a framework for this process.

Step #1: Defining a topic: the more specific a topic is, the easier it will be to speak about it and study it with the resident; one topic may have several different aspects to it that could be potentially explored:

- For example, if a faculty member attempts to tackle the topic of balance, the content area will be too large and unfocused;
  - To narrow the focus, one could choose to define a patient population (either diagnosis specific or age-specific, perhaps) OR select one particular aspect of balance (standardized assessment tools, for example) OR combine both of these (standardized balance assessment tools for use with individuals post-TBI)

Step #2: Topic foundational knowledge

- What foundational knowledge will the resident be required to use / integrate?
  - Content may require that the resident review / integrate knowledge in one or more of the following areas of the Description of Specialty Practice:
    - *foundational sciences* (anatomy/ neuroanatomy, physiology/ neurophysiology, movement science, physics)
    - *behavioral sciences* (psychology/ neuropsychology, teaching and learning theory, communication, decision making)
    - *clinical sciences* (kinesiology, pathokinesiology, pathology, pharmacology, motor development, psychiatry, epidemiology
    - *critical inquiry* (research design, statistics)

- Developing learning objectives for foundational knowledge content:
  - this faculty responsibility can be challenging at the outset, especially for those who have not had an opportunity to engage in this task previously;
  - Refer to **BLOOM'S TAXONOMY** below for information on creating learning objectives which progress the learner from a basic level of understanding to a level that is more consistent with expert care
  - See also "How To Write Specific Learning Objectives for Didactic and Clinical Experiences", p. 15

**Bloom's Taxonomy**
**Categories in the Cognitive Domain:**
**(with Outcome-Illustrating Verbs)**

The major idea of the taxonomy is that what educators want students to know (encompassed in statements of educational objectives) can be arranged in a hierarchy from less to more complex. The taxonomy is presented below with sample verbs and a sample behavior statement for each level.

1. **Knowledge** of terminology; specific facts; ways and means of dealing with specifics (conventions, trends and sequences, classifications and categories, criteria, methodology); universals and abstractions in a field (principles and generalizations, theories and structures): Knowledge is (here) defined as the remembering (recalling) of appropriate, previously learned information.
    - defines; describes; enumerates; identifies; labels; lists; matches; names; reads; records; reproduces; selects; states; views; writes;.
2. **Comprehension**: Grasping (understanding) the meaning of informational materials.
    - classifies; cites; converts; describes; discusses; estimates; explains; generalizes; gives examples; illustrates; makes sense out of; paraphrases; restates (in own words); summarizes; traces; understands.
3. **Application**: The use of previously learned information in new and concrete situations to solve problems that have single or best answers.
    - acts; administers; applies; articulates; assesses; charts; collects; computes; constructs; contributes; controls; demonstrates; determines; develops; discovers; establishes; extends; implements; includes; informs; instructs; operationalizes; participates; predicts; prepares; preserves; produces; projects; provides; relates; reports; shows; solves; teaches; transfers; uses; utilizes.
4. **Analysis**: The breaking down of informational materials into their component parts, examining (and trying to understand the organizational structure of) such information to develop divergent conclusions by identifying motives or causes, making inferences, and/or finding evidence to support generalizations.
    - analyzes; breaks down; categorizes; compares; contrasts; correlates; diagrams; differentiates; discriminates; distinguishes; focuses; illustrates; infers; limits; outlines; points out; prioritizes; recognizes; separates; subdivides.
5. **Synthesis**: Creatively or divergently applying prior knowledge and skills to produce a new or original whole.
    - adapts; anticipates; collaborates; combines; communicates; compiles; composes; creates; designs; develops; devises; expresses; facilitates; formulates; generates; hypothesizes; incorporates; individualizes; initiates; integrates; intervenes; invents; models; modifies; negotiates; plans; progresses; rearranges; reconstructs; reinforces; reorganizes; revises; structures; substitutes; validates.
6. **Evaluation**: Judging the value of material based on personal values/opinions, resulting in an end product, with a given purpose, without real right or wrong answers.
    - appraises; compares & contrasts; concludes; criticizes; critiques; decides; defends; interprets; judges; justifies; reframes; supports.

Step #3: Current evidence related to the selected topic

- Determining what the resident should read
    - Are there pivotal articles related to the subject area that would be considered required reading for the resident?
    - Are there aspects of the topic that lend themselves well to a literature search that the resident might perform?
- In general, how has this topic been studied?
    - approaches may have involved research lab methods vs. clinical research paradigms: what are the benefits / limitations of either method for studying this topic?
- What is already known about the topic? What areas require further research?

Step #4: Relating the didactic content to the patient / client management model

How does the didactic content relate to patient care? To answer this question, one might address any of the categories / questions below:

- Patient examination
  - Are there relevant examination procedures / standardized tests and measures that pertain to the topic area?
  - If the didactic content focuses on patient examination, it will be especially important to consider the psychometric properties of the tests and measures that are addressed so that the findings might be adequately interpreted
  - If a topic is intervention based, it would be appropriate to determine what examination findings might lead someone to select the specific intervention that is being addressed
- Patient evaluation / Diagnosis / Prognosis
  - Consider the relationship among impairments, activity and participation restrictions in the evaluation process
  - Can the didactic knowledge be used to classify patients into diagnostic practice patterns or help to delineate more measurable prognosis statements?
- Intervention
  - How will this didactic knowledge guide the resident to select interventions that have the greatest likelihood of producing successful patient outcomes?
  - Compare and contrast interventions that might be used to address the same impairment/ activity or participation restriction
  - What patient-related instruction might be applicable to the intervention the resident is studying?

Step #5: Performance-Based Content: Acquisition and Assessment

- What performance-based skills are considered to be basic / advanced related to this topic?
  - Within this range of skills, which will be reviewed or taught? Skills might address patient examination or be related to the delivery of an intervention.
- What is the optimal manner of providing opportunities for performance-based skill development?
  - What is the best way to teach the skills that are new to the resident?
  - After learning the essential skills, what is the best way for the resident to further refine his/ her skill level with this content? (practice on the other staff members, practice on the content mentor, mentored pt experience, etc.)
- What is the best method of demonstrating the resident's mastery of the performance-based content? Some assessment methods to consider could be:
  - Patient assessment and/or treatment with feedback from mentor
  - Mock "lab examination"
  - Analysis of video-based patient example
- What performance-based learning objectives are appropriate for this clinical content?
  - What level of performance do you consider to be indicative of skill mastery?

Step #6: Evaluating knowledge acquisition

In addition to evaluating performance-based skill, what is the optimal manner of determining the resident's knowledge of this didactic content? Some options to consider might include:

- Written examination
- Oral examination
- Patient case report (resident selects a case and applies the knowledge gained in the module to this case)
- Patient case analysis (the mentor provides a written case to the resident; the resident analyzes different aspects of this case)
- Literature review
- Reflection paper

The following residency syllabus has been provided as an example of how the previous recommendations may be integrated into a final format for the resident.

**Course:**
Foundation Sciences I

**Course Description:**
The purpose of this course is to provide a neuroanatomical and neurophysiological understanding for pathological conditions commonly encountered in the clinic. The syllabus follows a regional approach where basic science principles are presented to form the foundation for discussion of selected clinical correlations. This course includes the following topics:

I. Neuroscience
II. Skill Acquisition/Motor Learning
III. Motor Control

**Course Objectives:**
*The resident will:*
**Anatomy/Neuroanatomy**:

- Predict alterations in body structure and function given an occlusion of specific CNS arteries (e.g., anterior, middle, and posterior cerebral arteries).
- Relate lesioned areas on a brain, brainstem, or spinal cord section to specific anatomical structures and functions.
- Relate neuroanatomical changes (e.g., gray and white matter, synapses) across the lifespan with changes in sensory, motor, and cognitive functions.

**Neuroplasticity:**

- Identify neuroanatomical and neurophysiological processes that may underlie neuroplastic changes associated with learning, memory, and recovery from CNS injury.
- Synthesize current evidence regarding principles of behavioral training that drive neuroplastic changes associated with motor learning and/or recovery following neurologic injury or disease.
- Critically examine the relevance and feasibility of application of current neuroplasticity concepts to the treatment of individuals with neurologic conditions across lifespan.

**Neurophysiology:**

- Compare and contrast the etiology, clinical characteristics, and neurophysiological basis for neurogenic vs. non-neurogenic pain (e.g., painful diabetic peripheral neuropathy vs. low back pain).
- Distinguish between the etiology, clinical characteristics, and neurophysiological basis of common sensory vs. perceptual disorders (e.g., homonymous hemianopsia vs. unilateral neglect) following brain injury.
- Compare and contrast nervous and immune system effects of acute vs. chronic stress.
- Relate the effects of autonomic nervous system dysfunction to abnormal exercise responses.

**Skill Acquisition/ Motor Learning:**

- Discuss the component parts of a theoretical model of motor skill acquisition and retention.
- Discuss the interrelationship among kinematic and kinetic variables of a specific task.
- Differentiate explicit and implicit memory systems and their impact on motor skill acquisition post neurologic injury.

**Motor Control:**

- Explain how the organization and control of movement is constrained by factors within the individual, the task, and the environment.
- Compare and contrast the following theories of motor control: reflex, hierarchical, motor programming, systems, dynamic action, and ecologic, including basic neural elements used to explain the control of movement, limitations, and clinical applications.

- Compare and contrast neurofacilitation and task-oriented approaches to neurologic rehabilitation in regards to their underlying assumptions about movement control, functional recovery, and clinical assessment and treatment practices.

**Methods of Instruction:**

- 12 hours of lecture/group discussion of neuroanatomy and neurophysiology
- 12 hours of lecture/group discussion on general principles of skill acquisition/motor learning and motor control.

**Faculty:**

Neuroscience
Joe Smith, PT, PhD

Skill Acquisition/Motor Learning/Motor Control
Jane Smith, PT, PhD, NCS

**Recommended Readings:**

Please refer to the resources listed under Foundation Sciences on the Neurology Section Resource List.

**Student Evaluation:**

- Student evaluation will be based on class participation and a comprehensive examination at the end of Semester I. A score of 80% or higher on the comprehensive examination is passing.
- Practical examination with rationale for treatment based on principles of neuroscience, upper motor neuron syndrome, and motor learning/control. Pass/Fail.

## USING ACTIVE LEARNING STRATEGIES FOR TEACHING DIDACTIC CONTENT

"Active learning" engages a resident in such higher-order thinking tasks as analysis, synthesis, and evaluation. Strategies promoting active learning involve residents in **doing** things and **thinking** about what they are doing. While this could include traditional activities such as homework, the core elements of active learning are student activity and engagement in the learning process. Such learning is often contrasted to the traditional lecture where students passively receive information from the instructor. (Bonwell and Eison, 1991.)

Teaching and learning in a residency program lends itself to such strategies, since residents are adult learners aspiring to excel in a profession which requires constant "doing" and problem-solving. Below are some **examples** of teaching methods that promote active learning.

<table>
<tr><th>Large group/classroom teaching</th><th>Very small group or one-on-one teaching</th></tr>
<tr><td>Embed a multiple-choice question in a lecture; ask residents to answer it, then discuss.</td><td>Administer short quiz on specific topic prior to mentoring session to assess resident's level of knowledge and then discuss.</td></tr>
<tr><td colspan="2">Patient video analysis<br>- Have residents analyze/propose intervention for a functional task or gait, or score a test such as gait velocity or the DGI<br>- Present a paper referral, have residents propose interview questions, then watch video of history; propose tests and measures, watch subsequent exam; propose goals and interventions<br>- Have residents observe and critique a portion of a treatment session.</td></tr>
<tr><td></td><td>Clinical narrative – resident relates details of clinical decision making following a live patient exam and/or treatment; or analyzes the clinical narrative of another clinician</td></tr>
</table>

| | |
|---|---|
| Have residents do short presentations on selected topics to the class, or to entry-level students. | Have resident "lecture" to mentor or to entry-level student. |
| Residents keep a blog or journal about clinical or other learning experiences | |
| "Think/write-pair-share" – instructor poses a question and gives class 30 seconds to write an answer; then residents pair and discuss their respective answers. | Resident preps for class session by doing assigned reading(s), mentor asks questions that require application/ evaluation/analysis/ synthesis of reading material. |
| Assign a concept map activity to evaluate prior knowledge. | |
| Provide residents time/conversation for reflection: "What did you learn from this assignment? What did you do to prepare? What was the most valuable feature of this project? What skills do you still need to work on based on the outcome of this assignment?" Etc. | |
| Utilize peer review. | |
| Develop a portfolio: resident documents personal/professional mission/vision statement; includes listing of all/most experiences encountered/learned during the residency; can be helpful to demonstrate skills to potential employer. | |
| Given a clinical problem to resolve, the resident proposes a clinical decision making algorithm to explore the problem from all angles. | |
| Resident creates a clinical practice guideline for a specific topic within the clinical facility. | |
| | Resident participates in a chart review within the department: what's missing/ what's well documented. |
| Resident participates in or leads a case discussion session (retrospective case) or live case (example: gait analysis session). | |

**References**:

Bonwell, C.C., Eison, J.A. (1991). Active Learning: Creating Excitement in the Classroom. In *ASHEERIC Higher Education Report No.1*. Washington, DC: George Washington University.

Ambrose, S.A., Bridges, M.W., Lovett, M.C., DiPietro, M., Norman, M.K. (2010). *How Learning Works: Seven Research-Based Principles for Smart Teaching.* San Francisco, CA: Jossey-Bass.



## CLINICAL PRACTICE EXPERIENCES

Clinical practice provides the opportunity for a resident to apply knowledge gained from didactic experiences to patient care. Clinical practice also helps to shape the theoretical and foundational topics that are relevant to each resident's experience. Patient-driven questions often drive the direction of the content that is covered within a residency program. Whenever possible, it is helpful to align the didactic experiences with clinical practice.

Across the duration of many programs, residents are required to rotate from one unit to another within the health care system. The determination of an optimal rotation sequence may take into account any of the following factors:

- Following the normal flow of patients through the health system (acute hospital, inpatient acute rehabilitation unit, outpatient department, home health care)

- Interdisciplinary exposure and support: it may be helpful to begin the clinical experiences of a residency program with the unit offering the maximum amount of interdisciplinary networking opportunities so the resident can gain a good understanding of each team member's role, responsibilities, communication style, and patient care preferences

## APPRECIATING THE DYNAMIC ASPECTS OF A CURRICULUM

Although a curriculum represents a planned set of learning activities, there will always need to be flexibility in the delivery of its content, based on prevailing factors that frequently arise within a residency program. The sequencing of curricular content may be influenced by:

- The availability of patients to provide the necessary experiential learning opportunities within a content area
- The availability of clinical mentors involved with teaching
- The teaching responsibilities that the resident may assume over the course of the program
    - A resident may need to complete specific course work in advance of providing instruction to entry level physical therapy students
- The need to "front load" some aspects of the curriculum that provide some basic knowledge and skill training that is considered essential for resident success across the entire program
- The workload of the resident at any one time within the program: adjustments in curricular flow may need to be made to protect the resident from excessively high curricular demands

Within a program's mission statement and goals, the patient populations and health conditions that are readily available to the resident are defined. Due to the patient census fluctuations that are frequently part of neurologic practice, it is not always possible to provide the resident with a reasonable exposure to certain diagnostic groups. When this situation arises, the resident can be asked to engage in additional learning experiences to augment his/her knowledge in these areas. Some suggested ways to accomplish this are as follows:

- Assign the resident readings that address this content area:
    - the NCS Resource List and articles posted by the Neurology Section's Special Interest Groups can be useful in selecting relevant literature
    - Identify an author with considerable expertise in this diagnostic category, and follow the evolution of articles that this person has contributed to the literature to see how this specialty practice has evolved
- Have the resident shadow a clinician who treats individuals in this diagnostic category
    - This may involve connecting with another local health care system and creating a memorandum of understanding to delineate the expectations of the learning experience that will be provided to the resident
- Look to see if there is educational material available already:
    - APTA Learning Center
    - University websites
- Create a clinical scenario (paper case) and have the resident look into relevant tests and measures, interventions, or prognostic information to highlight the uniqueness of the patient and/ or the diagnostic category
- Connect with another residency program that may have better access to the patient population that is not well supported by your own program: propose a method of sharing resources that might be mutually beneficial

# Augmentative Teaching Materials

## NEUROLOGIC PHYSICAL THERAPY RESIDENCY LABORATORY EXPERIENCES

Laboratory experiences allow the resident to practice assessments and treatment techniques to gain competency in advanced psychomotor skills. They can be formal as part of a didactic course or informal according to the resident's case load. Residents could be assigned readings and/or case studies in preparation for the lab. Here is a list of potential ideas for laboratory experiences that might be offered in a neurologic physical therapy residency program:

- ***Neuroanatomy Lab***: resident reviews the major structures and functions of the central and peripheral nervoussystems using real human cadavers, brains and spinal cords, and/or models, atlases, or CT and MRI images.

- ***Advanced Tests and Measures Lab***: resident practices on mentor newer tests and measures (e.g., BESTest or mini-BESTest), tests that are recommended by the APTA Neurology Section EDGE task forces that the resident is not familiar with, or tests and measures that require specific training (e.g., UPDRS motor assessment for PD, STREAM for stroke, ASIA Scale for SCI, GAITRite for gait assessment, etc.).

- ***Sensory Assessment and Treatment Lab***: resident practices assessments [e.g., Hand Active Sensation Test (HASTe)] and evidence-based sensory retraining techniques for individuals with stroke.

- ***Neglect Assessment and Treatment Lab***: resident practices evidence-based assessment and treatment techniques (e.g., TENS, optokinetic stimulation, vibration, prisms) for individuals with neglect.

- ***Locomotor Training Lab***: resident practices manual locomotor training techniques on mentor or patient on treadmill and/or overground using Biodex, LiteGait or comparable system with and without body-weight support for individuals with neurologic disorders.

- ***Parkinson Disease Lab***: Resident practices evidence-based treatments (e.g., auditory and visual cueing, LSVT BIG, ballroom dance, tango) for patients with Parkinson Disease.

- ***Assistive Technologies Lab***: resident practices interventions using assistive technologies [e.g., virtual reality, Wii and Dance Dance Revolution video games, functional electrical stimulation (e.g., FES cycling, WalkAide, FES for hemiplegic shoulder), biofeedback] for individuals with neurologic disorders.

- ***Constraint-Induced Movement Therapy***: resident practices application of evidence-based CIMT training protocol for individuals with neurologic disorders.

- ***Vestibular Rehabilitation Lab***: resident practices evidence-based assessments and treatments for individuals with central and peripheral vestibular disorders.

- ***Serial Casting Lab***: resident practices how to properly apply serial casts for individuals with range of motion limitations secondary to neurologic disorders.

- ***Rigid Removable Dressing Lab***: resident practices how to properly apply a rigid removable dressing for an individual with a neurological disorder and amputation.

## CLINICAL PRACTICE LEARNING EXPERIENCES: SPECIALTY CLINICS/HEALTH CARE PROFESSIONAL (HCP) OBSERVATIONS

Residents can be provided with specialty clinic and health care professional observation experiences to allow clinical practice and/or observational opportunities in specific neurologic patient populations or practice areas. In addition, these experiences provide opportunities for the resident to learn more about the roles and scope of practice of other professionals and fosters interdisciplinary collaborations. These experiences would ideally include mentorship by a physical therapist. Here is a list of potential specialty clinic and/or HCP observations that might be included in a neurologic physical therapy residency program:

***Assistive Technologies***: Residents observe and assist certified Assistive Technology Professionals (ATP) and/or physical therapists with evaluations for assistive devices such as wheelchairs, scooters, special computer equipment, communication devices and vehicle modifications.

***Communication/Swallowing Disorders***: Resident observes speech/language pathologist assessing and treating neurologic patients with communication and/or swallowing problems.

***Movement Disorders Clinics***: Residents observe health care team members and provide physical therapy services to individuals with movement disorders (e.g., Parkinson disease, Huntington's disease) at interdisciplinary clinic.

***Multiple Sclerosis (MS) Clinic***: Residents observe health care professionals and provide physical therapy services to patients with MS at their regular interdisciplinary clinic visits. This might include opportunity for resident to observe intrathecal baclofen trials for spasticity management.

***Neuromuscular Disease (NMD) Clinics***: Residents attend muscular dystrophy, spinal muscular atrophy, and amyotrophic lateral sclerosis interdisciplinary clinics.

***Neuropsychological Disorders***: Resident observes neuropsychologist working with a patient with neurological injury to learn about cognitive, motor, behavioral, linguistic, and executive functioning assessments and their interpretations.

***NeuroRecovery Network (NRN)***: Residents spend time in an NRN to observe and participate in locomotor and activity-based treatment programs for people with spinal cord injury.

***Neurosurgical Observations***: Residents observe neurosurgery such as deep brain stimulation surgery for movement disorders or other surgeries.

***Orthotics/Prosthetics***: Resident observes a licensed prosthetist/orthotist treating neurologic patients with prosthetic/orthotic needs.

***Pediatrics Clinics***: Residents observe health care professionals at cerebral palsy, Downs syndrome, neonatal, and spina bifida interdisciplinary clinics.

***Peripheral Neuropathies***: Residents shadow a neurologist at EMG Laboratory and observe EMG/NCV testing of neuromuscular patients.

***Spinal Cord Injury***: Residents shadow a physiatrist at an outpatient Spinal Cord Injury follow up clinic to learn about medications, ASIA assessment, prevention of secondary complications, and maintaining optimal health, fitness, and wellness post-discharge from inpatient rehabilitation.

***Vestibular/Balance Disorders***: Residents observe and assist certified vestibular rehabilitation physical therapists treating patients with vestibular/balance problems.

## WRITING CASE REPORTS/STUDIES

Writing a case report/study is an excellent way to get residents to explore and critically evaluate the literature and communicate using a scientific writing style. These reports encourage residents to engage in a reflective process that requires them to articulate key patient-centered issues while concisely reporting patient data and analyzing the decisions they've made in the areas of physical therapy examination, management and outcomes for a patient with a neurologic disease/disorder. Resources that can be helpful for residency directors, faculty and residents to develop and write case reports/studies that are available through the APTA include the following:

- McEwen I (Editor). *Writing Case Reports: A How-to Manual for Clinicians* (3rd ed.). Alexandria, VA: American Physical Therapy Association.
  The book can be purchased online at this link: http://iweb.apta.org/Purchase/ProductDetail.aspx?Product_code=C-12-09&LI=0.

- Instructions on how to write case reports/studies for submission to either *Physical Therapy* or the *Journal of Neurologic Physical Therapy* can be found at their respective websites under the heading Information/Instruction for Authors:
  - http://ptjournal.apta.org/site/misc/ifora.xhtml (*PT*)
  - http://edmgr.ovid.com/jnpt/accounts/ifauth.htm (*JNPT*)

- Fillyaw, M.J. (2011). Case report writing in a Doctor of Physical Therapy Education program: A case study. *J Scholar Teach Learn*, 11, 139-154.

*An assessment form for case studies can be found in the Evaluation of Outcomes section of this compendium, p. 89.

# Mentoring Development/Assessment

## An Introduction to Mentoring

Mentoring serves as the cornerstone of every physical therapy residency program. Creating a culture that supports the growth and development of individuals who are capable of assuming the role of a clinical mentor doesn't just happen—it requires thoughtful planning and open dialogue about the range of clinical and teaching experience of the program's faculty, the scope and expectations of the residency training that can be reasonably offered, and the resources available to support mentor development.

Clinicians involved with developing residency programs frequently struggle with understanding the concept of mentoring. Many of these clinicians have served as clinical instructors for entry level physical therapy students, and they wonder how being a mentor might differ from this more familiar role.

The American Board of Physical Therapy Residency and Fellowship Education defines a **mentor** as follows:

> "…a practitioner with advanced knowledge, skills, and clinical judgments of a clinical specialist who provides instruction to a resident or fellow-in-training in patient/client management, advanced professional behaviors, proficiency in communications, and consultation skills. The mentor may also provide instruction in research, teaching, and/or service. The six functions frequently used to describe the role of a mentor are teacher, sponsor, host and guide, exemplar, and counselor."

*(from the American Board of Physical Therapy Residency and Fellowship Education:* ***Evaluative Criteria for Residency and Fellowship Programs****; January 2013)*

As pointed out in this definition, the mentor's role in developing the skill and professional growth of the resident is multidimensional, and it differs from assuming a clinical instructor role for an entry level physical therapy student. Successful mentoring is first, and foremost, rooted in relationship—it is dependent upon the ability of the mentor and mentee to establish a bond based on trust, honesty, and mutual respect. This serves as the basis for meaningful interactions and conversations between the mentor and the mentee. Although the mentor and mentee walk along the same path during the residency program, the mentor is not there to "hand-hold" or engage in a "show and tell". Rather, the mentor is constantly setting up opportunities for the resident to engage in self-discovery and reflection consistent with advanced neurologic physical therapy practice. Frequently, these opportunities focus on an analysis of the examination, evaluation, and plan of care decisions rendered, and the process the resident used to arrive at the decisions that were made. The mentor has the additional challenge of being responsive to the changing needs of the resident as he/she encounters clinical situations of varying complexity and familiarity across the program's duration, while helping to guide the resident to see the "big picture" of professional growth and development that occurs as one reflects on experiences gained through clinical care, didactic and skill training, teaching, service, research, and interdisciplinary interactions.

The resources that follow in this section are intended to offer guidance for developing a new program's philosophy and understanding of mentoring. They cover topics that are essential to understanding different elements of mentoring in a more comprehensive manner. Information on the characteristics / responsibilities involved with mentoring, expert practice, levels of clinical development, clinical reasoning, reflection, and the microskills of clinical teaching follow.

# What is mentoring?

**Elements of Mentoring**

- Guiding the educational experience
- Mentee relies on wisdom of mentor
- Trust is established between mentor and mentee
    - Relationship continues to evolve over time depending on the needs of mentee and judgment of mentor

**Characteristics of Mentoring** (Souba, 2000*)*

- Motivating
- Empowering/Encouraging
- Nurturing self-confidence/ self-reliance
- Teaching by example
- Offering wise counsel
- Raising the performance bar

**Six Roles of a Mentor** (Levinson, 1978)

- Teacher – enhances person's skill, intellect
- Sponsor – uses his/her influence to for the benefit of the protégé
- Host and guide – professional socialization for values, resources, contacts, customs
- Exemplar – role model
- Counselor - moral support
- **All need to occur in a mentoring relationship**

**Mentor Responsibilities**

- Facilitate the growth of the resident from novice to more advanced clinician
- Nurture the resident's self-direction/initiative
- Set clear expectations for outcomes, communication, behavior, feedback, goals
- Set goals for the resident and mentor
- Model reflection as a means to advance practice:
    - In action – While the event is occurring (eg. During a treatment session)
    - On action – After the event is over (eg. After the treatment session)
    - For action - For a future event (eg. The next treatment session)
- Integrate knowledge, research, skills and practice
- Emphasize and insist upon use of evidence-based medicine/care/treatment/etc
- Assist resident in **patient-centered** care
- Exhibit cultural competence
- Values – assist the resident in understanding the expectations of physical therapists and demonstrating the APTA Core Values
- Psychosocial issues – modeling for the residents how to incorporate psychosocial issues into the patient's plan of care
- Collaboration – Working with the resident to assist with patient management, maximizing the learning experience, setting goals, determining best means of feedback, etc.
- Utilize sound ethical decision making
- Provide formal and informal feedback/assessment and questioning
- Share information and promote resident to obtain information
- Make his/her own practice transparent and open to evaluation by others
- Nurture the resident to become a leader in the profession of physical therapy and health care

**Characteristics of an effective mentor**

- Accessible
- Consistent
- Offers coherent guidance
- Honest
- Professional
- Authoritative when appropriate

"The transformation of our students requires the engagement of innovative and outstanding clinician-teachers who not only supervise students in their development of technical skills and applied knowledge but also serve as role models of the values and attributes of the profession and of the life of a professional." (Sutkin et al., 2008)

**Role of Mentor in a Residency**

- Guide professional and personal development
- Convey explicit academic knowledge required to master curriculum
- Enhance implicit knowledge about professionalism, ethics, values, culture, empathy, service to patient

**Mentoring is the Cornerstone of Residency Education**

- Strong relationships between mentor and resident lead to enthusiastic, creative learning environment
- Mentors facilitate the residents' explicit and implicit knowledge acquisition
- Mentors help residents to identify areas for continued personal and professional growth
- Residents develop professional associations that may provide future opportunities
- Mentors should introduce residents to their colleagues

**SUGGESTED READING:**

Levinson, D. J., Darrow, C. N, Klein, E. B., Levinson, M. (1978). *Seasons of a Man's Life*. New York: Random House.

Souba, W. (2000). The essence of mentoring in academic surgery. *J Surg Oncol*, 75, 75-79.

Sutkin G., Wagner, E., Harris, I., Schiffer, R. (2008). What makes a good clinical teacher in medicine? A review of literature. *Acad Med* , 83, 452-466.

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# Expert Practice

**Expert practitioners are thought to "do something better," because they know how to do the "right thing at the right time," and thereby "provide better care."** (Rothstein, 1999)

## THEORETICAL MODEL OF EXTERT PRACTICE (Jensen et al., 2000)

- Knowledge – multidimensional & patient centered
  - Started with professional education but not adequate for solving all clinical problems
  - Listening to patients is vital
  - Linking signs and symptoms to pathology/disease
  - Commitment to lifelong learning
  - **REFLECTION is critical**
- Clinical reasoning – collaborative, reflective
  - Patient, family, other specialists if needed
  - Take risks and learn from mistakes
  - Medical diagnosis is secondary to patient's functional limitations
- Skill acquisition
  - Focused practice
  - High intrinsic motivation
- Movement – centered on function
  - Learn from patients by movement
- Virtues – caring, commitment
  - High intrinsic motivation to succeed and continue to learn
  - Agents of change – work to make it better
  - Involved in the process – committed and caring for the patient
  - Patient advocates

## KEY ELEMENTS IN EXTERT PRACTICE (Jensen et al., 2000)

- Use of practical knowledge learned through listening to patients and reflective practice
- Core beliefs about patient-centered evaluation
- Movement assessment through observation and manual skills
- Shared commitment of mutual respect and care

## KEY ELEMENTS OF KNOWLEDGE AND CLINICAL REASONING OBSERVED IN EXPERT PHYSICAL THERAPISTS. (Jensen et al., 2000)

**Knowledge**

- Multidimensional
- Patients provide important sources of knowledge, gathered by careful listening
- Clinical specialty knowledge is a key component of evaluation
- Knowledge continues to evolve through reflective processes

**Clinical Reasoning**

- Demonstrate self-monitoring skills through selective data gathering, risk taking, and willingness to admit when they do not know
- Clinical problem solving in a collaborative activity with patients
- Focus on patient function and expectations, not the diagnosis.

**References:**

Jensen, G.M., Gwyer, J., Shepard, K.F., Hack, L.M. (2000) Expert practice in physical therapy. *Phys Ther*, 83, 28-43.

Jensen, G.M., Gwyer, J., Hack, L.M., Shepard, K.F.(2007). *Expertise in Physical Therapy Practice.* (2nd ed). St. Louis, MO: Saunders Elsevier.

Rothstein, J.M. (1999). Foreword II. In: Jensen, G.Mm, Gwyer, J., Hack, L.M., Shepard, K.F(eds). *Expertise in Physical Therapy Practice*. Boston, MA: Butterworth-Heinmann.

**Mentoring Toward Expert Practice**

***The GOAL of the residency!**

## ROLE DIFFERENTIATION

| Student | Resident |
|---|---|
| ◦ **Goal is to move toward "entry-level"**<br>◦ **Need close supervision to abide by state and regulatory laws/rules**<br>◦ **Guidance needed for learning, initiative**<br>◦ **Assist them in learning basic skills**<br>◦ **Students have "clinical instructors"** | ◦ **Goal is to move them toward expert practice**<br>◦ **Licensure not an issue so supervision corresponds to need only**<br>◦ **Residents take initiative or guided to delve deeper, research, justify, explain**<br>◦ **Assist them in learning more advanced skills**<br>◦ **Residents have "mentors"** |

## TEACHING STRATEGIES (Jensen et al., 2000)

1. Teaching to value the patient as well as the instructor as a source of knowledge
2. Carefully listening to patients and understanding the patient's perception of health and illness
3. Developing not only cognitive skills, but also the ability to observe and use one's hands and body to facilitate patients' functional movements.

## INTEGRATED MODEL OF CLINICAL DEVELOPMENT (Carraccio, 2008; Tichenor, 2010)

| Level of Clinical development | Teaching Implications |
|---|---|
| **Novice**<br>• Rule Driven<br>• Use analytic reasoning and rules to link cause and effect<br>• Little ability to filter or prioritize information. Difficulty with seeing the big picture. | **Novice**<br>• Help the learner to organize his/her knowledge.<br>• Point out connections between history and physical findings.<br>• Help them eliminate irrelevant information.<br>• Identify discriminating data/features. |
| **Advanced Beginner**<br>• Sorts through information to decide what is relevant based on past experience.<br>• Uses both analytic reasoning and pattern recognition to solve problems.<br>• Able to abstract from concrete and specific information to more general aspects of the problem. | **Advanced Beginner**<br>• Exposure to cases to build illness scripts.<br>• Work from common cases to uncommon cases.<br>• Verbalize hypothesis setting.<br>• Coaching is important in helping to attend to meaningful data. |
| **Competent**<br>• Feels a higher level of responsibility due to emotional buy-in.<br>• More clinical experience allows for a mix of methodological and analytic reasoning to pattern recognition of common clinical problems.<br>• Sees the big picture.<br>• Complex or uncommon problems requires reliance on analytic reasoning. | **Competent**<br>• Balance supervision with autonomy.<br>• Hold accountable for decisions.<br>• Needs to see breadth and depth of cases.<br>• "Good intern" not a good senior resident.<br><br>**Moving towards forward thinking* |
| **Proficient**<br>• Past experience allows for the reliance on pattern recognition of patient presentation. **The clinical problem solving seems intuitive.**<br>• Uses methodological and analytic reasoning for the management of problems.<br>• Comfortable with evolving situations. Capable of moving from a known to an unknown situation.<br>• Can live with ambiguity. | **Proficient**<br>• Work alongside and be mentored.<br>• Important to engage in critical self-reflection to "slow down and find evidence/seek help."<br>• Trust intuition and know limits. |

| | |
|---|---|
| **Expert**<br>• Thought, feeling, and action align into intuitive problem recognition and intuitive situational responses and management.<br>• Is open to **NOTICE** the unexpected.<br>• Is clever.<br>• Is perceptive in discrimination features that do not fit a recognizable pattern. | **Expert**<br>• Keep the expert challenged.<br>• Apprentice with a master to model skills. |
| **Master**<br>• Exercises practical wisdom.<br>• Moves beyond the big picture and sees a bigger picture of the culture and context of each situation.<br>• Has a deep level of commitment to the work.<br>• Has a great concern for right and wrong decisions (fosters emotional engagement).<br>• Is intensely motivated by emotional engagement to pursue ongoing learning and improvement.<br>• Reflects in, on, for action. | **Master**<br>• Self-motivated to engage in lifelong learning and practice improvement.<br>• Habitually engaged in a plan-do-study-act cycle. |

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Tichenor, C.J. (2010). *The Future of Physical Therapy: Survive, Flourish and Contribute*. Alexandria, VA: American Physical Therapy Association.

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# Clinical Reasoning

Definition: The thinking and decision making process associated with clinical practice.

Integration of cognition, knowledge and metacognition

- Cognition – The process of acquiring knowledge by the use of reasoning, intuition or perception
- Knowledge – Possession of information, facts, ideas, truths or principles
- Metacognition – "the use of different strategies for thinking more deeply about [your] thinking orclinical reasoning" (Higgs and Jones, 2000)
    - Monitor the thinking processes and conclusions
    - Detect relationships and inconsistencies between clinical data and clinical patterns
    - Reflect on the soundness of observations and conclusions
    - Critique the reasoning process itself – what have I missed? What else could this be?
    - Consider societal, cultural beliefs, clinical knowledge

Three primary methods of clinical reasoning

1. Hypothetico-deductive (HDR)– Develop hypothesis early from existing knowledge, association and experience.
    - Further questioning and examination are geared towards supporting or refuting hypothesis
    - Central to the data-gathering process and interpretation of the data in an evaluation

2. Pattern recognition – A particular combination of symptoms and findings can strongly suggest a diagnosis (e.g.,tremor, bradykinesia, and rigidity and Parkinson disease)
    - Faster and more efficient than HDR
    - Essential to further development of clinical knowledge base

3. Pathognomonic signs and symptoms – particular finding almost guarantees certain diagnosis (e.g., Gower's sign and Duchenne muscular dystrophy)

***Experienced clinicians use all 3 at appropriate times!!**

**How does clinical reasoning progress from novice to expert practitioner?**

- Knowledge becomes multidimensional.
- Patients provide an important source of knowledge.
- Knowledge of clinical specialty is key to evaluation.
- Knowledge evolves with reflection.
- Metacognition improves.
- Practitioner more willing to take risks, take challenges and admit when they do not know.
- Practitioner collaborates more with patient and family.
- Practitioner is more focused on patient function and expectation rather than diagnosis.
- Listening is improved.

- Help your resident to build from HDR to the use of all 3 types of reasoning as needed.
- Be aware of biases that affect clinical reasoning:

    - Representativeness bias – Overestimating the similarity between people or events or giving undue weight to small samples
    - Availability bias – Attribute too much weight to easily available information
- Consider the context for clinical reasoning
    - Personal factors with the patient
    - Multi-faceted context of patient's clinical problem
    - Health care setting
    - Personal and professional framework of clinician
- "We as professionals cope with the uncertainties by looking beyond the science – our practice is a blend of the art, craft and technology in combination with the science" (Higgs and Jones, 2000)
- Often, resident focuses on practice techniques and insufficient time is devoted to clinical reasoning and patient management skills. (Shepard and Jensen, 2002)

Facilitate clinical reasoning:

- Gathering objective data
    - Assist resident in prioritizing tests and measures based on subjective data.
    - Guide resident in determining relationships between symptoms to identify the number of separate problems.
- Correlating subjective and objective data
    - Guide resident to correlate data, rule out/in tissue or systems affected.
    - Prioritize problems.
    - Formulate hypotheses to devise Plan of Care (POC).

**References:**

Higgs, J., Jones, M. (2000). *Clinical Reasoning in the Health Professions* (2nd ed). Woburn, MA; Butterworth Heinemann.

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**Reflection**

> "A means by which practitioners can develop a greater self-awareness about the nature and impact of their performance, an awareness that creates opportunities for professional growth and development"
>
> Osterman and Kottkamp, 1993

Three types of reflection (Schon, 1987)

1) Reflection *in action*
   - In the midst of action, while it is occurring
2) Reflection *on action*
   - After the fact
3) Reflection *for action*
   - In anticipation of the future

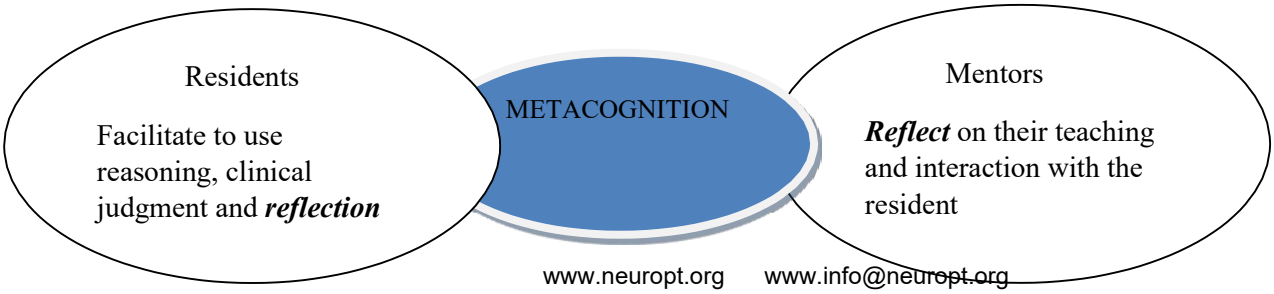
- Schon contends that this reflection and more procedural knowledge is what distinguishes excellent from average practitioners.
- Expert practitioners have incorporated the first two whereas the novice practitioner utilizes primarily the third.
- Mezirow (1981) states the act of reflection is not simply stopping to think and problem-solve or plan for future action based on what one already knows; rather, the process requires that one reflect on the content, process, and premise underlying the problem or situation, in an attempt to make meaning of the total experience.
  - Mezirow's concept of reflection is particularly critical to physical therapy education, since the development of a professional identity goes beyond technical knowledge and skill to include the development of more abstract constructs such as critical thinking and professional values, attitudes, and beliefs. Cross states that for any experience to have lasting meaning, it must be followed by a period of reflection – mere involvement is not enough.
- **Ability to self-monitor is critical to learn from experience.**
- Some therapists rely largely on literature and clinical education to acquire new information. Others continually revise/expand knowledge through a reflective approach to patient care. (Higgs and Jones, 2000)

## SKILLS NEEDED FOR REFLECTIVE PRACTICE

**Skills needed for reflective practice:**

- Self-awareness
- Ability to recall events
- Ability to challenge assumptions
- Ability to integrate new knowledge
- Evaluation to make judgments on the outcome and the future

**"Are you ready to rethink who you are?"** – Tichenor, 2010



## POST-MENTORING REFLECTION BY THE RESIDENT

**Structure is necessary**

- Analyze weekly supervision feedback/forms
  - Areas of strength/gaps?
  - How has patient interaction changed?
  - Strategies for change?
- Role play patients with colleagues
- Record "clinical pearls" after each mentoring session
  - Practical knowledge
  - Effective teaching method

**References:**

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## 5 Microskills for Clinical Teaching (Neher et al., 1992)

1) **Get a Commitment**
   - Guide the resident to discuss what they believe the issue is in the patient situation.
   - Refrain from offering an opinion of the situation.
   - Help the mentor to diagnose the resident's learning needs.
   - Examples:
     - What do you think is going on with this patient?
     - What other types of information do you feel are needed?
     - What would you like to accomplish in this visit?
     - Why do you think the patient has been non-compliant?

2) **Probe for Support Evidence**
   - Ask the resident for the evidence that supports his/her opinion.
   - Ask what other choices were considered and what evidence supported or refuted those alternatives.
   - Refrain from offering an opinion of the situation.
   - Query the residents in order to reveal the resident's problem solving ability and identify gaps, allowing the mentor to hone in on problem areas.
   - Examples:
     - What findings brought you to your conclusion?
     - Were there other areas you considered?
     - What questions are arising in your mind?
     - What are the key features of this case?

3) **Teach General Rules**
   - Provide general rules, concepts or considerations and target them to the learner's level of understanding.
     - Teaching general rules and concepts rather than specific and detailed instructions helps learners to more easily apply information to new situations.
   - Examples:
     - When this happens, then do this….
     - If the patient has these key features, these are key tests…or key interventions for patients with this type of presentation…

4) **Reinforce What the Resident Did Right**
   - Find a comment on…
     - The specific good work was (What I saw you do well was…)…
     - The effect it had was…
   - If good performance of skills is reinforced, competencies may be achieved.
   - Examples:
     - You were open-minded in developing your problem list…this will assist with…

5) **Correct Mistakes**
   - Discuss what went wrong and how you can improve it in the future.
     - Allow the resident to change/critique the performance first.
     - Ensure the correction of the error is at an appropriate time and place.
   - Avoid judgmental comments.
     - Learners who are aware of mistake – need reinforcement and instruction on how to avoid repeating the problem in the future.
     - Learners who are unaware of mistake – detail the negative effects as well as the correction.

- Examples:
    - Next time you might try….

**Reference:**

Neher, J.O., Gordon, K.C., Meyer, B., Stevens, N. (1992). A five-step "microskills" model of clinical teaching. *J AM Board Fam Pract*, 5, 419-24.

**Additional Mentoring References**

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# Mentoring Session: Preparation and Feedback Form

This form is intended to help the resident prepare for a mentoring session by self-identifying a specific learning need that he / she might have that relates to a patient / client. The resident fills out the first page of this form in advance of the session, and gives it to the mentor who will be observing the patient care session. In this way, the mentor has a sense of what to expect during the session. Following the session, the mentor provides written feedback to the resident using the second half of this form.

This form is especially helpful in the early part of a residency program, as it assists the resident in focusing on what he/ she knows or doesn't know. It may not be reasonable to use it for every mentoring session, depending on the other assignments required of the resident and the mentor. It could be modified in a variety of ways to address individual learning needs. For example, it may be more helpful to require the resident to ask a PICO question related to a specific patient case, as this would reinforce the use of the steps of EBP. Programs may also find it helpful to require the resident to write a synopsis of the session, indicating the patient-related actions he / she will take resulting from the mentor's feedback.

## Mentoring Session: Preparation and Feedback

Resident:_____ Date of Mentoring Session:_____
Mentor:_____
Mentoring occurred in the following clinical setting:
___Inpatient rehabilitation unit ___Outpatient rehabilitation center
___Acute care hospital ___Other:_____

Patient Initials:
Diagnosis and Brief Description:

Plan for session: Please be specific. Include how this plan relates to the patient/client management model and the patient goals.

What do you want to gain from this mentoring session? (specific knowledge or skill)

# Mentor Feedback

This feedback is based on an evaluation of the written preparatory work submitted prior to the mentoring session AND on observations made during the session:

Specific areas in which the resident performs well:

Specific areas in which the resident would benefit from improvement / growth:

Resident _____ Date _____

_____

Mentor

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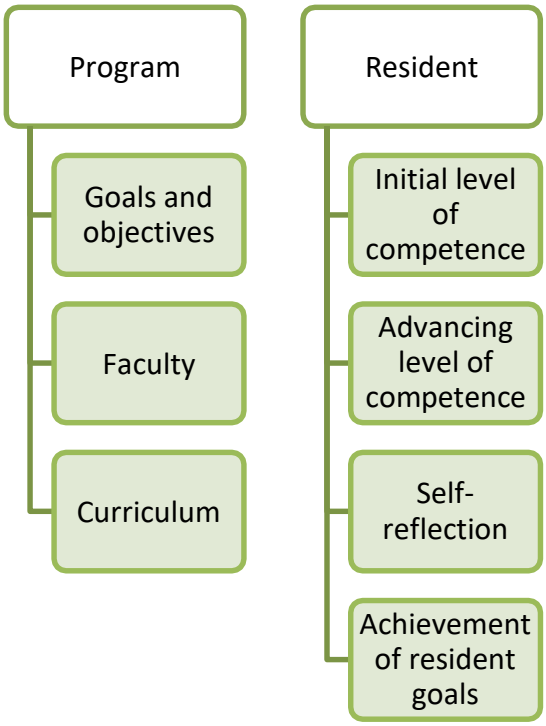
# Evaluation of Outcomes

**An Introduction to Methods of Assessment and Ongoing Evaluation**

Methods of assessment are essential for a program to determine if it is meeting its stated goals and objectives and ensure continuing quality of the post-professional educational experience. As stated in the Guidelines for Writing a Mission Statement, Goals and Objectives, it is important to identify logical and quantifiable methods of assessment that are linked to the program and resident objectives. The evaluation of the program and resident should be a systematic process with an identified schedule and concomitant documentation.

As depicted in the following schematic, both the program and the resident should be evaluated. Assessment of the program may include a review of goals and objectives, faculty, and curriculum, and a determination of whether the program is meeting the associated goals. Residents may be assessed on initial level of competence, advancing level of competence, the accuracy of their self-reflection on clinical performance outcomes, and their achievement of program and/or resident goals upon completing their post-professional program (e.g. obtaining board certification, becoming an accomplished patient-care provider, etc…).




Identifying very specific methods of assessment addressing each of the identified objectives may prevent an overabundance of evaluation forms to be completed and tracked by residents, faculty, and administrative staff. The example below is a proposed template to confirm that all goals and objectives have adequate assessment methods in place and are organized to avoid an excess of burdensome paperwork.

| **Program Goals**<br>**The Program will:** | **Objectives** | **Method of Assessment** | **Addresses:** |
|---|---|---|---|
| **1.** Prepare a curriculum that meets the requirements for specialist certification by the ABPTS. | • The curriculum will address substantial areas of the *Neurologic Description of Specialty Practice (DSP)*(2004). | • Annual review of residency curriculum completed and disseminated through posted minutes by members of Residency Committee to ensure consistency with current DSP.<br>• Program pass rate of NCS exam of at least 90%. | • Methods used to evaluate the program's curriculum. |
| **Resident Goals**<br>**The Resident will:** | **Objectives**<br>**The Resident will:** | **Method of Assessment** | **Addresses:** |
| **9.** Become an accomplished patient-care provider in the area of neuromuscular preferred practice patterns A through I as defined by the *Guide to Physical Therapist Practice (2001).* | • Pass 90% of 1:1 mentoring sessions.<br>• Complete all practical examinations with a score of at least 80%.<br>• Successfully complete all goals and objectives for each rotation.<br>• Complete at least 32 hours of specialty observation in specified areas. | • Resident Evaluation Form Patient Practical Rubric<br>• Rotation Goals and Objectives Form<br>• Resident Time Sheet | • Methods used to evaluate the resident's advancing level of competence and self-reflection (through use of Resident Evaluation Form). |

There are many resources available to develop methods of evaluation. These include resources through the American Board of Physical Therapy Residency and Fellowship Education (ABPTRFE) and the Neurologic Physical Therapy Residency Curriculum Compendium. Other methods may be developed by a program to best meet their unique needs. Existing frameworks such as the *Neurologic Description of Specialty Practice (DSP*)(2004), the *Guide to Physical Therapist Practice* (2001), and the International Classification of Functioning, Disability and Health (ICF)(2001) may be utilized in the creation of evaluation documents, such as rubrics. A rubric is useful to provide clear guidelines on what constitutes successful completion of the exam, project, etc. (i.e., what is a passing or failing grade), when remediation would be necessary and how this process will occur.

In addition to identifying methods of assessment for the resident, a remediation policy and procedure should be developed in preparation for any academic or clinical deficiencies noted in the resident's performance. This policy and procedure should be established prior to the start of the residency program and reviewed with each resident upon entry into the program. Important components of an effective remediation policy would include a detailed list of those that are involved in the remediation process, examples of behaviors or actions that may instigate this process, the conditions that

should be included in a remediation plan (e.g. specific areas requiring development, objective methods of assessing these conditions/behaviors, established time frames for completion, etc.…), and clarification of termination of employment (i.e. if the resident is terminated from the residency program are they also terminated from the institution). Please refer to the formal remediation policy included below for additional information.

**References**:

American Physical Therapy Association. (2004). *Neurologic Physical Therapy: Description of Specialty Practice*. Alexandria, VA: American Board of Physical Therapy Specialties.

American Physical Therapy Association. (2001). Guide to Physical Therapist Practice (2nd ed.). *Phys* Ther, 81, 9–744.

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# Neurologic Physical Therapy Residency Program
# Institutional Guidelines for Evaluation, Remediation and Discipline of Residents

## I. Purpose:

Provide consistency in procedure for evaluation, remediation, and discipline of Residents. The process outlined will serve as a guide to the Program Coordinator in the evaluation, remediation, or discipline of Residents. The guidelines describe the procedures by which Residents are evaluated and disciplined; how identified academic and clinical deficiencies are remediated; and the grievance process by which Residents can appeal an adverse reaction taken by the Program Coordinator of the Residency Program.

## II. Policy:

This institution maintains a consistent process of evaluation, remediation and discipline of all physical therapy residents (hereafter referred to as "Residents") enrolled in a post-professional physical therapy residency program (hereafter referred to as "Residency Program"). A process has been identified for constructive remediation or discipline of Residents who are not meeting the Residency Program's expectations. Residents will be informed of how and why their performance is not acceptable and how the Resident must improve to meet the Residency Program's standards.

## III. Definitions:

Resident: A graduate of an accredited physical therapy program, licensed in the state of XXXXX, holding the relevant professional credentials (PT, LPT, MPT, MSPT, or DPT), and formally enrolled in a post-professional residency program.

Program Coordinator: A qualified physical therapist who meets the American Physical Therapy Association's ("APTA") qualifications and who is appointed by the institution. The Program Coordinator has the primary responsibility for the organization, implementation, and supervision of all aspects of the Residency Program.

Adverse Action: A decision by the Program Coordinator to issue a formal reprimand or to dismiss a Resident. This may include one of the following conditions:

- Issues with patient safety
- Inappropriate behaviors exhibited within the workplace
- Poor academic performance on written/patient exams
- Poor performance on residency projects
- Criminal activity
- Termination of or failure to obtain a physical therapy license

Remediation: Plan developed by the Program Coordinator to correct deficiencies identified in a Resident's academic and/or clinical performance. This plan should include the following stipulations:

- Specific areas requiring development/improvement
- A well articulated set of conditions/behaviors that would constitute a successful remediation
- Objective methods of assessing these conditions/behaviors
- Established time frames for completion of required tasks and/or acceptable behavior change
- Available resources (counseling, etc) to assist with the remediation plan
- Delineating actions the resident may take if the remediation plan is unsuccessful

## IV. Residency Program Committee

1. Committee Members

The Program Coordinator has designated a Residency Program Committee("RPC") consisting of the Program Coordinator, Therapy Clinical Manager, Physical Therapy Team Leaders of the Neurologic Disease Service and Brain Injury Center, Center Coordinator of Clinical Education ("CCCE"), and residency faculty members chosen by the Program Coordinator. The Program Coordinator will serve as Chair of the RPC.

2. Committee Procedures for Remediation

It is the responsibility of the committee to review the academic and clinical performance of a Resident when the Resident's academic advisor, mentor, and/or the Program Coordinator note a deficiency. These meetings may be convened on an ad hoc basis at the request of the Program Coordinator to review a Resident's poor academic performance, a critical incident in patient care, or a specific disciplinary issue that occurs.

During the periodic review the committee will evaluate some or all of the following documents:

- Written report of previous periodic review meeting (if one exists)
- Written evaluations
- Documentation of procedural skills
- Classroom/lab attendance
- Written and practical examination scores
- Quality assurance issues
- Written documentation
- Disciplinary/Incident reports
- Any other relevant data brought to the RPC

The Program Coordinator will maintain a written report of each meeting that summarizes the performance of the Resident and specifies recommendations for remediation of academic and/or clinical deficiencies. The Program Coordinator will notify residents of RPC findings during regularly scheduled meetings. The Program Coordinator will notify each Resident of adverse actions or remediation plans in a timely manner and in writing. The Program Coordinator, Therapy Coordinator, and Resident will sign a summary of the remediation plan after a thorough review, discussion, and consideration of the Resident's suggested amendments. The Program Coordinator and Therapy Coordinator will meet on a regular basis with the Resident to determine if the objectives identified within the remediation plan have been met within the specified time frames. Assessment of the Resident may be conducted by any residency faculty deemed appropriate to do so based on the circumstances identified (e.g. academic faculty if academic performance is deficient, clinical faculty if clinical performance is deficient). These communications will become part of the Resident's file. The remediation process is complete once the resident meets the acknowledged requirements.

## V. Adverse Actions

Residents may be subject to disciplinary action or remediation for poor clinical and/or academic performance. Poor performance, as measured by the evaluation tools in use by the Residency Program, may result in adverse action against the Resident. Issues of poor clinical and/or academic performance are usually handled with remediation in an effort to attain a satisfactory level of improvement. Disciplinary issues are handled through the policies and procedures outlined by Human Resources.

A. Clinical and Academic Performance Adverse Actions

1. Counseling:

   A Resident may be subject to counseling regarding clinical and/or academic activity. Counseling may be conducted by the Program Coordinator or other designated staff members. Counseling will be documented in a written format and maintained in the Resident's file.

Counseling is not reported after residency training and may not be appealed by the Resident.

2. Probation:
   Poor clinical and/or academic performance may include a probationary period. The probation period is a defined period of time with specific objectives described and specific degrees of improvement required to successfully complete the probationary period. The period of time, objectives, and degrees of improvement are described in a written format to the Resident and maintained in the Resident's file. Regularly scheduled meetings with the Program Coordinator are required during the probationary period. After the probationary period has been completed one of the following actions will occur:
   1. Probation will be successfully completed.
   2. Probation continued.
   3. Dismissal from Residency Program.

3. Dismissal:
   A Resident's failure to improve or satisfy the conditions of the probationary period may result in dismissal from the Residency Program. The Program Coordinator will confer with the RPC when dismissal is considered. The Program Coordinator must notify the Resident in person, as well as in writing, of the dismissal. A written record of the dismissal will be maintained in the Resident's file and will be reported after Residency training.

VI. Grievance Procedure

Residents will follow the grievance procedure provided by the Human Resources Department (see attachment HR 001).

VII. Termination of Employment

Upon termination from the Residency Program the Resident will no longer be eligible for employment within the institution. Residents will follow the termination of employment procedure provided by the Human Resources Department (see attachment HR000).

By signing below, I acknowledge that I have read and understand the above policy and procedure.

RESIDENT_____ DATE_____

PROGRAM COORDINATOR_____DATE_____

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**Tools to Assess Resident Clinical Competency**

## ROTATION SELF ASSESSMENT

The purpose of this assessment form is to provide an opportunity for the resident and mentor to review the resident's self-perceived strengths and areas needing improvement. It also facilitates discussion of the resident's learning style, their preferred method of receiving feedback, and the goals they would like to achieve during that specific rotation. This form is designed as a more informal assessment tool to be used at the beginning and midpoint of a specific clinical rotation within a residency program.

***Neurologic Physical Therapy Residency Program***

**Rotation Self-Assessment**

**Name:**_____ **Date:**_____
**Rotation:**_____
**Mentor:**_____

**Personal Strengths:**

**Areas needing improvement:**

**Learning Style:**

**How do you learn best i.e. visual, auditory, physical handling, combination etc.?**

**What were the results of your Index of Learning Styles (ILS) (www.ncsu.edu/felder-public/ILSpage.html) i.e. active & reflective, sensing & intuitive, visual & verbal, sequential & global?**

**Please provide 2-3 examples of a learning experience that worked well for you:**

**Please provide 2-3 examples of a learning experience that was not successful for you:**

**Feedback:**

**Take a minute to think about how you would prefer feedback from your mentor.**

- **Do you prefer feedback immediately after the session or would you prefer some time to process the session?**
- **Do you find the written evaluation helpful or discussion with the mentor?**
- **Do you prefer to be asked questions during your session or following?**
- **Do you find guided questioning or clinical discussion to be more helpful?**

**Goals:**

**Please review goals and objectives of your current rotation.**

**Are there any additional goals you would like met on this rotation? Please list.**

**What is your plan to meet these additional goals? (You may discuss this with your mentor)**

# TESTS AND MEASURES COMPETENCY CHECKLIST

This is a generic form that can be used to assess a resident's level of competency in administering, scoring, and interpreting the results of any test or measure that might be used when examining a patient with neurologic involvement.

## TESTS AND MEASURES

### Competency Checklist

Resident:_____ Mentor: _____

Name of test / measure assessed:_____ Date:_____

Patient age_____ Patient diagnosis_____

| Criteria | Competent (yes/no) | Comments |
|---|---|---|
| The resident informs the patient of the purpose of the test/ measure and what to expect once the test is initiated. | | |
| The resident provides test instructions that are accurate, concise, and easily understood by the patient. | | |
| The resident maintains patient safety throughout the testing procedures. | | |
| The resident performs the assessment efficiently and in a manner that maintains test validity. | | |
| The resident accurately discerns the test score or measurement. | | |
| The resident interprets the results of the test or measure using established norms / psychometric test properties. | | |
| The resident articulates the implications of the test findings to the patient's physical therapy diagnosis, prognosis, and / or plan of care. | | |
| The resident identifies an appropriate time frame for patient reassessment using this test / measure. | | |

# ASSESSMENT OF RESIDENT COMPETENCY: PATIENT ASSESSMENT

Form to be used by the Residency Director/Clinical mentor to evaluate the resident's performance on a live patient assessment or by resident to self-assess.

| | |
|---|---|
| Resident: | Rotation: |
| Mentor: | Date: |

## Neurologic Physical Therapy Residency Performance of Patient Assessment

Indicate one of the following (resident must be assessed on one of each):

- ☐ Balance and Vestibular Disorders:
- ☐ Congenital and acquired conditions of childhood:
- ☐ Congenital and acquired conditions of adolescence and adulthood:
- ☐ Progressive disorders of the central nervous system:
- ☐ Acute or chronic peripheral neuropathies

**Skill or Activity (initial and date resident's level of performance)**

| | | | |
|---|---|---|---|
| **1) Examination**<br>A) History: able to perform interview that is patient-guided and integrate knowledge of disease with history taking.<br>B) Systems Review: able to anticipate screening procedures based on identified pathology, previous interventions, patient history, and observation.<br>C) Tests & Measures: able to select and prioritize tests and measures based on history, scientific merit, clinical utility, and fiscal cost to patient relative to criticality of data; able to perform measures such as: aerobic capacity, arousal/attention/cognition, assistive/adaptive devices, circulation, cranial and peripheral nerve testing, environmental, home and work barriers, gait/locomotion/balance, integumentary integrity, joint integrity and mobility, motor function, muscle performance, neuromotor development and sensory integration, pain assessment, posture, prosthetic requirements, ROM, reflex integrity, sensory integrity, ventilation/respiration, work/community/leisure integration and reintegration. | Entry-Level Clinician ☐ | Neurologic Clinician ☐ | Advanced Neurologic Clinician ☐<br>COMMENTS: |

| | |
|---|---|
| **2) Evaluation**<br>A) Able to predict present or potential disability based on impairments, functional limitations, and potential for recovery; able to develop clinical judgments based on data collected from examination, differentiate limitations that require compensatory vs. recovery-based movement, link impairments to patient/caregiver's expressed goals, interpret observed movement and function and integrate instruments, tests, screens, and evaluations used or performed by other healthcare professionals. | Entry-Level Clinician ☐ Neurologic Clinician ☐ Advanced Neurologic Clinician ☐<br>COMMENTS: |
| **3) Diagnosis**<br>A) Able to interpret data from the examination to develop differential diagnosis, differentiate impairments/functional limitations, disabilities which are amenable to intervention, and refer patient to other professionals when appropriate. | Entry-Level Clinician ☐ Neurologic Clinician ☐ Advanced Neurologic Clinician ☐<br>COMMENTS: |
| **4) Prognosis**<br>A) Able to predict optimal level of improvement of function, collaborate with patient/family in setting goals, and develop a plan of care that prioritizes interventions related to recovery process, patient goals, resources, health and wellness. | Entry-Level Clinician ☐ Neurologic Clinician ☐ Advanced Neurologic Clinician ☐<br>COMMENTS: |

| | |
|---|---|
| **5) I am able to conduct a patient screening**<br>A) Able to identify and describe screening tools, apply tools in a timely and efficient manner, observe the person's response and assign person to appropriate classification, recommend actions based on the results, and document and communicate results of screening as needed. | Entry-Level Clinician ☐ Neurologic Clinician ☐ Advanced Neurologic Clinician ☐<br>COMMENTS: |

**Scoring** is as follows:

**Entry Level Clinician:**
-Manages full caseload but could improve efficiency.
-Includes important tests and measures but may occasionally fail to select a key test.
-Demonstrates appropriate psychomotor skills but sometimes has difficulty performing complex techniques.
-Knows underlying rationale for selection of tests and measures and treatments, but cannot provide evidence behind > 50% of them.
-Tends to be rule or "recipe" driven in selection of treatments.
-Consults with mentors to resolve unfamiliar or ambiguous situations.

**Neurologic Clinician:**
-Manages full caseload efficiently.
-Identifies patterns in patient data or responses based on past experiences.
-Proficient and skilled in simple and complex tasks for skilled examinations, interventions, and clinical reasoning.
-Able to discuss evidence behind selection of tests and measures and/or interventions a majority of the time.
-Able to function in unfamiliar or ambiguous situations, but may occasionally consult others when patient information is complex, unfamiliar, or limited.

**Advanced Neurologic Clinician:**
-Manages full caseload efficiently and seeks to assist others where needed:
-Readily identifies clinical presentations or responses that are inconsistent with a specific clinical pattern.
-Discusses specific research to rationalize selection of tests and measures and/or treatments utilized (sensitivity/specificity, clinical prediction rules, NNT, effect sizes, etc).
-Adept at utilizing specific knowledge of pathology and/or patient population to modify examination and/or treatment.
-Able to make sound clinical decisions based on complex, unfamiliar, or limited patient information.
-Willingly serves as a consultant or resource for others.
-Reflects often to identify areas of improvement and strength and implements strategies to enhance skills for optimizing clinical practice.

# ASSESSMENT OF RESIDENT COMPETENCY: PATIENT TREATMENT

Form to be used by the Residency Director/Clinical mentor to evaluate the resident's performance on a live patient treatment or by resident to self-assess.

| | |
|---|---|
| Resident: | Rotation: |
| Mentor: | Date: |

## Neurologic Physical Therapy Residency Performance of Patient Treatment

Indicate one of the following (resident must be assessed on one of each):

- ☐ Balance and Vestibular Disorders:
- ☐ Congenital and acquired conditions of childhood:
- ☐ Congenital and acquired conditions of adolescence and adulthood:
- ☐ Progressive disorders of the central nervous system
- ☐ Acute or chronic peripheral neuropathies:

Skill or Activity (initial and date resident's level of performance)

| **Intervention** | Entry-Level Clinician | Neurologic Clinician | Advanced Neurologic Clinician |
|---|---|---|---|
| • Coordination, Communication, and Documentation: Able to integrate and adapt communication strategies to meet educational and cognitive level of patient and caregiver, ask questions which are helpful in determining patient problems, apply conflict resolution strategies in a timely manner, and effectively adapt communication across the lifespan.<br>• Patient/Client Related Instruction: Able to educate patients on diagnosis, prognosis, treatment, responsibility, and self-management within the plan of care.<br>• Procedural Interventions:<br>• Therapeutic interventions: Able to analyze relationship between biomechanics of therapeutic exercise and functional outcomes,<br>• anticipate impact of multisystem impairments, interpret/integrate /apply research findings, adapt aerobic conditioning for patients with neurologic dysfunction.<br>. Functional training in self-care, home management, work (job/school/play), community, leisure | ☐ | ☐ | ☐ |
| | COMMENTS: | | |

| | |
|---|---|
| integration: Able to analyze interaction between multiple system impairments; optimize training despite communication, language, cultural, socioeconomic, educational variables; provide cues appropriately; select and implement training that enhances abilities for ADL's including applying current research, determining problems amenable to training, skillfully interpret observed movement, and analyze relationship between postural control and upright function.<br>• Manual Therapy Technique: able to appropriately prescribe manual therapy in a neurologic population.<br>• Prescription, application, fabrication of devices and equipment including assistive, supportive, or prosthetic: Able to choose appropriate devices based on predicted long-term health needs; promote optimal function with least restrictive assistive devices; anticipate impact of devices across a wide range of functional activities and social/environmental contexts; prescribe/adapt devices for complex patients and adapt orthotics for neurologic populations.<br>• Airway clearance techniques: Able to adapt a variety of interventions that address ventilatory pump and gas exchange impairments including relationship between pulmonary status and swallow function, airway clearance techniques, and mechanical ventilation on intervention.<br>• Integumentary repair and protective techniques: Able to skillfully prevent and manage integumentary impairment and educate neurologic patients/clients about importance of skin management. | COMMENTS *(continued):* |
| **Outcomes**<br>• Able to select appropriate outcome measures and participate in data collection; able to analyze and interpret data to modify own future practice. | Entry-Level Clinician ☐ Neurologic Clinician ☐ Advanced Neurologic Clinician ☐<br>COMMENTS: |

| | |
|---|---|
| | |

**Scoring is as follows:**

**Entry-Level Clinician:**
-Manages full caseload but could improve efficiency.
-Includes important tests and measures but may occasionally fail to select a key test.
-Demonstrates appropriate psychomotor skills but sometimes has difficulty performing complex techniques.
-Knows underlying rationale for selection of tests and measures and treatments, but cannot provide evidence behind > 50% of them.
-Tends to be rule or "recipe" driven in selection of treatments.
-Consults with mentors to resolve unfamiliar or ambiguous situations.

**Neurologic Clinician:**
-Manages full caseload efficiently.
-Identifies patterns in patient data or responses based on past experiences.
-Proficient and skilled in simple and complex tasks for skilled examinations, interventions, and clinical reasoning.
-Able to discuss evidence behind selection of tests and measures and/or interventions a majority of the time.
-Able to function in unfamiliar or ambiguous situations, but may occasionally consult others when patient information is complex, unfamiliar, or limited.

**Advanced Neurologic Clinician:**
-Manages full caseload efficiently and seeks to assist others where needed:
-Readily identifies clinical presentations or responses that are inconsistent with a specific clinical pattern.
-Discusses specific research to rationalize selection of tests and measures and/or treatments utilized (sensitivity/specificity, clinical prediction rules, NNT, effect sizes, etc).
-Adept at utilizing specific knowledge of pathology and/or patient population to modify examination and/or treatment.
-Able to make sound clinical decisions based on complex, unfamiliar, or limited patient information.
-Willingly serves as a consultant or resource for others.
-Reflects often to identify areas of improvement and strength and implements strategies to enhance skills for optimizing clinical practice.

Adapted with permission of Anne Kloos, PT, PhD, NCS at The Ohio State University

# ASSESSMENT OF RESIDENT CLINICAL COMPETENCE IN NEUROLOGIC PHYSICAL THERAPY

This purpose of this assessment form is to provide comprehensive feedback to the resident addressing his/ her progress across all elements of the patient / client management model. It also provides a means of assessing the resident in the area of professional core values. This form is designed as a more formal assessment tool to be used at the midpoint and completion of a specific clinical rotation within a residency program. It can be considered to be a summary tool to document the resident's progress at these key points in the program.

Date_____

**ASSESSMENT of RESIDENT CLINICAL COMPETENCE in NEUROLOGIC PHYSICAL THERAPY**

**CLINICAL ROTATION SITE:_____**

Resident:_____Completed by Mentor: _____

**We recognize that clinical competence evolves along a continuum that includes multidimensional factors. In assessing the resident's level of clinical competence, the following rating categories will be used:[1,2]**

***Novice Practitioner:*** performs as entry level graduate; tends to be rule or "recipe" driven; collects facts and performs procedural interventions but has difficulty filtering, prioritizing, and synthesizing patient data to grasp the big picture; uses analytical reasoning to link cause and effect in a concrete manner;

***Advanced Beginner:*** beginning to use past experiences to recognize patterns and filter irrelevant information; broadened analytical reasoning enables resident to summarize data in a clinically meaningful way;

***Competent:*** accepts full responsibility for delivering virtuous physical therapy care; readily identifies patterns in patient data or responses based on past experiences; challenged by complexity, unfamiliarity, or limited information; reverts to more methodical, analytical decision-making approach when faced with these situations;

***Proficient:*** beginning to adopt a more intuitive approach to decision-making; beginning to tolerate ambiguity and anxiety; still using a methodical, analytical approach when intuition is inadequate to solve a problem;

***Advanced Practitioner***: readily identifies clinical presentations or responses that are inconsistent with a specific clinical pattern; consistently integrates knowledge from interdisciplinary sources and research evidence to optimize clinical practice; demonstrates strong commitment to advancing one's own practice; at the most advanced levels, this practitioner uses clinical / research knowledge and skill consistently, efficiently, and effectively across a wide spectrum of patients; tolerates uncertainty; manages ambiguity; able to make sound decisions based on limited information; adept at using reflection in action to alter decision-making; attentive to the multidimensional factors influencing an episode of care.

*1 . Carraccio CL, Benson BJ, Nixon LJ, et al. From the educational bench to the clinical bedside: translating the Dreyfus developmental model to the learning of clinical skills. Acad Med 2008;83(8):761-767.*

*2. Epstein RM, Hundert EM. Defining and assessing professional competence. JAMA 2002;287:226-235.*

**To use this form:** Rate the resident's clinical competence using the explanations provided above and the 9-point scale below. Write the number in the available box next to each item. For those skills in which there has not been a sufficient number of observations to fairly establish a competency level, indicate "**NO**" for not observed.

| **Novice Practitioner** | **Advanced Beginner** | **Competent** | **Proficient** | **Advanced Practitioner** |
|---|---|---|---|---|
| | | | | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

| **1. Professional Core Values** | |
|---|---|
| • *Accountability:* accepts responsibility for the diverse roles, obligations, and actions of clinical practice | |
| • *Altruism:* places the needs of the patient / client ahead of own self interests | |
| • *Compassion / Caring:* works to understand the patient's perspective and shows concern, empathy, and consideration for it | |
| • *Excellence:* consistently uses principles of evidence-based practice to guide clinical decisions; demonstrates critical curiosity and self-reflection | |
| • *Integrity:* adheres to high ethical principles and standards | |
| • *Professional Duty:* meets obligations to provide effective physical therapy services | |
| • *Social Responsibility:* responds to societal needs for health and wellness | |

Comments:

| Novice Practitioner | Advanced Beginner | Competent | Proficient | Advanced Practitioner |
|---|---|---|---|---|

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|

| **2. Patient Examination: History, Interview, Systems Review, Tests and Measures** | |
|---|---|
| • Extracts relevant data from the medical chart or from other professional colleagues entrusted to the care of the patient. | |
| • Performs an interview that is patient-centered and that provides relevant medical, personal, and environmental data to inform clinical decision making. | |
| • Determines patient identified problems, resources, and goals. | |
| • Selects systems review / screening tools appropriate for the patient and justifies their use. | |
| • Applies tools in a timely and efficient manner. | |
| • Analyzes data from the systems review to determine the need for further examination or referral. | |
| • Documents and communicates results of systems review. | |
| • Uses movement analysis to guide examination process. | |
| • Generates reasonable hypotheses to direct the examination process. | |
| • Selects appropriate tests and measures to examine at the level of body structure/ function, activity, and participation. | |
| • Applies tests and measures using standardized techniques. | |
| • Applies tests and measures in a logical and efficient sequence. | |

Comments:

| Novice Practitioner | Advanced Beginner | Competent | Proficient | Advanced Practitioner |
|---|---|---|---|---|

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|

| **3. Evaluation / Diagnosis / Prognosis** | |
|---|---|
| • Accurately interprets test findings in the areas of body structure / function, activity, and participation using current evidence. | |
| • Synthesizes data obtained from the patient record and interview with findings from the physical therapy systems review and examination to establish a movement system diagnosis. | |
| • Recommends appropriate further action(s), including intervention or referral to another health care practitioner. | |
| • Documents and communicates results of evaluation, using health system tools such as:<br>-Initial / Interim / Progress Note / Discharge Notes<br>-Patient education log<br>-FIM scoring<br>-Coverage sheets | |
| • Predicts optimal level of improvement (goals) and reasonable time frame to achieve these based on knowledge of the health condition, the patient's unique circumstances, and the results of the patient examination. | |
| • Identifies goals that are specific, measurable, meaningful, and realistic. | |
| • Communicates goals with the patient, family, and interdisciplinary team members. | |
| • Generates reasonable hypotheses to direct the evaluation and diagnosis processes and to establish patient prognosis. | |

Comments:

| Novice Practitioner | Advanced Beginner | Competent | Proficient | Advanced Practitioner |
|---|---|---|---|---|
| | | | | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

| **4. Plan of Care: Therapeutic Interventions, Patient/ Client Instruction, and Coordination / Communication** | |
|---|---|
| • Selects interventions that address the body structure/ function, activity, and participation needs identified during the patient examination. | |
| • Prioritizes among the possible interventions, based on the patient's goals, prudent use of available resources, and current evidence. | |
| • Integrates principles of motor control, motor learning, and therapeutic exercise into the design of the plan of care. | |
| • Organizes treatment session to optimize patient outcomes. | |
| • Uses effective and efficient therapeutic handling skills to address skill acquisition within tasks that are meaningful to the patient. | |
| • Modifies interventions based on on-going movement analysis and patient response to treatment. | |
| • Progresses interventions in an appropriate and timely manner. | |
| • Coordinates physical therapy plan of care and patient's specific needs with other health care professionals, including orthotists, prosthetists, and equipment vendors, to optimize the patient's resources and health. | |
| • Designs, implements, and appropriately modifies patient-related instruction to prevent future health problems, reduce risk, and optimize the patient's health and fitness | |
| • Documents interventions and communicates progress toward patient-centered goals and therapeutic outcomes.<br>-daily and interim progress notes<br>-patient billing sheets<br>-coverage sheets<br>-equipment needs / set-up<br>-Pt/Family Education log<br>-FIM scoring | |

| | |
|---|---|
| • Re-evaluates plan of care on an on-going basis, modifying as needed based on patient progress and outcomes, patient satisfaction, and re-assessment of diagnostic and prognostic hypotheses. | |

Comments:

Additional questions to consider: (See attached, detailed write up)

What characteristics of the resident contributed most to her/his effectiveness as a clinician and/or teacher?

What were the resident's most significant areas of growth?

What areas require further growth and development?

***What experiences or activities might help the resident to grow in these focus areas?***

Resident's signature:_____ Date: _____

Mentor's signature: _____ Date: _____

# PROFESSIONAL PRACTICE EXPECTATIONS FOR ADVANCED NEUROLOGIC CLINICIANS

This form is used by the Residency Director/Clinical mentor to evaluate the professional behaviors of the resident and by the resident for self-assessment. The evaluation is performed at the end of acute care, inpatient rehab, and outpatient rehab rotations.

*Clinical Skills Performance Evaluation Tool*

**PROFESSIONAL PRACTICE EXPECTATIONS FOR ADVANCED NEUROLOGIC CLINICIANS**

**Professional Behaviors**

The following behaviors are expected of advanced neurologic clinicians.

| Directions: Place the date of the rating in the box that BEST describes behavior observed for aspect of the competency. Resident should achieve Advanced Neurologic Clinician level by end of residency. Entry Level is expected by entering residents but is not a passing score for the residency. | Entry Level (not passing) | Neurologic Clinician | Advanced Neurologic Clinician | NA/ Comments |
|---|---|---|---|---|
| **1. Commitment to Learning.** | | | | |
| a) Accepts that there may be more than one answer to a problem | | | | |
| b) Reads articles critically and understands limits of application to professional practice | | | | |
| c) Acts as a mentor in areas of specialty for other staff | | | | |
| d) Questions conventional wisdom | | | | |
| **2. Interpersonal Skills** | | | | |
| a) Responds effectively to unexpected experiences | | | | |
| b) Talks about difficult issues with sensitivity and objectivity | | | | |
| c) Approaches others to discuss difference of opinion | | | | |
| d) Establishes mentor relationships | | | | |
| **3. Effective use of time and resources** | | | | |
| a) Sets priorities and reorders when necessary | | | | |
| b) Develops programs and works on projects while maintaining case loads | | | | |

| | | | | |
|---|---|---|---|---|
| c) Follows up on projects in a timely manner | | | | |
| **4. Use of constructive feedback** | | | | |
| a) Reconciles differences with sensitivity | | | | |
| b) Utilizes feedback when establishing professional goals | | | | |
| **5. Stress management** | | | | |
| a) Tolerates inconsistencies in health care environment | | | | |
| b) Prioritizes multiple commitments | | | | |
| c) Responds calmly to urgent situations | | | | |
| d) Recognizes when problems are unsolvable | | | | |
| e) Demonstrates preventive approach to stress management | | | | |

**Scoring is as follows:**

**Entry Level Clinician:**
-Manages full caseload but could improve efficiency.
-Includes important tests and measures but may occasionally fail to select a key test.
-Demonstrates appropriate psychomotor skills but sometimes has difficulty performing complex techniques.
-Knows underlying rationale for selection of tests and measures and treatments, but cannot provide evidence behind > 50% of them.
-Tends to be rule or "recipe" driven in selection of treatments.
-Consults with mentors to resolve unfamiliar or ambiguous situations.

**Neurologic Clinician:**
-Manages full caseload efficiently.
-Identifies patterns in patient data or responses based on past experiences.
-Proficient and skilled in simple and complex tasks for skilled examinations, interventions, and clinical reasoning.
-Able to discuss evidence behind selection of tests and measures and/or interventions a majority of the time.
-Able to function in unfamiliar or ambiguous situations, but may occasionally consult others when patient information is complex, unfamiliar, or limited.

**Advanced Neurologic Clinician:**
-Manages full caseload efficiently and seeks to assist others where needed:
-Readily identifies clinical presentations or responses that are inconsistent with a specific clinical pattern.
-Discusses specific research to rationalize selection of tests and measures and/or treatments utilized (sensitivity/specificity, clinical prediction rules, NNT, effect sizes, etc).
-Adept at utilizing specific knowledge of pathology and/or patient population to modify examination and/or treatment.

-Able to make sound clinical decisions based on complex, unfamiliar, or limited patient information.
-Willingly serves as a consultant or resource for others.
-Reflects often to identify areas of improvement and strength and implements strategies to enhance skills for optimizing clinical practice.

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## Tools for Assessment of Evidence-Based Practice Skills

### EVIDENCE-BASED PRACTICE SELF-ASSESSMENT

The purpose of this form is to provide an opportunity for the resident to self-assess his / her competency with the five key components of EBP. At the very least, ratings are performed at the beginning and end of the residency program.

Expert practice in physical therapy involves a dynamic, multidimensional base of knowledge that integrates current best evidence with sound clinical judgment and patient-centered collaboration.[1] Strauss et al have outlined the key steps involved in the actual practice of evidence-based practice.[2] How well do you reflect and integrate the key components of evidence based practice in physical therapy? Using the following table, rate yourself on each of the key components of evidence- based practice using a scale from 1 = very weak to 10 = very strong. Provide examples of strengths or weaknesses to support the rating you have given yourself. You may attach additional sheets if necessary.

| | KEY COMPONENT OF EBP[2] | RATING | COMMENTS (STRENGTHS AND WEAKNESSES, EXAMPLES) |
|---|---|---|---|
| 1. | I am able to identify my need for information about prevention, diagnosis, prognosis, intervention, benefit, and harm and convert this need into meaningful, answerable foreground and background questions. | | |
| 2. | I am able to track down the best evidence with which to answer my questions. | | |
| 3. | I am able to critically appraise the evidence I find, assessing its validity, impact, and applicability. | | |
| 4. | I am able to integrate my critical appraisal of the evidence with my own clinical expertise and with my | | |

| | | | |
|---|---|---|---|
| | patient's unique circumstances, including his values, beliefs, and goals. | | |
| 5. | I actively engage in a critique on my own effectiveness with EBP on an on-going basis and seek to continue to change my own behaviors in clinical practice to reflect the steps of EBP. | | |

1. Jensen GM, Gwyer J, Shepard KF, Hack LM. Expert practice in physical therapy. Phys Ther 2000;80:28-43

2. Strauss SE, Richardson WS, Glasziou P et al. Evidence-Based Medicine. 3rd edition. Philadelphia PA, Elsevier Churchill Livingstone, 2005.

# CLINICAL APPLICATION OF EBP – ASSIGNMENT AND ASSESSMENT

The purpose of this assignment is to apply the elements of evidence-based practice to answer a searchable question related to a patient currently assigned to the resident.

**Assignment details:**

1. Identify a patient case and clinical question you would like to pursue that addresses one of the following areas of practice:
   - Diagnosis
   - Prognosis
   - Intervention
2. Formulate your question implementing the PICO format.
3. Complete a search for evidence that applies to the question you have formulated. As part of this assignment, please **show the search strategy** (key words, methods used to focus/ limit your search) you implemented and how you might have refined this in your process.
4. Identify those articles you chose to review in full, and *briefly* describe why you selected these.
5. Determine the level of evidence represented in each article you selected to read in full. These levels are defined through a resource available at http://www.cebm.net/index.aspx?o=1025.
6. Provide a summary of the key findings from your evidence review that directly relate to your clinical question.
7. Answer your clinical question with a *declarative statement*: After appraising the evidence and considering the patient's values and circumstances and your own clinical expertise, **state in a declarative manner what action(s) you will take; this action(s) should directly answer the original PICO question you posed**.
8. To gain experience in dealing with different types of evidence and clinical questions, we ask that you make an effort to create clinical questions related to **each** of the following areas of the patient client/ management model:
   - Diagnosis
   - Prognosis
   - Intervention
9. A total of 4 EBP assignments will be required across the course of the residency program.

**Assessment Form**

Resident name_____ Reviewer's name_____

Clinical question addresses: _Diagnosis_____Prognosis_____Intervention
Date_____

**Clinical Application of Evidence-Based Practice Assignment**

**Grading Criteria**

Please rate the resident's performance on the EBP assignment using the key that follows:

5 = Exceeds expectations; excellent

4 = Meets expectations at an above average level

3 = Meets expectations; average

2 = Partially meets expectations at a below average level

1 = Does not meet expectations; poor

| | Poor | | | | Excellent |
|---|---|---|---|---|---|
| The clinical question that has been identified is relevant and meaningful to the management of the patient. | 1 | 2 | 3 | 4 | 5 |
| The clinical question is worded in a way that makes it searchable. | 1 | 2 | 3 | 4 | 5 |
| The key words identified are relevant to the original question. | 1 | 2 | 3 | 4 | 5 |
| The search engine that was selected was appropriate for answering the clinical question being asked. | 1 | 2 | 3 | 4 | 5 |
| The search history follows a logical thought process. | 1 | 2 | 3 | 4 | 5 |
| Sound clinical judgment is displayed when selecting the key articles for review. | 1 | 2 | 3 | 4 | 5 |
| The article appraisal integrates knowledge of levels of | 1 | 2 | 3 | 4 | 5 |

evidence, research design, and EBP statistics.

| | | | | | |
|---|---|---|---|---|---|
| Research findings are appropriately interpreted and applied to answer the clinical question. | 1 | 2 | 3 | 4 | 5 |
| Declarative statement of action integrates patient values/ circumstances, clinical judgment, and research findings. | 1 | 2 | 3 | 4 | 5 |

**Summary Comments and Grade (out of 45 points):_____**

# Tools for Assessment of Resident Knowledge: Test Item Writing Guidelines

## COGNITIVE ABILITIES

Content should be represented on the exam in proportion to time spent in the course. Each item should test at least one of 3 cognitive abilities: **recall; application**; or **interpretation/synthesis.**

- The demonstration of knowledge **recall** requires the resident to specify facts or material about a topic that is likely to be in textbooks.
- Knowledge **application** requires the resident to use information, for example, procedures, technical principles, or theories, to answer a question or solve a problem.
- **Interpretation/synthesis** questions require the resident to assemble information in order to draw a conclusion. These questions might as to interpret patient information, lab results, and clinical signs/symptoms or to develop a plan for treatment.

For example, in questions about epilepsy, a recall question might ask the resident to identify the distinguishing characteristic of epileptic seizures. An application question might ask the examinee to identify the probable nature of a seizure based on EEG results. An interpretation/synthesis question might ask for the appropriate first step to maintain the airway in an emergency when a patient is having a seizure.

## ANATOMY OF A MULTIPLE-CHOICE QUESTION

***STEM*** ⇨ The best grade of research evidence currently available on serial casting for traumatic brain injury in adults supports an effect of this intervention on:

***RESPONSE OPTIONS*** ⇘

a. passive range of motion ⇦ ***CORRECT ANSWER***

b. ambulation ability ⇖

***c.*** leg strength ⇦ ***DISTRACTORS***

d. spasticity ⇖

## RULES FOR DEVELOPING ITEMS

1. The majority of items should involve situations that a physical therapist would encounter in the context of practice. Avoid trivia or "tricky" or overly complex items.

2. The stem of the item should present a definite problem and should be focused, or meaningful by itself. An examinee should be able to formulate an answer to the question without reading the options provided.

3. The stem and response options must be constructed so that there is ONE best answer and that all the incorrect options (distractors) are plausible to a less knowledgeable examinee.

4. Use either four (A-D) or five response (A-E) options for all items. Do not use implausible, trivial, or nonsense options, and do not invent entities to use as distractors.

5. Response options should be independent; that is, one option should not subsume all or part of another option. Also, avoid using option pairs that are opposites or mutually exclusive, especially if one option happens to be the correct response.

6. The distractors should appear similar to the correct answer in terms of grammar, length, and complexity. A common flaw is to make the correct answer substantially longer and more detailed than the distractors.

7. Distractors should range roughly from most correct to least correct. If two options may possibly be correct, the judgment of which is more correct should be clear to a knowledgeable resident. This judgment is difficult if the options are along different dimensions. This difficulty can generally be avoided if all options can be classified in the same way; for example, all options are medications, or types of exercise, or laboratory findings.

8. The use of "Each of the following is correct EXCEPT," or "Which of the following is the LEAST likely," or "Which of the following does NOT occur" is generally discouraged because such items tend to be very unfocused. They require a shift from a mind-set of picking one correct response to a mind set of selecting the one incorrect response. Such items may be unnecessarily confusing.

9. "All of the above" should not be used as a response.

10. The use of "none of the above" as a response is generally discouraged.

11. A suggestion is to put response options in alphabetical order unless some other conceptual or logical order seems more appropriate, such as numeric order, level of severity, or level of invasiveness. One advantage of putting most sets of options in alphabetical order is that it results in fairly even distributions of correct answers across the option letters (A, B, C, and D).

12. Avoid clues embedded in the item. For example, do not use keywords in the stem that are also in some of the options. An option with such a keyword is often the correct answer. Avoid pairs of similar options. One of the two is usually correct, allowing the test-wise examinee to eliminate the other options (without knowledge of the content).

Example of a well-written item:

Which of the following is most likely to be the primary means of mobility of a l0-year-old girl with normal intelligence and an uncomplicated meningomyelocele at the T12 motor level?

A) Unaided ambulation
B) Ambulation aided by knee-ankle-foot orthoses (KAFOs)
C) Ambulation aided by KAFOs and crutches
* D) Wheelchair

*This item poses a clear question, options are homogenous, are logically and grammatically consistent, and can be ranked from least appropriate to most appropriate. Note that the option order is from least to most debilitated.*

Example of a flawed item:

Which of the following description of Alzheimer's disease is FALSE?

A) Forgetfulness is frequently an initial symptom
B) May be accompanied by depression
C) Personality changes are common
*D) Diagnosis is made by CT scan of the brain

*This question is unfocused; that is, it cannot be answered without looking at the options. The options are heterogenous and deal with miscellaneous facts. They cannot be rank-ordered along a single dimension from least to most true.*

## DOs AND DON'Ts FOR DEVELOPING TEST ITEMS

**DO:**

- Pick a topic that is important
- Develop options that are homogenous, plausible, and short
- Be sure the item has only one correct answer
- Include information about age and gender only when it is critical to answer the question
- Arrange clinical vignettes in the order in which a clinical encounter may occur, e.g., exam, evaluation/diagnosis/prognosis, intervention, etc.
- Keep as much information as possible in the stem, in order to help keep options short
- Use active rather than passive voice whenever possible (e.g., "The physical therapist examines…" vs. "The patient was examined…")

**DON'T**

- Write *Trivial Pursuit* items that test obscure facts
- Write items that ask for results of particular published studies unless they are extremely well-known
- Write items in the form of "*Which of the following statements about X is correct?*"
- Write long complex response options that can be confusing or create a reading load

- Use "*All of the above*" as an option
- Write the stem in the second person (i.e., "You are examining a patient with multiple sclerosis…")
- Use double negatives

**AVOID**

- Writing items in the *EXCEPT/LEAST/NOT* format
- Asking only for a definition (i.e., testing at the *recall* level)
- Using "None of the above" as an option
- Using indefinite qualifiers such as *usually, sometimes, often*, especially in options
- Correct options that are noticeably longer or more detailed than the other options

Excellent free on-line resource: nbme.org/publications/item-writing-manual.html

Adapted from the ABPTS Item-Writing Guide

**Tools for Assessment of Resident Teaching Ability**

## TEACHING ASSISTANT EVAULATION: LECTURE/LAB

This form can be used to assess the resident's ability to provide instructional support and deliver assigned teaching responsibilities (lecture / laboratory) while serving as a Teaching Assistant within an entry level physical therapy course. The form is intended to be used as a summary evaluation form upon course completion. If reviewed with the resident at the beginning of the course, it can serve as a means of communicating expectations of the resident's involvement as a teaching assistant.

### Teaching Assistant Evaluation

Name of Resident:_____

Course Title: _____

Academic Block and Year:_____

Course Coordinator:_____

Using the scale outlined below, rate the resident's performance as a teaching assistant within the specified course. Comments may be inserted as needed to clarify ratings.

**Expectations were** **E = Exceeded**

**M = Met**

**N = Not met**

**NA = Not applicable**

Teaching space and instructional supplies

_____ prepared teaching space

_____ secured appropriate equipment / checked that it was functioning properly

_____ cleaned teaching space upon session completion

Teaching responsibilities

_____ prepared and delivered lecture content on the following course topic(s):

_____ prepared and taught the following clinical skills in a skill-based laboratory:

_____ directed patient examination session, facilitating student interaction

_____ facilitated discussion in a small group teaching format

_____ prepared and copied written instructional materials for the students

_____ identified and assigned readings to augment instructional content

_____ contributed to the content of oral / written / laboratory examinations

_____ assisted in grading written assignments

_____ assisted in grading oral presentations

_____ assisted in grading performance-based practical examinations

Other

_____ effectively communicated course concerns with the course coordinator

_____ identified office hours for student access

_____ attended the following course lectures / laboratory sessions in addition to those required:

_____ completed other responsibilities, as previously specified:

*Overall comments:*

_____ _____

Signature of Teaching Assistant Date

_____ _____

Signature of Course Director Date

# TEACHING ASSISTANT EVAULATION: PATIENT EXAMINATION SESSION

The purpose of this form is to provide feedback to the resident on his/ her ability to function as a Teaching Assistant assigned to lead a patient examination session for a group of entry level physical therapy students. Prior to being asked to assume this responsibility, the resident would have observed several experienced clinician- educators as they facilitated and guided entry level physical therapy students through this process. The expectation for the resident is to promote experiential learning and engagement on the part of the students, rather than performing a "show and tell" while the students simply watch. These expectations are high, and may be most appropriately met as the resident nears the completion of his/ her training as a teaching assistant.

## Teaching Assistant Evaluation: Patient Examination Session

**Name of Resident:** **Course Title:**

**Session Content:**

**Academic Block and Year:** **Session Date:**

**Session reviewer:**

Using the scale outlined below, rate the resident's performance as a teaching assistant within the patient examination session. Comments may be inserted as needed to clarify ratings.

**Expectations were** **E = Exceeded**

**M = Met**

**N = Not met**

**NA = Not applicable**

INSTRUCTIONAL METHODS:

_____1. The session proceeded in a purposeful and organized manner.

_____2. The resident demonstrated a reasonable use of time within the session.

_____3. The resident emphasized important concepts specific to the patient's health condition.

_____4. The resident emphasized important concepts specific to the practice setting.

_____5. The resident was knowledgeable in the subject matter.

_____6. The resident effectively used varied instructional methods to facilitate student learning.

Comments:

INTERACTIONS WITH CLASS:

_____7. The resident maintained an atmosphere that actively encouraged learning.

_____8. The resident was effective in promoting student participation for data collection, including gathering subjective information and using appropriate tests and measures.

_____9. The resident provided useful feedback to the students in a respectful manner.

_____10. The resident answered questions clearly and concisely.

_____11. The resident appeared relaxed and confident of the subject matter.

_____12. The resident demonstrated enthusiasm for the subject matter.

_____13. The resident modeled elements of the core values of professionalism in physical therapy. (accountability, altruism, compassion/caring, excellence, integrity, professional duty, social responsibility)

Comments:

_____14. Overall impression:

15. Resident's self-evaluation of teaching performance. (optional)

Signature of Reviewer Date:

Signature of Resident

**Tools for Assessment of Resident Writing Skills**

## CASE REPORT ASSESSMENT FORM

This form is used to provide feedback to the resident engaged in writing a case report during the course of the residency program. The form provides a useful template for the resident at the start of this project, as it outlines the key elements and expectations of each section of the case report. It may be used in some capacity to provide feedback on each draft of the case report, in addition to being the summary document that can be used when providing the final grade / assessment of this endeavor.

**Resident**_____**Case Report Topic**_____

**Case Report Assessment Form**

**Grading Rubric:**

**4 = Exceeds expectations**

**3 = Meets expectations**

**2 = Partially meets expectations**

**1 = Does not meet expectations**

| | |
|---|---|
| **1. Introduction (12 points)** | |
| • Provides scholarly discussion of relevant background literature related to the case. | |
| • Provides a clear statement of purpose for the case report. | |
| • Relates context of case report to previously published background information data | |

**Comments:**

| | |
|---|---|
| **2. Patient Case: History, Interview, Systems Review, Tests and Measures (24 points)** | |
| • Provides relevant data gathered from the medical chart or patient / family interview regarding the patient's health condition. | |
| • Provides relevant personal and environmental data to inform clinical decision making. | |
| • Identifies patient problems, resources, and goals that are relevant to the case report. | |
| • Reports findings from movement analysis of relevant functional tasks. | |
| • Reports clinical data from tests and measures that are relevant to the case report purpose and health condition being explored. | |

| | |
|---|---|
| • Clinical data is reported in an organized and easily understandable manner. | |

**Comments:**

| **3. Evaluation / Diagnosis / Prognosis (20 points)** | |
|---|---|
| • Accurately interprets test / measurement findings in the areas of body structure / function, activity, and participation using current evidence / established psychometric standards and norms. | |
| • Synthesizes data obtained from multiple sources to establish a movement system diagnosis. | |
| • Recommends appropriate further action(s), including intervention or referral to another health care practitioner. | |
| • Identifies goals that are specific, measurable, meaningful, and realistic. | |
| • Predicts optimal level of improvement (goals) and reasonable time frame to achieve these, integrating research evidence, knowledge of the health condition, and the patient's examination findings and unique circumstances. | |

**Comments:**

| **4. Plan of Care: Therapeutic Interventions, Patient/ Client Instruction, and Coordination /Communication and Reassessment / Outcomes (24 points)** | |
|---|---|
| • Justifies procedural intervention choices based on the patient's goals, prudent use of available resources, and current evidence. | |
| • Presents intervention data in an organized and understandable manner. | |
| • Clearly articulates clinical decision-making within the plan of care as it relates to progression or modification of relevant procedural interventions. | |
| • Describes the methods and content of relevant patient-related instruction that was implemented. | |
| • Articulates frequency of reassessment and outcomes used to re-evaluate the plan of care. | |
| • Compares and contrasts baseline and discharge data. | |

**Comments:**

| **5. Discussion (20 points)** | |
|---|---|
| • Links the case back to its intended purpose. | |
| • Relates case findings to current evidence. | |
| • Synthesizes data from all three aspects of evidence-based practice to explain clinical decision-making. | |
| • Discusses implications of case report to future clinical practice / research. | |

| | |
|---|---|
| • Provides evidence of self-reflection on clinical decision-making. | |

**Comments:**

| | |
|---|---|
| **6. Overall quality of writing (12 points)** | |
| • Adheres to rules of grammar, spelling, and medical notation. | |
| • Literature is properly cited and reference entries are complete. | |
| • Tables and / or figures make a positive contribution to data presentation. | |

**Comments:**

**Overall Summative Comments for Case Report:**

| **Summary of Grade Totals** | **Possible points** |
|---|---|
| 1. Introduction | **/12** |
| 2. Patient Case: History, Interview, Systems Review, Tests and Measures | **/24** |
| 3. Evaluation / Diagnosis / Prognosis | **/20** |
| 4. Plan of Care: Therapeutic Interventions, Patient/ Client Instruction, and Coordination / Communication and Reassessment / Outcomes | **/24** |
| 5. Discussion | **/20** |
| 6. Overall quality of writing | **/12** |
| **Total points** | **/112** |

**Final Grade:**

_____Pass, exceeding expectations (98-112 points)

_____Pass, meeting expectations (77-97 points)

_____Does not meet expectations (≤ 76 points)

**Signature of reviewer**_____ **Date**_____

**Signature of reviewer**_____**Date**_____

**Tools for Assessment of the Mentor**

## MENTOR EVALUATION BY THE RESIDENCY DIRECTOR

This form can be used by a Residency Director to provide very general feedback to a residency faculty mentor. The assumption is that the Director would observe the mentor in a mentoring session with the resident. This form is based on the five microskills of clinical teaching that help to guide the mentoring process within a residency program.

### Evaluation of the Residency Faculty Mentor

**Faculty Mentor Name:_____Evaluation completed by_____**

**Resident's Name_____ Date_____**

**Briefly describe the purpose of the mentoring session that was observed:**

Please respond to the following statements using the rating scale below:

**1-Strongly agree**
**2-Agree**
**3-Neutral**
**4-Disagree**
**5-Strongly Disagree**

_____ The mentor asked the resident to articulate her/ his learning needs for the mentoring session.
_____ The mentor encouraged the resident to explain her/ his clinical hypotheses and the data and decision making used to support them.
_____ The mentor offered feedback intended to guide the resident's decision making process and enhance pattern recognition skills.
_____ The mentor provided positive reinforcement of clinical skills and decision making that the resident performed well.
_____ The mentor offered constructive feedback to the resident to correct mistakes and assist with future clinical decision making and skill performance in areas needing continued growth.

**Additional comments and suggestions for future growth:**

_____ _____
Signature of evaluator Date

_____ _____
Signature of mentor Date

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# MENTOR EVALUATION BY THE RESIDENT

This form may be used by the resident to provide feedback to their residency mentor. It provides an in-depth assessment of the mentor's personal characteristics, their ability to supervise and design learning experiences, and their ability to provide feedback. It may be completed at the end of a residency rotation to provide summative feedback or during the rotation as a method of formative assessment.

## Mentor Evaluation

**Mentor:**_____
**Resident:** _____

**Date:** _____

**Each of the statements below describes a characteristic of clinical teaching by the mentor. Indicate your rating of the above named mentor by circling the appropriate number to the right of each item. Use the rating scale below:**

**4 3 2 1 0**

**Extremely well done Well done Fairly well done Not done Unable to rate**

**The Mentor:**

**I. Personal Characteristics**

| | | | | | |
|---|---|---|---|---|---|
| 1. Is interested in teaching. | 4 | 3 | 2 | 1 | 0 |
| 2. Approaches teaching and patient care with dynamism and energy. | 4 | 3 | 2 | 1 | 0 |
| 3. Demonstrates a genuine interest in and respect for the resident as an individual. | 4 | 3 | 2 | 1 | 0 |
| 4. Establishes positive rapport with resident. | 4 | 3 | 2 | 1 | 0 |
| 5. Helps the resident maintain a positive attitude toward him/her self. | 4 | 3 | 2 | 1 | 0 |
| 6. Is able to reduce resident's stress in unfamiliar or threatening situations. | 4 | 3 | 2 | 1 | 0 |
| 7. Recognizes personal strengths and weaknesses/ limitations while encouraging the resident to do the same. | 4 | 3 | 2 | 1 | 0 |

| | | | | | |
|---|---|---|---|---|---|
| 8. Displays confidence in his/her role as a professional and teacher and serves as a favorable professional image/role model. | 4 | 3 | 2 | 1 | 0 |
| 9. Shows his/her own feelings and values while encouraging resident to do the same. | 4 | 3 | 2 | 1 | 0 |
| 10. Establishes positive rapport with his/her patients. | 4 | 3 | 2 | 1 | 0 |
| 11. Demonstrates concern for the welfare of his/her patients. | 4 | 3 | 2 | 1 | 0 |
| **II. Resident Supervision and Design of Learning Experiences** | | | | | |
| 12. Sets and communicates realistic learning objectives for the resident. | 4 | 3 | 2 | 1 | 0 |
| 13. Exposes resident to wide variety of patients, procedures, and problems. | 4 | 3 | 2 | 1 | 0 |
| 14. Creates an atmosphere in which resident is encouraged to think. | 4 | 3 | 2 | 1 | 0 |
| 15. Encourages resident to raise questions, disagree, and express ideas. | 4 | 3 | 2 | 1 | 0 |
| 16. Is receptive to new ideas. | 4 | 3 | 2 | 1 | 0 |
| 17. Discusses divergent views. | 4 | 3 | 2 | 1 | 0 |
| 18. Challenges the resident by questioning. | 4 | 3 | 2 | 1 | 0 |
| 19. Responds to resident's questions in a helpful manner. | 4 | 3 | 2 | 1 | 0 |
| 20. Facilitates practical application of scientific and physical therapy theory. | 4 | 3 | 2 | 1 | 0 |
| 21. Explains rationale for procedures. | 4 | 3 | 2 | 1 | 0 |
| 22. Is aware of resident's knowledge and ability to perform procedures. | 4 | 3 | 2 | 1 | 0 |
| 23. Delegates responsibility concurrent with resident's stage of learning and ability. | 4 | 3 | 2 | 1 | 0 |
| 24. Gives appropriate supervision in proportion to the difficulty of the task and ability of the resident. | 4 | 3 | 2 | 1 | 0 |
| 25. Strives to make difficult concepts easier for the resident. | 4 | 3 | 2 | 1 | 0 |
| 26. Recognizes when there are problems in resident's learning and initiates a problem solving approach to correct them. | 4 | 3 | 2 | 1 | 0 |

**III. Evaluation and Feedback**

| | | | | | |
|---|---|---|---|---|---|
| 27. Evaluates resident performance and progress and gives appropriate feedback to resident. | 4 | 3 | 2 | 1 | 0 |
| 28. Is nonbiased and fair in his/her evaluation of the resident. | 4 | 3 | 2 | 1 | 0 |
| 29. Gives immediate and timely feedback. | 4 | 3 | 2 | 1 | 0 |
| 30. Compliments the resident for appropriate contributions, observations, or performances. | 4 | 3 | 2 | 1 | 0 |
| 31. Provides constructive criticism. | 4 | 3 | 2 | 1 | 0 |
| 32. Provides criticism tactfully in regard to time, manner, and place. | 4 | 3 | 2 | 1 | 0 |
| 33. Corrects resident in a non-derogatory manner. | 4 | 3 | 2 | 1 | 0 |
| 34. Answers questions candidly and explains the rationale behind decision making. | 4 | 3 | 2 | 1 | 0 |
| 35. Assesses the quality of his/her teaching. | 4 | 3 | 2 | 1 | 0 |

**Comments:**

# MENTOR SELF-EVALUATION

This form is intended to be used by a residency mentor to self-assess and identify areas for further development. Residency Directors could use this form as part of their assessment of mentors by observing mentors conducting mentoring sessions with residents and then having the mentors fill out this form to get their perceptions about their performance. The form could also be adapted to be used by residents to evaluate the mentors.

**1= I never do 2= I seldom do 3=Neutral 4= I mostly do 5=I always do**

| | |
|---|---|
| I clearly communicate the objectives of mentored clinical practice to the resident. | 1 2 3 4 5 |
| I provide opportunity for the resident to give input into the objectives for mentored clinical practice. | 1 2 3 4 5 |
| I provide constructive feedback on resident performance. | 1 2 3 4 5 |
| I provide timely feedback on resident performance. | 1 2 3 4 5 |
| I demonstrate skill in active listening. | 1 2 3 4 5 |
| I communicate in a clear and concise manner. | 1 2 3 4 5 |
| I teach in an interactive manner that encourages problem solving. | 1 2 3 4 5 |
| I communicate in an open and non-threatening manner. | 1 2 3 4 5 |
| I provide a clear understanding to the resident of to whom they are directly responsible and accountable. | 1 2 3 4 5 |
| I am accessible when needed. | 1 2 3 4 5 |
| I clearly explain the resident's responsibilities. | 1 2 3 4 5 |
| I provide the resident responsibilities that are within the resident's scope of knowledge and skills. | 1 2 3 4 5 |
| I facilitate patient-therapist and therapist-resident relationships. | 1 2 3 4 5 |
| I provide time to be available to discuss patient/client management with the resident. | 1 2 3 4 5 |
| I serve as a positive role model in physical therapy practice. | 1 2 3 4 5 |
| I skillfully use the clinical environment for planned and unplanned learning experiences. | 1 2 3 4 5 |
| I integrate knowledge of various learning styles into resident clinical teaching. | 1 2 3 4 5 |
| I make formal evaluation processes constructive. | 1 2 3 4 5 |

| | |
|---|---|
| I encourage the resident to self-assess. | 1 2 3 4 5 |

**Comments:**

***MENTORING CHARACTERISTICS***

- *Guides professional and personal development (ethics, values, culture, empathy, and service to clients)*
- *Teaches meta-cognition (i.e. the reasoning process)*
- *Verbalizes thinking and problem solving*
- *Accessible, consistent, honest, and professional*
- *Authoritative when appropriate*
- *Conveys master knowledge*
- *Identifies areas for growth*
- *Regular communication*
- *Encourages reflection*

## Tools for Assessment of the Residency Program

### RESIDENCY LECTURE/COURSE EVALUATION

The purpose of this form is to gather and provide feedback to residency faculty teaching within the curriculum. Forms may be reviewed annually to determine teaching effectiveness and provide guidance in curricular modifications. This form is to be completed by the residents.

**Residency Lecture/Course Evaluation**

Topic:_____
Date:_____

On the following scale of 1 through 5, where 1 is strongly agree and 5 is strongly disagree please indicate your opinion for each statement.

| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
|---|---|---|---|---|---|
| The overall presentation was clear and met learning objectives. | 1 | 2 | 3 | 4 | 5 |
| The content was appropriate to the Neurologic Physical Therapy Residency. | 1 | 2 | 3 | 4 | 5 |
| Course was given at a level appropriate to your current understanding of the subject matter. | 1 | 2 | 3 | 4 | 5 |
| Reading material (if any) was useful and appropriate to the course objectives. | 1 | 2 | 3 | 4 | 5 |
| The instructor was responsive to questions. | 1 | 2 | 3 | 4 | 5 |
| Participants were actively involved in learning. | 1 | 2 | 3 | 4 | 5 |
| The meeting room was conducive to learning. | 1 | 2 | 3 | 4 | 5 |

| | | | | | |
|---|---|---|---|---|---|
| The method of the presentation held my attention. | 1 | 2 | 3 | 4 | 5 |
| The pace of the presentation was just about right. | 1 | 2 | 3 | 4 | 5 |
| The information provided can be applied to my practice area. | 1 | 2 | 3 | 4 | 5 |
| The presentation was well administered. | 1 | 2 | 3 | 4 | 5 |

Comments:

# RESIDENT EVALUATION OF THE PROGRAM

The purpose of this assessment form is to provide comprehensive feedback to the program from the perspective of the resident. It provides the resident a method to assess various components of the residency program including their orientation, their overall residency experience, the performance tools and forms used for their assessment, and the quality of their mentored sessions. This form is designed as a formal assessment tool to be used upon **completion** of the residency program.

## ***Neurologic Physical Therapy Residency Program***
## **Resident Evaluation of the Program**

Name:_____

Residency Year:_____

1. General Orientation (check items covered)
   - ____ Organization and administration of MRH and the PT department.
   - ____ Physical therapy programs.
   - ____ Safety procedures.
   - ____ Objectives/Requirements of the residency program.
   - ____ Resident responsibilities.
   - ____ Mentor responsibilities.
   - ____ Supportive personnel employed in PT department.
2. Residency Experience
   A. Do you feel that the residency program was appropriate to your level of academic knowledge and previous clinical experience?

   B. List specific experiences that were of particular value to your post-professional education:

   C. List specific experiences that you felt were of questionable value to your post- professional education:

D. What experience was the most challenging, both professionally and personally? Why?

E. What experience did you find the most rewarding, both professionally and personally? Why?

F. Which lectures and/or experiences would you omit? Why?

G. Which experiences were easier than you expected? Which were more difficult?

H. Please review the following performance tools and forms and state whether or not they were necessary and/or beneficial. Feel free to make any suggestions for revisions.

Resident Evaluation Form:

Did your mentored treatment sessions consistently include:

____ Review of the preparatory form?

____ Completion of Resident Evaluation Form?

____ Discussion of Resident Evaluation Form with feedback provided in a timely manner?

Comments:

Rotation goals and objectives:

Self-Assessment Forms:

Patient Practicals:

Year-end written examination:

Course Evaluation:

Mentor Evaluation:

I. Was there anything in particular you would change regarding lectures, rotations, and/or general program management?

J. Please review the attached program goals and objectives and state next to each one whether you feel these objectives were attained. If not, please provide an explanation.

K. What changes would you suggest for the program next year?

L. What advice would you give to new residents?

3. Mentored Sessions
Please comment concerning the resident-mentor relationship from the standpoint of:

A. Inter-personnel relationships

B. Opportunities for professional development

C. How valuable were the mentored treatment sessions? What would you have your mentors do differently? What would you like to remain unchanged?

4. Knowing then what you know now, would you choose to participate in the Program?

_____ _____

Resident Program Coordinator

_____ _____

Date Date

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# EVALUATION OF PROGRAM BY RESIDENTS ONE YEAR AFTER RESIDENCY COMPLETION

## 1. Demographics

**1. What residency program did you complete?**

☐ Geriatric
☐ Neurologic
☐ Pediatric
☐ Orthopaedic
☐ Sports

**2. In what facility/setting do you current practice? (check all that apply)**

☐ Academic institution (post-secondary)
☐ Acute care hospital
☐ Health and wellness facility
☐ Health system or hospital outpatient facility
☐ Industry or industrial rehab facility
☐ Profession/elite level sport club
☐ Private outpatient office or group practice
☐ Research center
☐ School system
☐ SNF/ECF/ICF
☐ Sub-acute rehab hospital
☐ Other

_____

**3. How many years have you been practicing since entry level licensure?**

☐ 0 – 3 ☐ 3 – 5 ☐ 5 – 10 ☐ 10 – 20 ☐ > 20

**4. How many years have you been practicing since completion of your residency program? (Choose the answer that is most applicable)**

☐ 1 ☐ 3 ☐ 5

## 2. Ratings of Skills

**Please self-assess your professional skills compared to a clinician with equal years of experience.**

**1. Patient Management**

| | Poor | Fair | Good | Excellent | Outstanding | N/A |
|---|---|---|---|---|---|---|
| **Assessment Examination** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Treatment** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Documentation** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Clinical Outcome Assessment** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Communications/ Referrals** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Clinical Program Development** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

**2. Rating of Sports Specific Skills (Sports Residents Only)**

| | Poor | Fair | Good | Excellent | Outstanding | N/A |
|---|---|---|---|---|---|---|
| **Sports specific functional testing** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Sports specific rehabilitation** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Acute injury examination and management** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Implement prophylactic interventions (taping, bracing, etc.)** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Return to play decision-making** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Counsel patients, athletes, parents, coaches** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

## 3. Event Coverage (Sports PT Residents Only)

**1. Do you provide sporting event coverage as part of your job duties?**

☐ No
☐ Yes; how many hours to you provide per week on average:_____

## 4. Professional Behavior

**1. Are you a member of the APTA?**

☐ No
☐ Yes

**2. Are you a member of any other professional organizations?**

☐ No
☐ Yes: Please give organization and role
_____

**3. Do you hold any leadership positions in the APTA or other professional organization (i.e. committee member, committee chair, delegate, etc)?**

☐ No
☐ Yes: Please give organization and role
_____

**4. Have you taken the ABPTS specialization exam?**

☐ No
☐ Yes

**4. Have you passed the ABPTS specialization exam?**

☐ No
☐ Yes

## 5. Critical Inquiry/Research

**1. Please rate your competency in critical inquiry utilization specific to your current clinical practice.**

| | Poor | Fair | Good | Excellent | Outstanding | N/A |
|---|---|---|---|---|---|---|
| **Peer-reviewed presentations (local, state, national)** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Incorporation of evidence-based practice** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Clinical outcome assessment use** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Participates in clinical research** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

**2. Since residency graduation, have you published a peer-reviewed manuscript or presentation.**

☐ No
☐ Yes

**3. Please list peer-reviewed publication reference(s).**

**4. Please list peer-reviewed presentations (local, state, national, etc.) Include title, conference, location, and year.**

## 6. Teaching

**1. Do you feel that your residency program prepared you to be an effective educator?**

☐ No
☐ Yes

**2. Which of the following best describes your educational responsibility at your current place of employment?**

☐ No education role
☐ Clinical instructor
☐ Residency or fellowship mentor/faculty member
☐ Intra-facility presentation
☐ Continuing education instructor
☐ Adjunct faculty member (entry level program)
☐ Academic faculty member (entry level program)
☐ Other

## 7. Open Ended Comments

Please use this section to provide your general written feedback to the program faculty for their use in improving the structure and content of the curriculum.

**1. How satisfied are you with your choice to enter residency training?**

| Very Satisfied | Satisfied | Neutral | Not Satisfied | Very Unsatisfied | N/A |
|---|---|---|---|---|---|
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

**2. Please rate the following aspects of your residency program.**

| | Poor | Fair | Good | Excellent | Outstanding | N/A |
|---|---|---|---|---|---|---|
| **Didactic curriculum** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Clinical mentoring** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Teaching assistant in PT program** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Professional development activities (presentations, committee work, leadership training, etc.)** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Communication** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

**3. What are the strengths of the program in preparing residents for specialist-level practice?**

**4. What aspects of the program could be improved to better prepare residents for specialist-level practice?**

**5. Please use this space for any further comments and suggestions.**

Adapted with permission by Anne Kloos, PT, PhD, NCS of the Ohio State University

# EVALUATION BY EMPLOYERS OF FORMER RESIDENTS ONE YEAR AFTER RESIDENCY COMPLETION

## 1. Demographics

**1. What residency program did your current employee complete?**

☐ Geriatric
☐ Neurologic
☐ Pediatric
☐ Orthopaedic
☐ Sports

## 2. Setting

**1. Please describe the setting in which the residency graduate is now employed.**

☐ Academic institution
☐ Acute care hospital
☐ Health and wellness facility
☐ Health System or hospital outpatient facility
☐ Industry or industrial rehab facility
☐ Profession/elite level sport club
☐ Private outpatient office or group practice
☐ Research center
☐ School system
☐ SNF/ECF/ICF
☐ Sub-acute rehab hospital
☐ Other

_____

## 3. Experience

**1. How many years has the residency graduate been employed by your company/ institution?**

☐ 0 – 3 ☐ 3 – 5 ☐ 5 – 10 ☐ 10 – 20

## 4. Ratings of Skills

**Please rate the residency graduate's professional skills compared to a clinician with equal years of experience.**

**1. Patient Management**

| | Poor | Fair | Good | Excellent | Outstanding | N/A |
|---|---|---|---|---|---|---|
| **Assessment Examination** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Treatment** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Documentation** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Clinical Outcome Assessment** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Communications/ Referrals** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Scheduling / Follow-up** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

| **5. Open Ended Comments** |
| --- |
| Please comment on the strength/opportunities for growth of_____residency program.<br><br>**1. On a scale of 0-100 (100 is highest), how satisfied are you with your employee that is residency trained?** |
| **2. What are the strengths/benefits of hiring a residency-trained graduate?** |
| **3. What aspect of residency training could be improved to best prepare the resident for specialist-level practice?** |
| **4. Please use this space for any further comments or suggestions?** |

Adapted with permission by Anne Kloos, PT, PhD, NCS of the Ohio State University

# *Neurologic Physical Therapy Residency Curricular Resource Supplement*

Neurologic Physical Therapy Residency Curriculum Task Force Members:

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## Introduction

This document reflects the work of the APTA Neurologic Residency Curriculum Task Force (NRCTF) which was formed in February 2011 in response to the APTA Neurology Section 2012-2016 Strategic Plan objective to increase the number of neurologic residency programs accredited by the American Board of Physical Therapy Residency and Fellowship Education (ABPTRFE). The goals of the NRCTF were to develop curricular resources to help in neurologic residency program development. In 2012, the NRCTF completed Phase 1 of the APTA objective with the development of the *Neurologic Physical Therapy Residency Curriculum* to assist individuals who are developing curricula for new residency programs. In 2013, the NRCTF completed Phase 2 with the development of the *Compendium of Instructional Resources for Neurologic Physical Therapy Residency Programs* which assembled resources in the form of instructions, templates, samples, and other materials to assist with writing of core program documents, with designing active learning experiences, with providing optimal mentoring, and with evaluation of program and resident outcomes.

This *Neurologic Physical Therapy Curricular Resource Supplement* represents Phase 3 of the Neurology Section support for newly developed residency programs. The NRCTF has reviewed and critiqued selected APTA Learning Center courses and linked them to APTA *Neurologic Physical Therapy Description of Specialty Practice* (2004) curricular topics to facilitate the use of these courses in neurologic physical therapy residency curricula. Each course review was submitted by a Task Force member, and was reviewed/edited by the balance of the Task Force. In addition, the *Supplement* was reviewed by Patty Scheets, Neurology Section Vice President, and then reviewed/approved by the Neurology Section Board of Directors.

The *Supplement* provides:

1. a list of recommended APTA and a few other web-based resources to support neurologic physical therapy residency curricula;
2. a table that links *Neurologic Physical Therapy Description of Specialty Practice* (2004) curricular topics with relevant APTA Learning Center courses;
3. rubrics with reviews and recommendations for the use of APTA Learning Center courses listed in the DSP topics table; and
4. an index of reviewed APTA Learning Center courses in alphabetical order.

The NRCTF acknowledges that this is not an all-inclusive list of web-based resources or APTA Learning Center courses to support the curricula of neurologic residency programs. Rather, we have attempted to select those resources and courses that were: 1) sponsored by APTA, 2) directly applicable to neurologic Description of Specialty Practice topics, and/or 3) had been used by task force members and were deemed beneficial for neurologic physical therapy resident learning. Programs are encouraged to select web-based resources and APTA Learning Center courses to best meet their individual curricular needs and resources. Use of these resources does not ensure that the program will meet all of the criteria for credentialing as established by the American Board of Physical Therapy Residency and Fellowship Education (ABPTRFE); all programs must comply with the curricular requirements for credentialing of neurologic residency programs as set forth by the ABPTRFE.

# Web-based Resources to support Neurologic Physical Therapy Residency Curricula

| Diagnosis-specific Evidence-based Resources |
|---|
| • www.ebrsr.com (Evidence-Based Review of Stroke Rehabilitation)<br>• www.abiebr.com (Acquired Brain Injury Evidence-Based Review)<br>• www.scireproject.com/home (Spinal Cord Injury Rehabilitation Evidence)<br>• www.elearnsci.org (web-based teaching and educational resource by the International Spinal Cord Society)<br>• http://www.euro-hd.net/html/network/groups/physio (European Huntington's Disease Physiotherapy Working Group Guidelines for Physiotherapists)<br>• www.appde.eu (Royal Dutch Society for Physiotherapy Guidelines for physical therapy in patients with Parkinson's disease)<br>• http://strokengine.ca (evidence-based information about stroke for clinicians, patients, and families) |
| **Outcome Measures** |
| • www.rehabmeasures.org<br>• www.neuropt.org/professional-resources/neurology-section-outcome-measures-recommendations (APTA EDGE task force recommendations) |
| **Journals (free full-text after one-year embargo)** |
| • www.ptjournal.org (Physical Therapy Journal)<br>• www.jnpt.org (Journal of Neurologic Physical Therapy)<br>• www.stroke.ahajournals.org (Stroke, published by the American Heart Association) |
| **Web-sites with a variety of diagnosis-specific resources** |
| • www.ptnow.org<br>• www.neuropt.org<br>• https://healthcarestudies.cf.ac.uk/ActiveHD/ (Active-HD website with resources on HD) |
| **Professional Issues** |
| • http://www.apta.org/CulturalCompetence/ (Cultural Competence in Physical Therapy)<br>• http://www.apta.org/EthicsProfessionalism/ (Ethics and Professionalism)<br>• https://healthliteracy.osu.edu/ (Health literacy modules)<br>• http://www.aptahpa.org/ (APTA Section on Health Policy and Administration including information about LAMP Leadership Program)<br>• http://www.apta.org/CareerManagement/SelfAssessments/ (APTA Self-Assessment Tools including Core Values and Neurologic Specialty)<br>• http://www.apta.org/Documentation/ (APTA Guidelines for Documentation) |

| Neurologic Description of Specialty Practice Curricular Topics Linked with APTA Learning Center Courses | |
|---|---|
| **I. KNOWLEDGE AREAS** | **APTA Learning Center courses** |
| **A. Foundation Sciences** (including changes across the lifespan) | **NOTE: Reviews for each of the courses found on provided page numbers.** |
| **Anatomy/Neuroanatomy (CNS, ANS, PNS)**<br>• *Vascular structures- normal and pathological*<br>• *Nervous system- including but not limited to: neurotransmitters; neuroanatomical changes across the lifespan; cross section detail of structures*<br>• *Hemispheric specialization*<br>• *Respiratory structures*<br>• *Musculoskeletal structures* | Amyotrophic Lateral Sclerosis: Update on Anatomy, Physiology, Pharmacology, and Management, 2nd Ed ***(PAGE 4)*** |
| **Neuroplasticity**<br>• *Intercellular responses to injury*<br>• *Cortical remodeling after injury*<br>• *Activity-dependent neuroplasticity*<br>• *CNS responses to learning and inquiry* | Focus 2011: Issue 2: The Aging Neuromuscular System ***(PAGE 1)***<br><br>CSM10: A Learning Module for Neurorehabilitation Curriculum: Walking Recovery, Locomotor Training, and Incomplete Spinal Cord Injury ***(PAGE 9)***<br><br>Module 3: Evidence-Based Physical Therapy Intervention for Persons with Parkinson's Disease ***(PAGE 26)*** |
| **Neurophysiology**<br>• *Pain-neurogenic pain; pain related to non-neurologic structures*<br>• *Perception*<br>• *Sensory and motor physiology*<br>• *Impact of neurological conditions on other body systems*<br>• *System responses to trauma and stress and exertion*<br>• *Positive and negative symptoms related to neurological conditions* | PT09: Balance and Falls: The Physiology of Aging ***(PAGE 8)***<br><br>Focus 2011, Issue 2: The Aging Neuromuscular System ***(PAGE 1)***<br><br>Geriatrics Section: Topics: Vol 6: Alzheimer Disease in Physical Therapist Practice: Integrating Principles of Neurophysiology and Neuropsychology Into Comprehensive Patient |

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|---|---|
| | Care ***(PAGE 3)*** |
| **Skill Acquisition/ Motor Learning**<br>• *Movement Science*<br>• *Motor learning* | Geriatrics Section: Topics: Vol 6: Alzheimer Disease in Physical Therapist Practice: Integrating Principles of Neurophysiology and Neuropsychology Into Comprehensive Patient Care ***(PAGE 3)***<br><br>Focus 2011: Issue 2: The Aging Neuromuscular System ***(PAGE 1)*** |
| **Motor Control**<br>• *Individual, task, and environmental constraints on movement*<br>• *Theories of motor control: reflex, hierarchical, motor programming, systems, dynamic action, ecological*<br>• *Clinical applications of motor control theories* | CSM11: Poor Balance Control: Evaluation and Treatment Based On Contributing Systems ***(PAGE 29)*** |
| **B. Behavioral Sciences** | |
| **Cultural competence**<br>• *Cultural social system* | Developing Cultural Competence in a Multicultural World ***(PAGE 11)*** |
| **Cognitive/behavioral dysfunction**<br>• *Expected emotional/behavioral responses to illness and recovery*<br>• *Affective disorders*<br>• *Impact of personality on illness and recovery*<br>• *Impact of substance abuse disorders on the movement system*<br>• *Learning disorders*<br>• *Normal and dysfunctional sexual behavior*<br>• *Memory, Attention, Cognitive processes and executive functions* | Testing Cognition & Attention: Kicking the “Alert & Oriented X 3” Habit! ***(PAGE 42)*** |
| **Perceptual disorders** | |
| **Teaching and learning theory**<br>• *Learning theories*<br>• *Learning styles*<br>• *Teaching strategies/ methods*<br>• *Domains of learning*<br>• *Measurement of learning*<br>• *Educational theory and methods related to patients/clients with neurological conditions* | Geriatrics Section: Topics: Vol 6: Alzheimer Disease in Physical Therapist Practice: Integrating Principles of Neurophysiology and Neuropsychology Into Comprehensive Patient Care ***(PAGE 3)***<br><br>CSM10: A Learning Module for Neurorehabilitation Curriculum: Walking Recovery, Locomotor Training, and Incomplete |

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| | Spinal Cord Injury ***(PAGE 9)*** |
| **Communication Skills**<br>• *Principles of empathy,*<br>• *Behavior modification strategies,*<br>• *Communication with persons who are sensory or cognitively impaired,*<br>• *Listening and observation techniques,*<br>• *Conflict management techniques.* | Geriatrics Section: Topics: Vol 6: Alzheimer Disease in Physical Therapist Practice: Integrating Principles of Neurophysiology and Neuropsychology Into Comprehensive Patient Care ***(PAGE 3)***<br><br>Professionalism Module 5: Emotional Intelligence ***(PAGE 31 )***<br><br>Professionalism Module 6: Developing the Patient-Therapist Partnership ***(PAGE 32)*** |
| **Ethical Issues in Practice**<br>• *Ethics and related decision-making* | Professionalism Module 3: Ethical Compass ***(PAGE 30)***<br><br>Information on APTA's Revised Code of Ethics for the Physical Therapist and Standards of Ethical Conduct for the Physical Therapist Assistant ***(PAGE 17)*** |
| **C. Clinical Sciences** | |
| **Movement Analysis**<br>• *Kinesiology, including knowledge of:*<br>  ○ *Electromyographic patterns during functional tasks and postural control activities.*<br>  ○ *Biomechanics.*<br>  ○ *Joint morphology.*<br>• *Pathokinesiology, including knowledge of:*<br>  ○ *Automatic control of posture and movement.*<br>  ○ *Voluntary control of movement, including timing, speed, and sequencing.*<br>  ○ *Relationship between spasticity and movement.*<br>• *The potential impact of movement impairments on the musculoskeletal system over time.* | Poor Balance Control: Evaluation and Treatment Based On Contributing System ***(PAGE 29)*** |

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| **Medical management (pharmacology, imaging, additional tests)**<br>• *Pharmacology, including knowledge of:*<br>  ○ *Drug reactions and dosage effects*<br>  ○ *Effects on the musculoskeletal and nervous systems*<br>  ○ *Interaction of pharmacological agents*<br>  ○ *Long term use of drugs*<br>  ○ *Toxicology*<br>• *Integrates instruments, tests, screens, and evaluations used or performed by other health care professionals*<br>• *Neuroimaging [MRI, fMRI, CT scan, PET scan, diffusion tensor imaging (DTI)]* | CSM10: Evidence-Based Medicine: Multiple Sclerosis Drugs and Exercise Implications ***(PAGE 18)***<br><br>Amyotrophic Lateral Sclerosis: Update on Anatomy, Physiology, Pharmacology, and Management, 2nd Ed ***(PAGE 4 )***<br><br>Module 1: Understanding Parkinson's Disease and the Growth of Physical Therapy as a Viable Treatment Option ***(PAGE 24)*** |
| **Epidemiology**, including knowledge of:<br>• *Prevalence of neurologic disease/ conditions/ signs/ symptoms*<br>• *Incidence of neurologic disease/ conditions/ signs/ symptoms*<br>• *Prognostic indicators in neurologic disease/ conditions/ signs/ symptoms*<br>• *Risk factors relevant to health status across the life span*<br>• *Morbidity, mortality, and natural history of neurologic conditions* | Amyotrophic Lateral Sclerosis: Update on Anatomy, Physiology, Pharmacology, and Management, 2nd Ed ***(PAGE 4)*** |
| **D. Sciences Related to Critical Inquiry** | |
| **Scientific Inquiry and Practice**<br>• *Research Design*<br>  ○ *qual/quant design*<br>  ○ *theory develop*<br>  ○ *principles of measurement*<br>  ○ *sensitivity / specificity*<br>  ○ *reliability/validity*<br>• *Stats*<br>  ○ *parametric/non-parametric*<br>  ○ *descriptive stats*<br>  ○ *statistical inference*<br>  ○ *statistical testing*<br>  ○ *ANOVA, correlation, regression concepts of statistical power* | |
| **II. PRACTICE EXPECTATIONS** | |

| **A. Professional Roles, Responsibilities, and Values** | |
|---|---|
| **Professional Roles, Responsibilities, and Values**<br>*includes content addressing leadership, virtuous behavior, education, and consultation areas of the DSP* | Module 4: Maximizing Patient Outcomes For Patients with Parkinson's: Exploring Options and Creating Connections between Patient, Family, Health Care, and Community ***(PAGE 28)***<br><br>Professionalism Module 5: Emotional Intelligence ***(PAGE 31)***<br><br>Professionalism Module 6: Developing the Patient-Therapist Partnership ***(PAGE 32)***<br><br>Professionalism Module 10: Continuing Competence and Lifelong Learning ***(PAGE 35)*** |
| **Evidence Based Practice (EBP)**<br>• *Evaluates the efficacy and effectiveness of new and established examination tools, interventions, and technologies.*<br>• *Appropriately applies new research information, methods, or instruments to clinical practice.*<br>• *Participates in planning and conducting clinical research.* | Neurologic Practice Essentials: An Outcome Measures Toolbox ***(PAGE 19)*** |
| **B. Patient/Client Management**<br>*(includes aspects of examination, evaluation, diagnosis, prognosis, interventions, and outcome measures)* | Physical Therapy Management of Children with Neurological Disorders ***(PAGE 22)***<br><br>Current Concepts in Rehabilitation of Individuals With Parkinson Disease ***(PAGE 47)***<br><br>Current Concepts in the Management of Individuals With Vestibular Dysfunction, 2nd Ed ***(PAGE 43)***<br><br>Current Concepts in the Management of Patients With Traumatic Brain Injury, 2nd Ed ***(PAGE 45)***<br><br>Evaluation and Intervention for Postural Control Disorders in Children, 2nd Ed ***(PAGE 51)*** |

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| | Physical Therapy Management for Individuals With Acute Traumatic Spinal Cord Injury, 2nd Ed ***(PAGE 49)***<br><br>Amyotrophic Lateral Sclerosis: Update on Anatomy, Physiology, Pharmacology, and Management, 2nd Ed ***(PAGE 4)*** |
| **Examination**<br>*(includes history, systems review, tests and measures--large section of DSP)* | Neurologic Practice Essentials: Choosing Outcome Measures for a Patient with Stroke ***(PAGE 20)***<br><br>PT10: Testing Cognition and Attention: Kicking the "Alert and Oriented X 3" Habit ***(PAGE 42)***<br><br>Neurologic Practice Essentials: An Outcome Measures Toolbox ***(PAGE19 )***<br><br>Balance and Falls: The Physiology of Aging (actual title of the PPT is more accurate: "Identification and Prevention of falls in Older Persons") ***(PAGE 8)***<br><br>Geriatrics Section: Topics: Vol 6: The Differential Diagnosis of Dizziness in the Older Adult ***(PAGE 16)***<br><br>PT09: Geriatrics: Fear of Falling in Older Adults: Evidence-Based Strategies for Examination and Intervention Management ***(PAGE 15)***<br><br>PT09: Sports: Sports-Related Mild Traumatic Brain Injury ***(PAGE 39)***<br><br>Concussion and Postconcussive Syndrome: When to Rest, Exercise, or Return to Sport ***(PAGE 37)*** |

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| | Parkinson's Disease: A Practical Approach to Evaluation & Treatment for the Physical Therapist<br>Module 2: Understanding the Impact of Exercise on the Brain and Choosing Outcome Measures to Capture Change Following Exercise ***(PAGE 25)*** |
| **Evaluation**<br>• *Predicts present or potential disability based on impairments, functional limitations, (including results from task or motion analysis) and potential for recovery.*<br>• *Develops clinical judgments based on data collected from the examination.*<br>• *Differentiates impairments/functional limitations that require compensatory movement strategies vs strategies that focus on recovery of normal movement.*<br>• *Links impairments, functional limitations, and psychosocial factors to the patient/client's and caregiver's expressed goals.*<br>• *Interprets observed movement and function.*<br>• *Integrates instruments, tests, screens, and evaluations used or performed by other health care professionals.* | Neurologic Practice Essentials: Choosing Outcome Measures for a Patient with Stroke ***(PAGE 22 )***<br><br>Geriatrics Section: Topics: Vol 6: The Differential Diagnosis of Dizziness in the Older Adult ***(PAGE 16)*** |
| **Diagnosis**<br>• *Interprets data from the examination to develop a differential diagnosis*<br>• *Differentiates impairments/ functional limitations/ disabilities which are amenable to intervention*<br>• *Refers patient/client to other professionals for findings that are outside the scope of the physical therapist's knowledge, experience, or expertise* | Geriatrics Section: Topics: Vol 6: The Differential Diagnosis of Dizziness in the Older Adult ***(PAGE 16)***<br><br>Balance and Falls: The Physiology of Aging (actual title of the PPT is more accurate: "Identification and Prevention of falls in Older Persons") ***(PAGE 8)***<br><br>Parkinson's Disease: A Practical Approach to Evaluation & Treatment for the Physical Therapist;<br>Module 1: Understanding Parkinson's Disease and the Growth of Physical Therapy as a Viable |

| | Treatment Option ***(PAGE 24)*** |
|---|---|
| **Prognosis**<br>• *Predicts optimal level of improvement in function.*<br>• *Predicts amount of time to achieve optimal level of improvement in function.*<br>• *Collaborates with patient/client and family in setting goals.*<br>• *Develops a plan of care that prioritizes interventions related to the recovery process, patient/client goals, resources, health, and wellness.* | |
| **Intervention**<br>• Coordination, communication, and documentation | |
| **Intervention**<br>• Patient/client-related instruction | |
| **Intervention:** Procedural interventions for motor skill acquisition: emphasis on remediation/recovery<br>• Therapeutic exercises | CSM11: Walking and Talking: Implications of Dual Task Balance and Walking Research for Physical Therapy Practice ***(PAGE 53)***<br><br>PT09: Balance and Falls: Intervention Strategies ***(PAGE 7)***<br><br>Focus 2011: Issue 2: The Aging Neuromuscular System ***(PAGE 1)*** |
| **a. Task-specific training**<br>• *Training variables: manipulation of variables such as frequency, intensity, duration, speed, type* | CSM11: Structuring clinical interventions to maximize motor recovery after stroke and spinal cord injury: the importance of amount, intensity and type of practice ***(PAGE 41)*** |
| **b. Training to address activity limitations/ functional training**<br>• *Involves manipulation of motor control variables through task set-up and cuing.*<br>• *Uses principles of motor learning.*<br>• *Involves ongoing movement analysis to modify training for safe progression.*<br>• *Environmental assessment and modification.*<br>  ○ *Analyzes the interaction between multiple system impairments and environment* | Geriatrics Section: ExPAAC: The Role of Exercise in the Promotion of Cognition and Functional Ability among those with Cognitive Impairment ***(PAGE 13)***<br><br>Poor Balance Control: Evaluation and Treatment Based On Contributing Systems ***(PAGE 29)*** |

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| **c. Interventions to address body structure/ function impairments**<br>• *Aerobic capacity/endurance*<br>• *Neuromuscular education/ re-education and strengthening*<br>• *Muscle flexibility/ ROM*<br>  ○ *Serial casting*<br>  ○ *Joint mobilization*<br>• *Pain management*<br>• *Postural control* | Evidence-Based Medicine: Multiple Sclerosis Drugs and Exercise Implications ***(PAGE 18)***<br><br>Geriatrics Section: ExPAAC: Evidence-Based Exercise Prescription: Balance and Fall Prevention ***(PAGE 12 )***<br><br>Geriatrics Section: ExPAAC: Exercise and Physical Activity Effects on Brain and Cognition ***(PAGE 14 )***<br><br>Geriatrics Section: ExPAAC: The Role of Exercise in the Promotion of Cognition and Functional Ability among those with Cognitive Impairment ***(PAGE 13 )***<br><br>Geriatrics Section: ExPAAC: The Role of Physical Activity for those with Disabilities: An Example from Stroke ***(PAGE 38 )*** |
| **Intervention:** Prescription, application, fabrication of devices and equipment: emphasis on compensation | |
| **Intervention**<br>• Prescription, application, and as appropriate, fabrication of devices and equipment including assistive, adaptive, orthotic, protective, supportive, or prosthetic: emphasis on compensation. | |
| **Intervention**: Specialized interventions for neurologic physical therapy | CSM10: A Learning Module for Neurorehabilitation Curriculum: Walking Recovery, Locomotor Training, and Incomplete Spinal Cord Injury ***(PAGE 9)***<br><br>Module 3: Evidence-Based Physical Therapy Intervention for Persons with Parkinson's Disease ***(PAGE 26)***<br><br>Module 4: Maximizing Patient Outcomes For Patients with Parkinson's: Exploring Options and |

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|---|---|
| | Creating Connections between Patient, Family, Health Care, and Community ***(PAGE 28)***<br><br>PT09: Geriatrics: Fear of Falling in Older Adults: Evidence-Based Strategies for Examination and Intervention Management ***(PAGE 15)***<br><br>PT09: Sports: Sports-Related Mild Traumatic Brain Injury ***(PAGE 39)***<br><br>PT10: Concussion and Postconcussive Syndrome: When to Rest, Exercise, or Return to Sport ***(PAGE 37)***<br><br>Balance and Falls: The Physiology of Aging (actual title of the PPT is more accurate: "Identification and Prevention of falls in Older Persons") ***(PAGE 8)***<br><br>Geriatrics Section: Topics: Vol 6: Alzheimer Disease in Physical Therapist Practice: Integrating Principles of Neurophysiology and Neuropsychology Into Comprehensive Patient Care ***(PAGE 3)*** |
| **a. Respiratory training to address breathing pattern, volitional cough, air flow control** | |
| **b. Seating/positioning to address activity limitations** | |
| **c. Vestibular** | PT09: Benign Paroxysmal Positional Vertigo (BPPV) ***(PAGE 36)***<br><br>Geriatrics Section: Topics: Vol 6: The Differential Diagnosis of Dizziness in the Older Adult ***(PAGE 16)*** |
| **Outcome measures**<br>• *Selects appropriate outcome measures and participates in data collection* | Neurologic Practice Essentials: Choosing Outcome Measures for a Patient with Stroke |

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|---|---|
| • *Analyze and interpret data to modify own future practice* | ***(PAGE 20)***<br><br>Parkinson's Disease: A Practical Approach to Evaluation & Treatment for the Physical Therapist;<br>Module 2: Understanding the Impact of Exercise on the Brain and Choosing Outcome Measures to Capture Change Following Exercise ***(PAGE 25)*** |

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/ Presenters | **The Aging Neuromuscular System**<br><br>**Authors:** Jason Hardage, PT, DPT, DScPT, GCS, NCS, CEEAA; and Mary Elizabeth Parker, PT, MS, NCS, PCS |
| Objectives | After completing this module, the learner should be able to:<br><br>1. Describe age-related changes in the neuromuscular system and their clinical implications.<br><br>2. Identify and interpret general signs and symptoms of neuropathology and the implications for the affected individual.<br><br>3. Apply basic principles of exercise to the older adult with neurologic dysfunction.<br><br>4. Describe basic principles of motor learning and recovery of function and the implications for clinical practice.<br><br>5. Explain the process of screening for referral and understand related terminology as related to physical therapist practice in geriatric neurology.<br><br>6. Define terms related to clinical decision-making (including hypothesis-oriented clinical practice) and describe specific models (including the Hypothesis-Oriented Algorithm for Clinicians II and Sullivan clinical decision making algorithm for treatment or referral of patients/clients with neurologic disorders) as related to physical therapist practice in geriatric neurology.<br><br>7. Apply the concepts of autonomous practice to the older adult with neurologic dysfunction.<br><br>8. Describe the processes of writing goals in geriatric neurology and providing appropriate progressions and explain how they are related.<br><br>9. Describe clinical applications of neuroplasticity and identify the evidence in support of specific approaches.<br><br>10.Identify issues related to the older adult with a pediatric neurologic condition.<br><br>11. Incorporate a systems approach to health promotion for older adults with neurologic conditions.<br><br>12. Apply the concepts of physical therapist practice in geriatric neurology to a case study.<br><br>13. Identify resources for further professional development. |

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|---|---|
| Currency (date published should be 2000 or later) | 2012 |
| Difficulty Level (intermediate/advanced) | Intermediate – provides a broad overivew |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Excellent |
| Educational Value (content presented in organized, clear, engaging manner) | Excellent |
| DSP (residency curriculum) Topic Linkage | Neurophysiology<br>• Sensory and motor physiology<br>Skill Acquisition/ Motor Learning<br>• Motor learning<br>Neuroplasticity<br>Intervention: Procedural interventions for motor skill acquisition: emphasis on remediation/recovery |
| Format/Timing | PDF monograph – independent study course<br>0.4 CEU's; 4 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.):** Use – excellent resource for geriatric neurology

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/ Presenters | **Alzheimer Disease in Physical Therapist Practice: Integrating Principles of Neurophysiology and Neuropsychology Into Comprehensive Patient Care**<br><br>**Author:** Samantha Marocco, PT, DPT, MS, GCS |
| Objectives | After completing this module, the learner should be able to:<br><br>1. Relate the pathophysiology of Alzheimer disease (AD) to its clinical manifestations.<br>2. Compare and contrast the use of various medical imaging techniques in diagnosing types of dementia.<br>3. Summarize the neurophysiology and neuropsychology of memory, motor learning, emotion, and communication.<br>4. Describe the impact of AD upon memory, motor learning, emotion, and communication.<br>5. Use effective patient education strategies during treatment sessions with individuals in all stages of AD.<br>6. Use effective communication strategies with patients with AD.<br>7. Integrate principles of the pathophysiology and neuropsychology of AD into caregiver training and education.<br>8. Integrate current research findings into behavioral management approaches. |
| Currency (date published should be 2000 or later) | 2010 |
| Difficulty Level (intermediate/advanced) | Intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Well-referenced, none newer than 2009 |
| Educational Value (content presented in organized, clear, engaging manner) | Excellent – broad overview |
| DSP (residency curriculum) Topic Linkage | Neurophysiology, Motor Learning, Teaching and Learning, Communication, Intervention |
| Format/Timing | Monograph – PDF; independent study course;<br>0.4 CEU's, 4 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.):** Use – excellent resource

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/ Presenters | **Amyotrophic Lateral Sclerosis: Update on Anatomy, Physiology, Pharmacology, and Management, 2nd Ed**<br><br>**Authors:** Sheila M. Hayes, PT, MS; Vanina Dal Bello-Haas, PT, PhD |
| Objectives | After completing this module, the learner should be able to:<br><br>1. Differentiate Amyotrophic Lateral Sclerosis (ALS) from Spinal Muscle Atrophy, Primary Lateral Sclerosis and Progressive Bulbar Palsy, based on epidemiology and signs and symptoms.<br><br>2. Describe the initial signs and symptoms, epidemiology, diagnosis, general progression and prognosis of ALS.<br><br>3. Discuss the known and proposed etiologies of ALS.<br><br>4. Describe how clinical examination findings and diagnostics tests are used to support the diagnosis of ALS.<br><br>5. Describe how the El Escorial is used to specify diagnostic certainty.<br><br>6. List other diseases that can mimic the signs and symptoms of ALS.<br><br>7. Explain the disease-specific and symptom specific pharmacological interventions for people with ALS.<br><br>8. Describe the onset and progression of common impairments seen in people with ALS, that result from bulbar, respiratory, upper motor neuron and lower motor neuron involvement.<br><br>9. Explain the medical and multidisciplinary management of people with ALS throughout the course of the disease.<br><br>10. Explain the role of the physical therapist in the examination, evaluation and management of common impairments, activity limitations and participation restrictions seen in people with ALS.<br><br>11. Compare and contrast commonly used outcome measures for people with ALS.<br><br>12. Determine appropriate assistive, adaptive, orthotic, supportive, and mobility equipment/device needs for people with ALS, based on examination and evaluation findings.<br><br>13. Prescribe appropriate exercise for people with ALS, based on examination and evaluation findings. |

| | |
|---|---|
| | 14. Design a physical therapy intervention program for the individual with ALS, based on assessment and examination findings. |
| Currency (date published should be 2000 or later) | September 2010 |
| Difficulty Level (intermediate/advanced) | Intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Most references from the 1990's, none newer than 2007 |
| Educational Value (content presented in organized, clear, engaging manner) | Excellent - monograph |
| DSP (residency curriculum) Topic Linkage | Anatomy/Neuroanatomy (CNS, ANS, PNS)<br>• Nervous system- including but not limited to: neurotransmitters; neuroanatomical changes across the lifespan; cross section detail of structures<br>Medical management (pharmacology, imaging, additional tests)<br>• Pharmacology, including knowledge of:<br>o Effects on the musculoskeletal and nervous systems<br>• Integrates instruments, tests, screens, and evaluations used or performed by other health care professionals<br><br>Epidemiology, including knowledge of:<br>• Prevalence of neurologic disease/ conditions/ signs/ symptoms<br>• Incidence of neurologic disease/ conditions/ signs/ symptoms<br>• Prognostic indicators in neurologic disease/ conditions/ signs/ symptoms<br>• Risk factors relevant to health status across the life span<br>• Morbidity, mortality, and natural history of neurologic conditions<br>Patient/Client Management |
| Format/Timing | Monograph, PDF<br>0.3 CEU's; 3 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.):** A good resource, would need to be supplemented on newer information (if any) regarding disease-specific medications, disease-specific outcome measures/rating scales, and PT outcome measures; PT management is comprehensive though there may be new evidence related to exercise in ALS (eg, a 2013 Cochrane stated there was a complete lack of clinical trials on aerobic ex and ALS); eg, Lopes de Almeida et al. Exercise and amyotrophic lateral

sclerosis Neurol Sci. 2012,33:9–15; Lui A. Byl N. A systematic review of the effect of moderate intensity exercise on function and disease progression in amyotropic lateral sclerosis. JNPT. 2009, 33:68-87; Kamide et al. Identification of the type of exercise therapy that affects functioning in patients with early-stage amyotrophic lateral sclerosis: A multicenter, collaborative study. Neurology and Clinical Neuroscience. 2014,1–5.

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/ Presenter | **Balance and Falls: Intervention Strategies**<br><br>**Presenter:** Sue Whitney, PT, PhD, NCS, FAPTA |
| Objectives | After completing this module, the learner should be able to:<br><br>1. Describe various ideas for falls prevention that have been shown to be effective in decreasing fall risk.<br><br>2. Describe the newest interventions that are available that have demonstrated changes in a person's risk of falling. |
| Currency | August 2009 |
| Difficulty Level (intermediate/advanced) | Intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Extremely well referenced; many references are older but they are clearly the "gold standard" on the topics that are covered |
| Educational Value (content presented in organized, clear, engaging manner) | Provides content on the Falls Guidelines from the American Geriatric Society, British Geriatric Society and American Academy of Orthopedic Surgeons: this relates to interventions targeting community dwelling older adults and those residing in long term care facilities; good information on visual deficits such as contrast sensitivity |
| DSP (residency curriculum) Topic Linkage | Gait. Locomotion, and balance; older adults, falls prevention; functional training |
| Format/ Timing | Powerpoint with narration; the entire audio tract has been transcribed into a typed script; includes several videos, including one from Long Beach Memorial Hospital called "Trash to Treasure" which details ways to use simple inexpensive items to create challenging balance environments<br>.3 CEU's; 3 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.):** Would definitely recommend; speaker offers excellent content and shares many "pearls" with audience; the video from Long Beach Memorial provides some nice suggestions; presentation is very comprehensive

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/ Presenter | **Balance and Falls: The Physiology of Aging**<br><br>**Presenter:** Susan L Whitney, PT, PhD, NCS, FAPTA |
| Objectives | After completing this module, the learner should be able to:<br><br>1. Describe the physiological changes that occur with aging and how those changes impact on function.<br><br>2. Discuss the most current research related to falls and why falls occur commonly in older adults. |
| Currency (date published should be 2000 or later) | 2009 |
| Difficulty Level (intermediate/advanced) | Intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Many references but some are fairly old |
| Educational Value (content presented in organized, clear, engaging manner) | Good; the title of the PPT handout is "Identification and Prevention of Falls in Older Persons", which more accurately reflects the content than the title above. |
| DSP (residency curriculum) Topic Linkage | Neurophysiology<br>• Sensory and motor physiology<br>Examination, Diagnosis |
| Format/Timing | Slide show + audio; PPT handout<br>0.3 CEU's; 3 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.)**: Questionable use – good information though references are getting a bit dated; seems to be blocked by university computers, but played fine on my home computer

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/Presenters | **CSM10: A Learning Module for Neurorehabilitation Curriculum: Walking Recovery, Locomotor Training, and Incomplete Spinal Cord Injury**<br><br>**Presenters:** Elizabeth Ardolino, PT, MS; D. Michele Basso, PT, EdD; Linda Behar-Hornstein, PhD; Andrea Behrman, PhD; Sue A Sisto, PT, MA, PhD |
| Objectives | After completing this module, the learner should be able to:<br>1. Apply an introductory knowledge of the clinical application of locomotor training as a therapeutic intervention for walking recovery after incomplete spinal cord injury for instruction in academic programs training entry-level DPTs.<br>2. Apply learning and teaching strategies emphasizing experiential learning, discovery, critical thinking, professionalism in meeting the needs of varied student learning styles.<br>Course objectives specific to the locomotor training content: The learner will be able to:<br>1. Identify a framework for the neural control of walking as the basis for developing interventions and performance measures, and for application to rehabilitation.<br>2. Compare and contrast compensation vs. recovery-based (activity-based approaches) to the rehabilitation of walking after incomplete SCI.<br>3. Describe basic science evidence and its translation in development of a physiological-based intervention for walking recovery after SCI.<br>4. List training principles for walking recovery across training environments.<br>5. Use a decision-making algorithm in selecting patients for LT and in progression of patients for walking recovery.<br>6. Add to a 'therapeutic toolbox' and to an 'assessment toolbox' for rehabilitation after incomplete SCI.<br>7. Assess on-going evidence for application to walking recovery and rehabilitation. |
| Currency | Date Posted: June 2010 |
| Difficulty Level | Intermediate |
| Quality of Evidence | Content presented was supported by high quality and current evidence; extensive reference list is provided in handout. |
| Educational Value | Content presented was clear, organized, and engaged the participants. Presenters emphasized and promoted critical thinking through use of videos and case studies. |
| DSP Topic Linkage | Interventions task-specific training, locomotor training, teaching and learning, neuroplasticity |
| Format/Timing | Powerpoint slide show synched with audio and an online posttest; handout is available.<br>0.275 CEUs; 2.75 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.)**: Highly recommend; excellent overview of locomotor training; relevant and applicable information on teaching strategies to enhance student learning.

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title | **Developing Cultural Competence in a Multicultural World**<br><br>**Author**: Ronnie L Leavitt, PT, PhD, MPH |
| Objectives | After reading this continuing education (CE) article, you should be able to:<br><br>1. Define cultural competence.<br><br>2. Describe the role of culture in a person's health status and during interactions with health care providers.<br><br>3. Identify specific knowledge regarding different population groups and cultures including, but not limited to, terminology and demographics, degree of acculturation, socioeconomic status, incidence and prevalence of disease and disability, access to health care, comparative value orientations, verbal and nonverbal communication styles, learning styles, and health beliefs and behaviors.<br><br>4. Recognize how sociocultural knowledge can be applied to influence the patient-provider interaction positively.<br><br>5. Apply the concept of cultural competence to your own professional behavior and in the therapeutic environment. |
| Currency | January 2003 |
| Difficulty level (intermediate/advanced) | Intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Higher levels where available yet published in 2003; somewhat dated. |
| Educational Value (content presented in organized, clear, engaging manner) | Clearly written. May be used as a self-study assignment (e.g. read the articles and then do some form of written reflection based on the material). |
| DSP (residency curriculum) topic linkage | Cultural competence |
| Format/Timing | This course consists of a monograph, available in the online course as a downloadable PDF file, and a posttest.<br>0.2 CEU's; 2.0 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.):** Use

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/ Presenters | **ExPAAC: Evidence Based Exercise Prescription: Balance and Fall Prevention**<br><br>**Presenters:** Tiffany Shubert, PhD, MPT; Debra Rose, PhD |
| Objectives | After completing this course, the learner should be able to:<br><br>1. Identify key risk factors for falling among community living elders.<br><br>2. Review current best practices for falls prevention.<br><br>3. Develop evidence-based physical therapy interventions to minimize falls risk based on physical function and risk levels.<br><br>4. Discuss multidisciplinary practice models for effective falls prevention across the continuum of care. |
| Currency | December 2010 |
| Difficulty Level (intermediate/advanced) | Intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Presentations offers a good synopsis of literature and guidelines addressing fall prevention stratified across different populations of older adults, from low to high risk; emphasis on community dwellers; well-referenced (both quantity and quality) |
| Educational Value (content presented in organized, clear, engaging manner) | Well presented; more detail provided in second half of presentation; clinically applicable information that is well organized; touches on content related to behavior change |
| DSP (residency curriculum) Topic Linkage | Balance and falls; prevention; older adult |
| Format/ Timing | Powerpoint presentation with narration<br>.2 CEU's; 2 contact hours |

**Use/Do Not Use (redundancy, too basic, etc):** Would recommend this as a good solid program discussing fall prevention with emphasis on community dwelling older adults with varied risk levels

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/ Presenter | **ExPAAC: The Role of Exercise in the Promotion of Cognition and Functional Ability among those with Cognitive Impairment**<br><br>**Presenter:** Teresa Liu-Ambrose, PT, PhD |
| Objectives | After completing this module, the learner should be able to:<br><br>1. Summarize the societal impact of cognitive impairment and dementia.<br><br>2. Summarize the evidence to date for the role of physical activity in promoting cognitive function among older adults:<br>a. Without cognitive impairments and dementia<br>b. With cognitive impairment and dementia<br><br>3. Identify underlying mechanisms for the association between physical activity and cognition.<br><br>4. Identify key consideration when implementing physical activity program for older adults with cognitive impairment and dementia. |
| Currency | December 2010 |
| Difficulty level (intermediate/advanced) | Intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Provides evidence from numerous RCT's and meta-analyses, but also addresses fact that there is limited research addressing this particular topic. |
| Educational Value (content presented in organized, clear, engaging manner) | Provides a good overview of exercise effects in older adults with and without cognitive impairment; reviews molecular / cellular processes impacting this relationship; also addresses benefit of physical function on mood; much literature is reviewed and presenter makes an effort to make this interesting |
| DSP (residency curriculum) Topic Linkage | Older adult, cognition, Alzheimer's disease, physical activity, exercise interventions |
| Format/ Timing | Powerpoint slides with narration<br>.2 CEU's; 2 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.):** Would recommend this program for someone interested in a comprehensive synopsis of literature related to exercise and its effects on cognition for those with and without cognitive impairment.

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/ Presenter | **ExPAAC: Exercise and Physical Activity Effects on Brain and Cognition**<br><br>**Presenter:** Arthur Kramer, PhD |
| Objectives | After completing this course, the learner should be able to:<br><br>1. Recognize most recent research that has examined cognitive training effects on brain and cognitive function of older adults.<br><br>2. Identify most recent research that has examined fitness training effects on brain and cognitive function of older adults.<br><br>3. Determine if gaps exist in the literature (and potential solutions) concerning cognitive enrichment and aging. |
| Currency | November 2010 |
| Difficulty Level (intermediate/advanced) | Intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Presents research findings from studies spanning the early 2000's to current; uses evidence effectively to make his key points |
| Educational Value (content presented in organized, clear, engaging manner) | Organized; addresses 8 key points in his talk and provides supporting evidence for each of these; although many graphs are used, presenter nicely draws the listener's attention to the key aspects of each |
| DSP (residency curriculum) Topic Linkage | Cognition, neurophysiology, neuroplasticity, exercise, older adults |
| Format/ Timing | Powerpoint slides with narration<br>.1 CEU; 1 contact hour |

Use/Do Not Use (redundancy, too basic, etc.): Recommend this for those seeking to connect the effects of exercise and physical activity to cognitive changes in the older adult; this provides an overview of current literature and research gaps that exist; specifically addresses exercise effects on cognitive measures, types of physical activities that have been studied, and cellular and molecular mechanisms underlying exercise effects on cognition.

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/Presenter | **Fear of Falling in Older Adults: Evidence-Based Strategies for Examination and Intervention Management**<br><br>**Presenter:** Dennis Klima, PT, MS, GCS, NCS |
| Objectives | After completing this module, the learner should be able to:<br>1. Analyze the relationship between fear of falling, balance performance, activity restriction, and fall risk.<br>2. Describe major instruments used in both research and clinical practice designed to measure fear of falling and related balance confidence deficits among older adults.<br>3. Contrast the psychometric strengths and weaknesses of measures including administration feasibility in a variety of clinical settings.<br>4. Describe current best practice interventions used to prevent or reduce the fear of falling in older adults.<br>5. Discuss current evidence-based interventions employed to manage fear of falling, including Tai Chi, speed-dependent treadmill training, fall risk education programs, and multidimensional exercise activities. |
| Currency | Date Posted: August 2009 |
| Difficulty Level (intermediate/advanced) | Intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Course content is supported by extensive list of references. Although many references date from early 2000s, the fear of falling assessments and interventions are still commonly used by physical therapists. |
| Educational Value (content presented in organized, clear, engaging manner) | Content was clear, organized, and engaging. The presenter creatively organized the content around seven “deadly sins” or myths about fear of falling assessments or treatments that peaked the participants’ interest. |
| DSP (residency curriculum) Topic Linkage | Examination, Specialized interventions, fear of falling, fall efficacy, balance confidence |
| Format/Timing | Powerpoint slide show synched with audio and an online posttest; some slides in the Powerpoint presentation were difficult to read making it necessary to refer to the handout.<br>CEU credits**:** .15 CEUs (1.5 contact hours) |

**Use/Do Not Use (redundancy, too basic, etc.):** Recommend this presentation; it gives a good overview of different assessment tools for measuring fear efficacy, fear of falling, and balance confidence and their psychometric properties, as well as evidence-based interventions that therapists can use to treat fear of falling.

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/Presenters | **Geriatrics Section: Topics: Vol 6: The Differential Diagnosis of Dizziness in the Older Adult**<br><br>**Author:** Jim Megna, PT, MS, NCS<br>**Editor:** Jason Hardage, PT, DScPT, GCS, NCS |
| Objectives | Upon completion of this course, the learner will be able to:<br><br>1. Understand the prevalence and functional impact of dizziness in older adults.<br>2. Differentiate among the four classifications of dizziness.<br>3. Understand the diagnostic tests involved in the determination of the etiology of dizziness and the criteria for specialty consultation.<br>4. Apply the knowledge of underlying pathophysiology to the examination and evaluation of patients with dizziness.<br>5. Appreciate the role of medical interventions in the management of patients with dizziness.<br>6. Comprehend basic physical therapy examination techniques for the patient with dizziness.<br>7. Understand the basic components of an exercise program to address underlying impairments of the balance system. |
| Currency | Date Posted: July 2010 |
| Difficulty Level (intermediate/advanced) | Intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Evidence is adequate to support content of monograph; research studies cited are high quality. |
| Educational Value (content presented in organized, clear, engaging manner) | Content is clear and organized. Figures and tables enhance the text. Two case studies at the end allow learner to apply knowledge gained. |
| DSP (residency curriculum) Topic Linkage | Examination, evaluation, diagnosis, vestibular |
| Format/Timing | Monograph in PDF format that can be downloaded and an online posttest<br>0.3 CEU's; 3.0 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.)**: Recommend monograph and posttest as a good overview of differential diagnosis, examination and interpretation of tests and measures, and physical therapy treatment of older adults with dizziness.

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title | **Information on APTA's Revised Code of Ethics for the Physical Therapist and Standards of Ethical Conduct for the Physical Therapist Assistant**<br><br>**Presenters/Authors:** Laura (Dolly) Swisher, PT, MDiv, PhD; Peggy Hiller, PT; Nancy R. Kirsch, PT, DPT, PhD |
| Objectives | After completing this module, you should be able to:<br><br>1. Recall how and why the Code of Ethics and Standards of Ethical Conduct were revised by APTA.<br><br>2. Separate fact from fiction regarding the revised ethics documents.<br><br>3. Identify the central ethical obligations set forth in the revised Code of Ethics and Standards of Ethical Conduct. |
| Currency | April 2010 |
| Difficulty level (intermediate/advanced) | Intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Limited evidence- primarily PT documents available through APTA- appropriate for content |
| Educational Value (content presented in organized, clear, engaging manner) | Clear content with available case examples; more engaging than reading an article or monograph. |
| DSP (residency curriculum) topic linkage | Ethical Issues in Practice |
| Format/Timing | This course consists of a narrated PowerPoint® presentation and a posttest.<br>0.3 CEU's; 3.0 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.):** Use

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/ Presenters | **Evidence-Based Medicine: Multiple Sclerosis Drugs and Exercise Implications**<br><br>**Presenters:** Steven Kantor, DPT; Mary Jane Myslinski, EdD |
| Objectives | After completing this module, the learner should be able to:<br><br>1. Identify the mechanisms of action of the drugs and the side effects.<br><br>2. Classify the disease state into the type of MS and understand which drugs are effective for that classification.<br><br>3. Design an exercise prescription for a patient with MS based on the classification of the disease.<br><br>4. Identify the newest EBM regarding pathology, drugs, and outcomes |
| Currency (date published should be 2000 or later) | 2010 |
| Difficulty Level (intermediate/advanced) | Intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Good; no primary research findings presented, more of a synthesis; some of the meds info may need to be updated |
| Educational Value (content presented in organized, clear, engaging manner) | Organized, clear; slides in slide show much more detailed/advanced/useful than those in the handout |
| DSP (residency curriculum) Topic Linkage | Pharmacology; exercise in neurologic populations |
| Format/Timing | Slide show synched with audio; PPT handout;<br>0.325 CEUs; 3.25 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.):** Use

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/Presenters | **Neurologic Practice Essentials: An Outcome Measures Toolbox**<br><br>**Authors:** Karen McCulloch PT, PhD, NCS; Jane E. Sullivan, PT, MS, DHS; Kirsten Potter, PT, DPT, MS, NCS |
| Objectives | After completing this course, the learner should be able to:<br><br>1. Describe typical use of outcome measures in physical therapy and factors that influence therapists' use of outcome measures in practice.<br>2. Identify outcome measures for stroke that are commonly used by therapists who specialize in neurologic practice.<br>3. Apply the ICF framework to assist in determining what patient characteristics need to be measured.<br>4. Justify outcome measure selection to support clinical decision making based on factors including: measure type, patient and clinic constraints, psychometric properties, and feasibility.<br>5. Contrast 1) generic and disease-specific measures and 2) performance and self-report measures for use in neurologic clinical practice.<br>6. Define minimal detectable change and minimal clinically important differences, illustrating how to use these values to interpret changes in patient performance over time.<br>7. Describe a process to increase the use of outcome measures in a clinical setting that takes into account important barriers to and facilitators of change. |
| Currency | Date posted: March 2012 |
| Difficulty Level | Intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Series of 5 articles published in *Physical Therapy* and *Journal of Neurologic Physical Therapy* between 2008-2011; authors of articles are leaders in the physical therapy field; extensive references provided. |
| Educational Value (content presented in organized, clear, engaging manner) | Excellent; content covers decision-making framework to guide selection of outcome measures, benefits and barriers to use of standardized measures, and a systematic implementation plan for integrating new tests and measures into clinical practice. Articles are clear, interesting, and clinically applicable. |
| DSP (residency curriculum) Topic Linkage | Examination, Research Design (principles of measurement, reliability/validity) |
| Format/Timing | Five journal articles in PDF format that can be downloaded and an online posttest<br>0.3 CEU's; 3.0 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.)**: Recommend this series of articles and posttest; content is highly relevant and applicable to neurologic physical therapy practice.

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/ Authors | **Neurologic Practice Essentials: Choosing Outcome Measures for a Patient with Stroke**<br><br>**Authors:** Karen McCulloch PT, PhD, NCS; Jane E. Sullivan, PT, MS, DHS; Kirsten Potter, PT, DPT, MS, NCS |
| Objectives | After completing this module, the learner should be able to:<br><br>1. Given patient referral information, hypothesize about limitations and abilities in the areas of body function/structure, activity limitations, and participation restrictions.<br><br>2. For a given practice setting, identify the facility-specific issues that would impact the choice of OMs.<br><br>3. Use observation of patient movement to tailor the choice of OMs.<br><br>4. Use patient history to refine the choice of OMs.<br><br>5. Use information obtained during a systems review to refine the choice of OMs.<br><br>6. Select among outcome measures of the same construct based on clinical utility and psychometrics. |
| Currency (date published should be 2000 or later) | 2012 |
| Difficulty Level (intermediate/advanced) | Intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Outstanding - and really pulls in StrokeEdge documents and constructs. |
| Educational Value (content presented in organized, clear, engaging manner) | Format is unique and interactive, and highly educational. Links to articles are present. Questions that require analytic reflection are included throughout. Requires actual application to a real patient. KUDOS TO THE AUTHORS. |
| DSP (residency curriculum) Topic Linkage | Examination - tests and measures |
| Format/Length | This course consists of an online, interactive patient case study in HTML format and a posttest. Resources are available within the course to download and are provided as downloadable PDFs or links to HTML files within the course.<br>0.3 CEU's; 3 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.)** USE - because of the interactive format and application of evidence to practice, this is the best course I have reviewed on the Learning Center

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title | **Online: PT10: Physical Therapy Management of Children With Neurological Disorders**<br><br>**Presenters:** Lynne Romeiser-Logan, PT, MA, PCS; Debra McSweeney, PT, MS, PCS |
| Objectives | After completing this module, you should be able to:<br><br>1. Describe the process of screening and differential diagnosis for children with hypertonia and hypotonia.<br><br>2. Review the pathophysiology of spasticity and dystonia and the mechanisms for treatment.<br><br>3. Establish the patient/client management plan for various pediatric neurological diagnoses to include: systemic and focal interventions (ie. Botox, Baclofen, oral meds and surgery).<br><br>4. Discuss practice management across the continuum of care available in pediatric settings including: intrathecal baclofen pumps, serial casting, coordination of focal and general spasticity management with therapies.<br><br>5. Develop discharge plans and referrals to other practice settings as appropriate. |
| Currency | August 2010 |
| Difficulty level (intermediate/advanced) | Intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency, appropriate citations, available references) | Although there are a few slides without references higher levels of evidence are presented with interventions. |
| Educational Value (content presented in organized, clear, engaging manner) | Organized and clear |
| DSP (residency curriculum) topic linkage | Primarily related to management of hypo/hypertonicity in pediatrics with some neuromuscular electrical stimulation recommendations at the end. |
| Format/Timing | This course consists of a narrated PowerPoint® presentation, interactive knowledge checks, and a posttest.<br>0.3 CEU's: 3.0 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.):** Use- information is specific to pediatric management of spasticity/dystonia although there is some evidence for adult management also presented. It includes both a review of basic information and more advanced recommendations for patient/client management.

| **Educational Resource/Corse Review** | |
|---|---|
| Resource/Course Title/Presenter | **Parkinson's Disease: A Practical Approach to Evaluation & Treatment for the Physical Therapist**<br>**Module 1: Understanding Parkinson's Disease and the Growth of Physical Therapy as a Viable Treatment Option**<br><br>**Presenters:** Terry Ellis, PT, PhD, NCS; Tanya Simuni, MD |
| Objectives | After completing this module, the learner should be able to:<br><br>1. Compare the current level of evidence supporting the benefits of physical therapy intervention for persons with Parkinson's to the evidence available one to two decades ago.<br>2. Summarize the recommendations for physical therapy practice based on the evidence to date.<br>3. Justify the benefits of physical therapy intervention to persons with Parkinson's, other health care providers and to third party payers based on the evidence from the literature.<br>4. Describe diagnostic criteria for Parkinson's.<br>5. Distinguish between idiopathic Parkinson's and atypical Parkinsonism.<br>6. Describe the spectrum of Parkinson's treatment.<br>7. Recognize common treatment related side effects.<br>8. Explain indications for surgical intervention in Parkinson's. |
| Currency | Date Posted: May 2012 |
| Difficulty Level | Intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Extensive high-quality references to support course content, including systematic reviews on physical therapy and exercise effectiveness in individuals with PD and current studies on PD symptomatology, diagnosis, and medical and surgical management. |
| Educational Value (content presented in organized, clear, engaging manner) | Content is organized and clearly presented with use of figures, tables, photographs of patients, and MRI and SPECT images to enhance participant learning. |
| DSP (residency curriculum) Topic Linkage | Differential Diagnosis, Medical management, Specialized interventions for neurologic physical therapy (Parkinson's disease) |
| Format/ Timing | Recorded session from a live full day course with online posttest.<br>CEU credits: .2 CEUs (2 contact hours/CCUs) |

**Use/Do Not Use (redundancy, too basic, etc.):** Recommend this course; excellent summary of recommendations for physical therapy care of individuals with PD, and overview of current knowledge about etiology, spectrum of symptomatology, differential diagnosis, and medical and surgical management of individuals with PD.

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/Presenter | **Parkinson's Disease: A Practical Approach to Evaluation & Treatment for the Physical Therapist**<br>**Module 2: Understanding the Impact of Exercise on the Brain and Choosing Outcome Measures to Capture Change Following Exercise**<br><br>**Presenters:** Heather Cianci, PT, MS, GCS; Terry Ellis, PT, PhD, NCS |
| Objectives | After completing this module, the learner should be able to:<br><br>1. Identify at least three common symptoms of Parkinson's that physical therapy can help to manage.<br>2. Accurately perform intake histories to establish appropriate plans of care.<br>3. Modify treatment sessions according to fluctuating Parkinson's symptoms.<br>4. Address how non-motor symptoms can affect plans of care.<br>5. Appraise the responsiveness of commonly used outcome measures for examining persons with Parkinson's disease based on disease stage and clinical presentation.<br>6. Identify which outcome measures to implement in the examination of persons with Parkinson's disease considering disease stage and clinical presentation.<br>7. Categorize outcome measures according to the International Classification of Functioning, Disability & Health. |
| Currency | Date Posted: May 2012 |
| Difficulty Level | Intermediate |
| Quality of Evidence | Course content is supported with current high-quality evidence. |
| Educational Value (content presented in organized, clear, engaging manner) | Content is organized and easy to follow; figures, tables, and pictures are used throughout course to enhance learning of important concepts. |
| DSP (residency curriculum) Topic Linkage | Examination, Outcome Measures |
| Format/ Timing | Recorded session from a live full day course with online posttest.<br>.2 CEU's; 2 contact hours/CCUs |

**Use/Do Not Use (redundancy, too basic, etc.):** Recommend this course; excellent overview of PT management of PD motor and non-motor symptoms and complications, and physical therapy evaluation including examination, diagnosis, prognosis, and clinical decision making regarding selection of outcome measures using the ICF model for individuals with PD.

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/Presenter | **Parkinson's Disease: A Practical Approach to Evaluation & Treatment for the Physical Therapist**<br>**Module 3: Evidence-Based Physical Therapy Intervention for Persons with Parkinson's Disease**<br><br>**Presenters:** Becky Farley, PhD, MS, PT; Jay Alberts, PhD; Heather Cianci, PT, MS, GCS |
| Objectives | After completing this module, the learner should be able to:<br><br>1. Summarize recent advances in both basic and clinical neuroscience that suggest exercise may promote brain health, repair and adaptive capacity in people with Parkinson disease.<br>2. Identify the take-home messages from these studies and how they may impact your plan of care across the disease continuum.<br>3. Recognize implications of these data on healthcare paradigms and solutions to removing barriers to their implementation.<br>4. Identify the difference between two modes of exercise: forced-exercise and voluntary exercise.<br>5. Develop appropriate, safe, yet relatively intense aerobic exercise treatment approaches for people with Parkinson's.<br>6. Critically evaluate the potential role of aerobic exercise in the progression of Parkinson's motor and non-motor symptom<br>7. Establish appropriate therapeutic exercise programs based on patients' needs.<br>8. Develop appropriate group exercise programs.<br>9. Develop exercise programs using props and equipment.<br>10. Identify the exercises that are most appropriate for the particular needs of individuals with Parkinson's. |
| Currency | Date Posted: May 2012 |
| Difficulty Level | Intermediate |
| Quality of Evidence | Course content is supported with current high-quality evidence. |
| Educational Value (content presented in organized, clear, engaging manner) | Content is organized and clear; excellent figures and pictures used to enhance learning; summaries and recommendations provided at end of each talk reinforce important concepts and ensure that participants have "take home messages" to apply in the clinic. |
| DSP (residency curriculum) Topic Linkage | Neuroplasticity; Specialized interventions for neurologic physical therapy (Parkinson's disease) |
| Format/ Timing | Recorded session from a live full day course with online posttest.<br>.2 CEU's; 2 contact hours/CCUs |

**Use/Do Not Use (redundancy, too basic, etc.):** Recommend this course; provides in-depth information about how exercise promotes neuroplasticity and evidence-based interventions for individuals with PD.

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/Presenter | **Parkinson's Disease: A Practical Approach to Evaluation & Treatment for the Physical Therapist**<br>**Module 4: Maximizing Patient Outcomes For Patients with Parkinson's: Exploring Options and Creating Connections Between Patient, Family, Health Care, and Community**<br><br>**Presenters:** Maria Walde-Douglas, PT; Lee Dibble, PT, PhD, ATC; Rosemary Wichmann, PT; Becky Farley, PhD, MS, PT; Alicia Esposito, PT, DPT, NCS, and Chad Johnson, PT, DPT |
| Objectives | After completing this module, the learner should be able to:<br><br>1. Describe specific cueing strategies relating to various gait deficits in Parkinson's.<br>2. Design treatment strategies to improve transfers.<br>3. Identify strategies to deal with retropulsion.<br>4. Identify the sensory and motor consequences of Parkinson's and aging that increase postural instability and falls.<br>5. Recognize and examine alterations in postural responses, gait, and blood pressure.<br>6. Describe fall risk reduction treatments targeted at sensory input and motor output.<br>7. Identify opportunities for team collaboration on Parkinson's-specific problems and treatment goals.<br>8. Identify opportunities for family care partner involvement in physical therapy treatment.<br>9. Identify potential community programs beneficial to people with PD following discharge from 1:1 PT treatment.<br>10. Recognize the role of physical therapists in professional and community education about Parkinson's. |
| Currency | Date Posted: May 2012 |
| Difficulty Level | Intermediate |
| Quality of Evidence | Course content is supported with current high-quality evidence. |
| Educational Value | Content is organized and clear; videos of patients with walking impairments are engaging. |
| DSP (residency curriculum) Topic Linkage | Specialized Interventions for neurologic physical therapy (Parkinson's disease); Gait and balance; professional roles |
| Format/ Timing | Recorded session from a live full day course with online posttest.<br>.2 CEU's; 2 contact hours/CCUs) |

**Use/Do Not Use (redundancy, too basic, etc.):** Recommend the course; provides in-depth evidence-based information on treatment of gait and balance problems in individuals with PD. The course also provides an overview of team based care in PD that could be applied to other neurologic diagnoses.

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/ Presenters | **Poor Balance Control: Evaluation and Treatment Based On Contributing System**<br><br>**Presenters:** Fay Bahling Horak, PT, PhD; Laurie Anne King, PT, PhD; Beth Ann Smith, PT, DPT, PhD |
| Objectives | After completing this module, the learner should be able to:<br><br>1. Describe how the systems contributing to balance relate to six balance domains of the BESTest.<br>2. Explain anticipated BESTest findings in populations with different balance impairments.<br>3. Discuss how underlying postural control systems and impaired motor control contribute to poor functional balance.<br>4. Suggest feasible interventions based on interpretation BESTest results. |
| Currency (date published should be 2000 or later) | 2011 |
| Difficulty Level (intermediate/advanced) | Intermediate to advanced |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Excellent |
| Educational Value (content presented in organized, clear, engaging manner) | Excellent |
| DSP (residency curriculum) Topic Linkage | Motor control; examination/treatment of gait/balance |
| Format/Timing | Slide show synched with audio; PPT handout<br>0.275 CEU's; 2.75 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.):** Use; this talk does focus on the BESTest but uses its' dimensions to explore the various constructs of balance; also covers intervention for various balance problems, and with various diagnostic groups; first Anne Shumway-Cook lectureship at CSM 2011

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/Presenter | **Professionalism Module 3: Ethical Compass**<br><br>**Author:** Laura Lee (Dolly) Swisher, PT, MDiv, PhD |
| Objectives | After completing this module, the participant should be able to:<br><br>1. Identify the correct ethical term outlined in the scenario, provided with a scenario and a list of ethical terms.<br>2. Identify definitions of commonly used ethical terminology.<br>3. Apply the steps of the RIPS model of ethical decision-making to an ethical situation.<br>4. Determine a course of action in response to an ethical situation presented by a case scenario<br>5. Identify the correct ethical principle used for each given example of commonly encountered ethical situations in physical therapy. |
| Currency | Date Posted: August 2008 |
| Difficulty Level (intermediate/advanced) | Basic to Intermediate |
| Quality of Evidence | An extensive list of current references is provided to support the content of the module. In addition, a RIPS worksheet, supplemental ethics case studies, and a glossary are provided. |
| Educational Value (content presented in organized, clear, engaging manner) | Content is presented in an engaging and well organized manner with questions to test knowledge and case studies and reflective discussion questions to promote self-assessment and strategies for improvement in ethical decision making. |
| DSP (residency curriculum) Topic Linkage | Ethical Issues in Practice |
| Format/ Timing | This course consists of an audio narrated slide show with interactive knowledge checks, Discussion Forum reflective exercises, and an online posttest.<br>0.3 CEU's ; 3.0 contact hours/CCUs |

**Use/Do Not Use (redundancy, too basic, etc.):** Recommend the course; content will assist participants to confidently recognize ethical situations, make ethical decisions, and implement a course of action when faced with ethical situations.

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/Presenter | **Professionalism Module 5: Emotional Intelligence**<br><br>**Author:** Karen Mueller, PT, PhD |
| Objectives | Upon completion of this course, the course participant will be able to:<br><br>1. Identify the five dimensions of emotional intelligence (EI).<br><br>2. Differentiate specific EI skills for a given communication challenge.<br><br>3. Identify elements of EI that are integrated into key APTA professionalism documents.<br><br>4. Identify the appropriate application of EI skills to a clinical practice scenario.<br><br>5. Assess his/her own EI skills and identify strategies to optimize these in his/her professional interactions. |
| Currency | Date Posted: November 2009 |
| Difficulty Level (intermediate/advanced) | Basic to Intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | An extensive list of current references is provided to support the content of the module. Information on how to access instruments to measure EI are also provided. |
| Educational Value (content presented in organized, clear, engaging manner) | Content is presented in an engaging and well organized manner with multiple choice, matching, or short answer questions to test knowledge and case scenarios and reflective discussion questions to promote self-assessment and strategies for improvement in EI. |
| DSP (residency curriculum) Topic Linkage | Communication Skills, Professional Roles, Responsibilities, and Values |
| Format/ Timing | This course consists of an audio narrated slide show with interactive knowledge checks, Discussion Forum reflective exercises, and an online posttest.<br>.2 CEU's; 2.0 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.):** Recommend this course; provides in-depth information on how to define EI, the five dimensions of EI (self-awareness, empathy, social expertness, personal influence, and mastery of vision), importance of EI in effective communication and professionalism, evidence to support EI, and instruments available to measure EI.

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/Presenter | **Professionalism Module 6: Developing the Patient-Therapist Partnership**<br><br>**Authors:** Tara Pearce, PT, MHS and Karen Mueller, PT, PhD |
| Objectives | Upon completion of this course, the course participant will be able to:<br><br>1. Recognize the importance of respect in the patient/therapist relationship.<br><br>2. Define the concept of unconditional positive regard in direct patient/client care.<br><br>3. Identify the challenges of being a patient and implications for physical therapy practice.<br><br>4. Identify appropriate communication strategies to address patient challenges.<br><br>5. List the eight elements of patient-centered care and their application to physical therapy practice. |
| Currency | Date Posted: November 2009 |
| Difficulty Level (intermediate/advanced) | Basic to Intermediate |
| Quality of Evidence | An extensive list of current references is provided to support the content of the module. |
| Educational Value (content presented in organized, clear, engaging manner) | Content is presented in an engaging and well organized manner with multiple choice, matching, and short answer questions to check knowledge and case scenarios and reflective discussion questions to promote self-assessment and strategies for improvement in patient-centered care. |
| DSP (residency curriculum) Topic Linkage | Communication Skills, Professional Roles, Responsibilities, and Values |
| Format/ Timing | This course consists of an audio narrated slide show with interactive knowledge checks, Discussion Forum reflective exercises, and an online posttest.<br>.2 CEU's; 2.0 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.):** Recommend this course; provides in-depth information on application of APTA core values to patient care, informed consent, communication strategies for effective patient care, and elements of patient-centered care and how they apply to physical therapists.

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/ Presenters | **Professionalism Module 9: Social Responsibility, Advocacy, and Public Policy**<br><br>**Author:** Justin Moore, PT, DPT |
| Objectives | After completing this module, the learner should be able to:<br><br>1. Outline the sequential steps to an effective advocacy plan.<br>2. Identify the three key components of social responsibility.<br>3. Distinguish between regulatory and legislative policy and advocacy.<br>4. Identify the different levels at which advocacy exists the audiences affected by such activities.<br>5. Identify and define the three domains of health policy.<br>6. Describe the elements of quality and implications of each for physical therapy practice.<br>7. Describe the multiple factors that affect a patient's access to care. |
| Currency (date published should be 2000 or later) | 2011 |
| Difficulty Level (intermediate/advanced) | Intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | N/A |
| Educational Value (content presented in organized, clear, engaging manner) | Format is well-done; "the singular goal of this module is to help you understand the various determinants of your current practice and the values and processes that you can set into motion to take advantage of new opportunities or overcome constraints to our profession". Links practice and public policy influence (e.g., fall prevention initiatives); reviews elements of social responsibility and bioethics; uses *current* code of ethics (2010); public policy section includes info on measuring quality in physical therapy |
| DSP (residency curriculum) Topic Linkage | Professional Roles, Responsibilities and Values |
| Format/Timing | This course consists of an audio narrated slide show and includes text, graphics, interactive knowledge checks and online |

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| | assessment. There are also reflective exercises and a series of questions in the Discussion Forum.<br>0.25 CEU's, 2.5 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.):** USE – the level is appropriate, and it is difficult to find good, physical therapy-related content in this area

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title | **Professionalism Module 10: Continuing Competence and Lifelong Learning**<br><br>**Presenter/author:** Tara Pearce, PT, DHS |
| Objectives | After completing this module, you should be able to:<br><br>1. Recognize the importance of continuing competence to the public, the profession, and yourself as a professional.<br><br>2. Identify the challenges associated with demonstrating continuing competence in physical therapy.<br><br>3. Recall learning activities that may fulfill continuing competence requirements for licensure renewal in some states.<br><br>4. Define the concept of lifelong learning.<br><br>5. Apply the principles of a SWOT analysis for self-reflection.<br><br>6. Identify the components of a portfolio or plan for your lifelong learning |
| Currency | April 2013 |
| Difficulty level (intermediate/advanced) | Beginner-intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Very good- recent evidence from a variety of health professions (in addition to physical therapy) |
| Educational Value (content presented in organized, clear, engaging manner) | Content clear with supportive resources (SWOT analysis and personal reflection worksheet). Not as engaging- would be beneficial to have this done as a group to review and discuss. Some examples a little basic. |
| DSP (residency curriculum) topic linkage | Professional Roles, Responsibilities, and Values<br>(includes content addressing leadership, virtuous behavior, education, and consultation areas of the DSP) |
| Format/Timing | This course consists of a narrated PowerPoint® presentation, interactive knowledge checks, and a posttest.<br>0.4 CEU's; 4.0 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.):** Use

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title | **PT 2009 Revisited**<br>**Benign Paroxysmal Positional Vertigo (BPPV)**<br><br>**Presenters/authors:** Susan L Whitney, PT, PhD, NCS, FAPTA; Anne Mucha, PT, MS, NCS; Kathy Brown, PT, MS, NCS |
| Objectives | After completing this module, you should be able to:<br><br>1. Identify and treat one risk of falling: BPPV.<br><br>2. Discuss the evidence of the effectiveness of the interventions for persons with BPPV. |
| Currency | September 2009 |
| Difficulty level (intermediate/advanced) | Intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Adequate amount of higher level evidence |
| Educational Value (content presented in organized, clear, engaging manner) | Content clear and well organized, speaker knowledgeable and engaging; good case examples |
| DSP (residency curriculum) topic linkage | Diagnosis specific patient/client management- includes the entire scope from epidemiology/pathophysiology to interventions |
| Format/Timing | This course consists of a narrated PowerPoint® presentation, interactive knowledge checks, and a posttest.<br>0.3 CEU's; 3.0 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.):** Use

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/Presenter | **PT 10: Concussion and Postconcussive Syndrome: When to Rest, Exercise, or Return to Sport**<br><br>**Presenter:** Kevin Guskiewicz, PhD, ATC |
| Objectives | After completing this module, the learner should be able to:<br><br>1. Recognize both the obvious signs (fluctuating levels of consciousness, balance problems, memory and concentration difficulties, etc) and common self-reported symptoms (headache, ringing in the ears, nausea, etc).<br>2. Describe deteriorating signs and symptoms that may indicate a more serious head injury.<br>3. Describe appropriate documentation of all pertinent information surrounding the concussive injury.<br>4. Outline strategies to implement baseline cognitive and postural-stability testing.<br>5. Summarize approaches to conducting serial assessments of the injured athlete, noting the presence or absence of signs and symptoms of injury.<br>6. Describe key factors important for predicting outcome, and managing complicated cases of post-concussion syndrome.<br>7. Outline necessary steps to make return to play decisions following a graduated exertional testing program.<br>8. Highlight the importance of counseling the concussed athlete on risk for future injury and potential neurodegenerative changes following multiple concussions. |
| Currency | Date Posted: September 2010 |
| Difficulty Level | Intermediate |
| Quality of Evidence | Extensive numbers of references used to support the course content, many of which were studies conducted by the presenter and colleagues. |
| Educational Value (content presented in organized, clear, engaging manner) | Content was organized and clear; presenter used many figures, tables, animations, and videos throughout the presentation that enhanced understanding of the content and emphasized important points. |
| DSP (residency curriculum) Topic Linkage | Examination, Specialized interventions for neurologic physical therapy (mild traumatic brain injury) |
| Format/ Timing | Powerpoint slide show synched with audio and an online posttest.<br>0.3 CEU's; 3.0 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.):** Recommend this course; excellent overview of signs and symptoms of concussion, post-concussion syndrome, and chronic traumatic encephalopathy, strategies to implement baseline and serial assessments on the concussed athlete including clinical balance and cognitive tests, factors to consider when making return to play decisions, and management of difficult cases of post-concussion syndrome including dual task training.

| **Educational Resource/Course Review Rubric** | |
|---|---|
| Resource/Course Title/ Presenter | **ExPAAC: The Role of Physical Activity for those with Disabilities: An Example from Stroke**<br><br>**Presenter:** Pamela Duncan, PT, PhD, FAPTA, FAHA |
| Objectives | After completing this course, the learner should be able to:<br><br>1. Review the evidence for physical activity in those with stroke and the estimations of physical activity post stroke.<br><br>2. Identify barriers to engaging in continued physical activity.<br><br>3. Distinguish recommendations for future programs that should be implemented and evaluated. |
| Currency | November 2010 |
| Difficulty Level (intermediate/advanced) | Advanced beginner |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Presents data from several studies that she has completed; also presents data from some studies not yet published; uses data effectively to make her key points for presentation |
| Educational Value (content presented in organized, clear, engaging manner) | Creates compelling argument for the integration of community-based exercise programs and inpatient rehab programs; skips through some slides that are available on handout to really focus on key points |
| DSP (residency curriculum) Topic Linkage | Stroke, intervention, physical activity, wellness, community-based exercise |
| Format/ Timing | Powerpoint slides with narration<br>.1 CEU's; 1 contact hour |

**Use/Do Not Use (redundancy, too basic, etc.)**: This talk would be a good one for a resident / residency program that might be interested in establishing a community-based wellness program for individuals post-stroke. Data presented would help the listener understand the need for this type of intervention.

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/Presenter | **Sports-Related Mild Traumatic Brain Injury**<br><br>**Presenter:** Scott C Livingston, PT, PhD, ATC, SCS |
| Objectives | After completing this module, the learner should be able to:<br><br>1. Define sport-related concussion (or mild TBI) and discuss its causes, risk factors, and signs and symptoms.<br><br>2. Address the challenges in recognition and diagnosis of the athlete with concussion and explain the various approaches for examination and assessment.<br><br>3. Implement a systematic strategy for examining the athlete with a suspected concussion on the field and in a clinical environment.<br><br>4. Discuss various approaches to management of concussion, including the use of current evidence-based practice guidelines for safe return-to-play of the concussed athlete.<br><br>5. Integrate current research regarding concussion diagnosis, assessment and management into clinical practice. |
| Currency | Date Posted: September 2009 |
| Difficulty Level | Intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Course content is supported with extensive high-quality references. |
| Educational Value (content presented in organized, clear, engaging manner) | Content is organized and clear. The presenter effectively uses a quiz at the beginning to engage the audience. Integration of research findings into clinical practice is emphasized throughout talk. |
| DSP (residency curriculum) Topic Linkage | Examination, Specialized interventions for neurologic physical therapy (mild traumatic brain injury) |
| Format/Timing | Powerpoint slide show synched with audio and an online posttest.<br>.15 CEU's; 1.5 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.)**: Recommend this course; excellent overview of current knowledge about etiology, risk factors, and signs and symptoms of mild TBI, examination of the concussed athlete, and current return-to-sports guidelines for the concussed athlete.

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/ Presenters | **Structuring Clinical Interventions to Maximize Motor Recovery after Stroke and Spinal Cord Injury: The Importance of Amount, Intensity and Type of Practice**<br><br>**Presenters:** T George Hornby, PT, PhD; Catherine Lang, PT, PhD; Jennifer Lynn Moore, PT, DHS, NCS; Darcy S Reisman, PT, PhD |
| Objectives | After completing this module, the learner should be able to:<br><br>1. Attendees will define the rationale and empirical data substantiating the provision of greater amounts of task-specific practice during physical therapy interventions.<br><br>2. Attendees will be able to list the consequences of reduced intensity of practice, the potential barriers to increasing intensity and the rationale of these interventions despite doctrinaire thought on motor recovery following stroke or spinal cord injury.<br><br>3. Attendees will realize the importance of errors during motor task practice and their effects on motor memory consolidation.<br><br>4. Attendees will be provided specific, simple interventions to apply to their own patient populations, utilizing the theoretical framework and empirical data provided in previous presentations. |
| Currency | From Combined Section Meeting 2011 |
| Difficulty Level (intermediate/advanced) | Intermediate-advanced |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Excellent use of current evidence to support major points within the presentation; presenters are well versed in the literature surrounding the topic of intensity and clearly know areas that have or have not been addressed to this point |
| Educational Value (content presented in organized, clear, engaging manner) | This presentation is thought-provoking in the area of structuring our physical therapy interventions—challenges the status quo and addresses many different aspects of the bench and clinical science work on the topic of intensity of training |
| DSP (residency curriculum) Topic Linkage | Neuroplasticity, neurophysiology, therapeutic exercise and task-specific training |
| Format/ Timing | Powerpoint presentations with narration; videos interspersed throughout; handout of entire slide show available<br>.275 CEU's; 2.75 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.):** Highly recommend viewing this program; excellent content provided by physical therapists engaged in research related to this topic; presentations are linked well and cover key aspects of the topic; patient videos and graphical analysis of data from key research studies are excellent supplements to the powerpoint presentation.

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/Presenters | **Testing Cognition & Attention: Kicking the "Alert & oriented X 3" Habit!**<br><br>**Presenters:** Mary T. Blackinton, PT, EdD, GCS; Dennis W. Fell, PT, MD |
| Objectives | After completing this module, the learner should be able to:<br><br>1. Describe the role of physical therapists in screening attention and cognition in all patients, including those with neurological dysfunction.<br>2. Differentiate tests and measures that can be used to assess attention and cognition.<br>3. Administer and document cognitive tests and measures.<br>4. Discuss the therapeutic implications of impairments in attention and cognition; including the selection of motor learning strategies, modification of patient/client-related instruction, and referral to other health care practitioners.<br>5. Given a case study, be able to:<br>• identify what type of screening is needed;<br>• select appropriate screening tools;<br>• perform the screening;<br>• interpret the results;<br>• modify the plan of care based on this interpretation. |
| Currency | Date posted: 3/30/2011 |
| Difficulty Level (intermediate/advanced) | Intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | References are provided throughout talk and are appropriate for the content; original articles cited for cognitive assessments. |
| Educational Value (content presented in organized, clear, engaging manner) | Excellent; content well organized, clear, engaging speakers; case studies are effectively used to enhance application of material. |
| DSP (residency curriculum) Topic Linkage | Examination, Cognitive dysfunction |
| Format/Timing | Powerpoint slide show synched with audio and an online posttest; handout available.<br>0.3 CEU's; 3.0 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.)**: Recommend this presentation; it gives a nice overview of cognitive assessments and strategies for improving motor learning in individuals with cognitive dysfunction. The posttest allows learners to assess their understanding of the material.

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title | **Topics in Physical Therapy: Neurology: Current Concepts in the Management of Individuals With Vestibular Dysfunction, 2nd Ed**<br><br>**Presenter/author:** Kathleen M. Gill-Body, PT, DPT, MS, NCS |
| Objectives | After completing this module, you should be able to:<br><br>1. Describe the relationship between basic anatomy and physiology of the vestibular system, and mechanisms responsible for specific vestibular disorders.<br><br>2. Identify components of the clinical exam of the patient with vestibular dysfunction.<br><br>3. Recognize the importance of obtaining an accurate patient history.<br><br>4. Relate patterns of symptom occurrence to vestibular pathology.<br><br>5. Identify tests and measures used in the examination of a patient with vestibular pathology.<br><br>6. Apply examination findings to establish a diagnosis (prognosis) and plan of care.<br><br>7. Determine appropriate interventions for individuals with vestibular pathology of peripheral or central origin. |
| Currency | April 2011 |
| Difficulty level (intermediate/advanced) | Beginner-intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Adequate amount although not as current as more recent publications covering the same topic. |
| Educational Value (content presented in organized, clear, engaging manner) | Very good summary, more for the beginner |
| DSP (residency curriculum) topic linkage | Diagnosis specific patient/client management- includes the entire scope from epidemiology/pathophysiology to interventions (compensation/remediation/preventative)- less information provided on outcome measures |

| | |
|---|---|
| Format/Timing | This course consists of a monograph, available in the online course as a downloadable PDF file, and a posttest.<br>0.3 CEU's; 3.0 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.):** Use- good review for clinicians not exposed to vestibular dysfunction on a regular basis.

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title | **Topics in Physical Therapy: Neurology**<br>**Current Concepts in the Management of Patients With Traumatic Brain Injury, 2nd Ed**<br><br>**Presenter/author:** Karen McCulloch, PhD, PT, NCS |
| Objectives | After completing this module, you should be able to:<br><br>1. Describe mechanisms of injury and pathophysiology associated with TBI.<br><br>2. Discuss common strategies for acute medical management of TBI.<br><br>3. Describe current methods for examination of patients with TBI including behavioral observation and standardized assessment of body structure-function impairments, activity limitations and participation restrictions.<br><br>4. Identify factors that are useful for predicting functional outcomes after brain injury.<br><br>5. Summarize key intervention challenges and strategies for their management including increased tone, heterotopic ossification, and behavioral and cognitive issues. |
| Currency | April 2011 |
| Difficulty level (intermediate/advanced) | Beginner-intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Adequate amount |
| Educational Value (content presented in organized, clear, engaging manner) | Good summary on general TBI, limited information on mild TBI and patients with disorders of consciousness; presented in clear manner with patient cases included. |
| DSP (residency curriculum) topic linkage | Diagnosis specific patient/client management- includes the entire scope from epidemiology/pathophysiology to interventions (compensation/remediation/preventative)- less information provided on outcome measures |

| | |
|---|---|
| Format/Timing | This course consists of a monograph, available in the online course as a downloadable PDF file, and a posttest.<br>0.3 CEU's; 3.0 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.):** Use- good review for clinicians not exposed to traumatic brain injury on a regular basis.

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title | **Topics in Physical Therapy: Neurology: Current Concepts in Rehabilitation of Individuals With Parkinson Disease**<br><br>**Presenter/author:** Margaret Schenkman, PT, PhD, FAPTA |
| Objectives | After completing this module, you should be able to:<br><br>1. Describe the characteristics of a patient with PD, including motor and non-motor symptoms.<br><br>2. Explain the impacts of PD on individual patients and on society.<br><br>3. Identify criteria used to diagnose PD.<br><br>4. Explain the role of the basal ganglia in movement and in PD, and the role of areas beyond the basal ganglia in PD.<br><br>5. Describe medical and surgical interventions for managing PD, including common drugs used.<br><br>6. Outline the considerations for applying physical interventions used with patients who have PD.<br><br>7. Explain the differences among prevention, remediation, and compensation intervention strategies.<br><br>8. Apply evidence and sound reasoning to your clinical decision making at each step of patient management, based on whether the patient is in early, middle, or late stages of PD. |
| Currency | December 2010 |
| Difficulty level (intermediate/advanced) | Intermediate-advanced; incorporates clinical decision making |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Higher levels of evidence; most recent evidence from 2010 |
| Educational Value (content presented in organized, clear, engaging manner) | Effective use of tables and diagrams; clinically very applicable; content is clear and concise |
| DSP (residency curriculum) topic linkage | Diagnosis specific patient/client management- includes the entire scope from epidemiology/pathophysiology to interventions (compensation/remediation/preventative)- less information provided on outcome measures |
| Format/Timing | This course consists of a monograph, available in the online course as a downloadable PDF file, and a posttest.<br>0.3 CEU's; 3.0 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.):** Highly recommend; includes clinical decision-making along with an in-depth review of the current clinical management of individuals with Parkinson Disease.

| **Educational Resource/Course Review Rubric** | |
|---|---|
| Resource/Course Title | **Topics in Physical Therapy: Neurology: Physical Therapy Management for Individuals With Acute Traumatic Spinal Cord Injury, 2nd Ed**<br><br>Presenter/author: Sarah A. Morrison, PT |
| Objectives | After completing this module, you should be able to:<br><br>1. Describe the ascending and descending tracts of the spinal cord and how they relate to determining the level and extent of SCI.<br><br>2. Outline essential components of a physical therapy examination for the individual with SCI using the ICF domains of body structures and functions, activity and participation, including the use of standardized measures to address each area.<br><br>3. Recognize the signs, symptoms, and treatment strategies for common medical and secondary complications associated with SCI, and describe appropriate physical therapist response.<br><br>4. Describe primary goals and treatment strategies for three phases of SCI physical therapy management: acute, rehabilitation and post-acute.<br><br>5. Identify resources for further study in the management of individuals with SCI. |
| Currency | June 2010 |
| Difficulty level (intermediate/advanced) | Beginner-intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Adequate amount |
| Educational Value (content presented in organized, clear, engaging manner) | Good summary on general SCI; presented in clear manner |
| DSP (residency curriculum) topic linkage | Diagnosis specific patient/client management- includes the entire scope from epidemiology/pathophysiology to interventions (compensation/remediation/preventative)- some information on outcome measures included |
| Format/Timing | This course consists of a monograph, available in the online course as a downloadable PDF file, and a posttest.<br>0.3 CEU's; 3.0 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.):** Use as supplemental information, introduction to the topic

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title | **Topics in Physical Therapy: Pediatrics**<br>**Evaluation and Intervention for Postural Control Disorders in Children, 2nd Edition**<br><br>**Presenters/authors:** Sarah Westcott McCoy, PT, PhD, Wen-Yu Liu, PT, PhD, and Deborah Kartin, PT, PhD |
| Objectives | After completing this module, you should be able to:<br>1. Explain current theoretical bases for examination and intervention.<br>2. Describe typical development of postural control.<br>3. Explain the current scientific knowledge regarding dysfunction of postural control in children with specific motor disabilities.<br>4. Select current tests and measurements of postural control.<br>5. Identify the various interventions and current research findings regarding effectiveness of interventions for postural control disorders.<br>6. Evaluate and revise a plan of care for 2 children with postural control disorders based on current scientific knowledge. |
| Currency | December 2010 |
| Difficulty level (intermediate/advanced) | Beginner-intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Adequate amount |
| Educational Value (content presented in organized, clear, engaging manner) | Good summary |
| DSP (residency curriculum) topic linkage | Diagnosis specific patient/client management- includes the entire scope from epidemiology/pathophysiology to interventions (compensation/remediation/preventative)- some information on outcome measures included |
| Format/Timing | This course consists of a monograph, available in the online course as a downloadable PDF file, and a posttest.<br>0.2 CEU's; 2.0 contact hours |

**Use/Do Not Use (redundancy, too basic, etc.):** Use; pediatrics may be a difficult topic to cover for some residencies and this publication also includes clinical applications for the adult population with review of postural control (anticipatory/reactive).

| **Educational Resource/Course Review** | |
|---|---|
| Resource/Course Title/ Presenters | **Walking and Talking: Implications of Dual Task Balance and Walking Research for Physical Therapy Practice**<br><br>**Presenters:** Valerie Elizabeth Kelly, PT, PhD; Karen McCulloch, PT, PhD, NCS; Anne Shumway-Cook, PT, PhD, FAPTA |
| Objectives | After completing this module, the learner should be able to:<br><br>1. Describe dual task balance and walking paradigms and their use in research and clinical practice.<br><br>2. Discuss the theoretical background as well as methodological and interpretive considerations surrounding the use of dual task paradigms.<br><br>3. Discuss the relationship between impaired dual task balance and walking performance and functional deficits, disability and fall risk in geriatric and neurologic populations. Identify clinical measures that can be used to assess dual task balance and walking performance.<br><br>4. Discuss methodological and interpretive considerations when assessing dual task performance, including the strengths and limitations of different measures.<br><br>5. Identify strategies for physical therapy interventions to improve dual task balance and walking performance.<br><br>6. Discuss methodological and interpretive issues related to the treatment of dual task limitations. |
| Currency | October 2011 |
| Difficulty Level (intermediate/advanced) | Intermediate |
| Quality of Evidence (adequate amount, higher levels of evidence when available, recency) | Relevant and current evidence is used to discuss dual tasking; clinically relevant issues are considered with suggestions on how to implement dual task testing and training strategies in the clinic |
| Educational Value (content presented in organized, clear, engaging manner) | Well organized talk; logical and intentional flow to material that is covered; a consistent format is used by all 3 presenters |
| DSP (residency curriculum) Topic Linkage | Gait, locomotion and balance; cognition: attentional demands;<br>Patient populations include older adult, TBI, PD |
| Format/Timing | Powerpoint presentation with narration; handout available<br>.25 CEU's; 2.5 contact hours |

Use/Do Not Use (redundancy, too basic, etc.): Recommend this presentation: it offers a good introduction and exploration of the topic of dual tasking and focuses on relevant research paradigms and questions that remain to be answered related to this topic.

**EDUCATIONAL RESOURCE REVIEWS** **INDEX**