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EDITORIAL

PM&R

Specialized curriculum for cancer rehabilitation medicine in physical medicine and rehabilitation residency training and beyond

INTRODUCTION

A specialized curriculum (curricula.aapmr.org) was prepared by the American Academy for Physical Medicine and Rehabilitation (AAPM&R) to provide general guidelines for training and written primarily for individuals involved in teaching residents and those in fellowship. The secondary audience for this curriculum is those who are out in practice and would like to benchmark their current knowledge, skills, and attitudes in specific content domain. This curriculum was developed as an overview of competencies currently favored for the performance and training of PM&R and to serve as a guide to published references and educational resources available to physiatrists. This curriculum is meant to augment rather than supplant the role program and fellowship directors and faculty play in the training of physiatrists. By providing information about training benchmarks, AAPM&R hopes to improve the teaching and performance of physiatrists.

BACKGROUND

Through the PM&R BOLD Visioning process, several critical graduate medical education (GME) issues have been identified that must be addressed to move this specialty forward to thrive in the future of health care. One of the main priorities for the Academy is to develop a process to realign the content of GME training by setting standards for training that will advance the knowledge and skills of physiatrists to meet the needs of new practice models coming out of PM&R BOLD and the future of physiatry in general. The goal of this curriculum is to outline the specific knowledge, skills, and attitudes that are needed to help physiatrists prepare to embrace, lead, and practice in the future environment of PM&R.

DEFINITION OF TERMS

The Academy is defining specialized curriculum and training guidelines as outlined here:

- Specialized curriculum: A document that outlines what one should be able to do, which includes:
  - Competencies
  - KSAs (knowledge, skills, attitudes)
    - Knowledge: Condition of being aware of something
    - Skills: Ability to perform a task or activity
    - Attitudes: Feelings, emotions, beliefs, or value about something (influence people's choice of actions)
  - Identified whether each KSA is core or specialized. Because each competency can have varying levels of difficulty, they are rated as basic, intermediate, and advanced within core and specialized levels.
    - Core: Every physiatrist should know it at the completion of residency training.
    - Specialized: Only those that specialize in this area would be expected to know it.

OBJECTIVES

Upon completion of training in PM&R, trainees should be prepared to appropriately recommend procedures as indicated by the findings of consultative evaluation, with explicit understanding of accepted specific indications, contraindications, and diagnostic/therapeutic alternatives; perform procedures and examinations safely, completely, and expeditiously and conduct clinical assessment and patient monitoring; identify risk factors for each procedure, understand how to minimize each, and recognize and appropriately manage complications when they occur; acknowledge the limitations of PM&R procedures and personal skills and know when to request help; and understand the principles of quality measurement and improvement.

SUPPORTING A SPECIALIZED CURRICULUM

Competence in knowledge, skills, and attitudes requires the foundation of didactic and hands-on learning that occurs within the comprehensive training of a PM&R specialist.

Although the specialized curriculum may inform recommendations to the Accreditation Council for Graduate

Medical Education regarding program requirements, it should not be limited by this consideration; rather, it should focus on "what should be" in order to achieve the goals of physiatrists and the specialty. The Academy's goal is to approach the development of specialized curricula from an aspirational and educational perspective – not regulation.

Although there is core knowledge that all physiatrists need to have in order to be a general physiatrist, many physiatrists go on to become specialists in a specific content domain, that is, musculoskeletal, brain injury, cancer rehabilitation, etc. For this reason, specialized curricula are needed to outline what specialized physiatrists need to know in each domain.

STRUCTURE

The following Specialized Curriculum for Cancer Rehabilitation Medicine in Physical Medicine and Rehabilitation Residency Training and Beyond was written by the AAPM&R's Cancer Rehabilitation Medicine Curriculum Workgroup.

The curriculum is organized into six content areas:

- Global impairment/symptom specific
- Cancer diagnosis specific
- Procedures
- Areas of practice
- Wellness/survivorship
- General information

Within each content domain, a series of competencies has been identified. Each competency is tagged as (1) KSA type of competency; (2) core or specialized level; and (3) within core or specialized levels, whether the particular competency represents a basic, intermediate, or advanced KSA.

This cancer rehabilitation medicine curriculum outlines the longitudinal expectation of what PM&R residents (core level) and those in fellowship training (specialized level) should generally know upon graduating. Program directors should use this curriculum as a tool to help augment their current training program and to identify any gaps they may currently have in their programs. If any gaps are identified, the program director should implement lectures, conferences, journal clubs, and workshops, as well as clinical experiences as feasible, to fill these gaps. Educational resources for cancer rehabilitation medicine will vary among training programs, and the aim of this curriculum tool is to help elevate the level of training among all programs.

After completing residency and fellowship training, physiatrists must continue their professional development over the course of their careers. They do this by learning from their practice and by participating in educational activities, which includes completing formal continuing medical education. It is essential for physiatrists to remain competent in their area of practice in order to provide the best quality of health care to their patients and communities. Experienced physiatrists can use this specialized curriculum to benchmark their current knowledge, skills, and attitudes, with the goal to self-identify any gaps or areas of focus for future growth.

As the field of cancer rehabilitation medicine continues to grow, it is important to ensure that physiatrists are provided with the tools needed to be successful. This specialized curriculum outlines the current competencies that are essential to ensure residents, those in fellowship training, and practicing physiatrists have the foundation required to be successful. Because the field continues to evolve, this curriculum is meant to be a living document and will be updated accordingly. The goal is to provide a framework for the field of PM&R to ensure physiatrists receive the training necessary to provide the best patient care.

You can access this curriculum and the other curricula in this series at curricula.aapmr.org

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Cancer Rehabilitation Medicine Curriculum

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CONTENT DOMAIN: GLOBAL IMPAIRMENT/SYMPTOM SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
MOBILITY RELATED IMPAIRMENTS AND PHYSICAL PERFORMANCE									
History									
Identify the pattern of impairment or symptoms, including onset, location, progression.	X	X		X					
Obtain a more detailed history, including timing, specific characteristics of motor and/or sensory changes, fatigue and its relation to symptom pattern, and whether the symptom pattern has predominantly proximal or distal characteristics.		X			X				
Examine other functions-- bladder, bowel, cognition, speech, vision, swallowing, breathing. Evaluate if pain is present, and its characteristics.		X				X			
Compare the known neuromuscular effects of the particular type of cancer, and the possible neuromuscular effects of treatments received by the patient.		X					X		
Analyze the medical record for cancer history and treatments, including cancer diagnosis (type, stage, metastatic involvement if applicable), treatments (surgical history--including postop precautions, chemotherapy, radiation therapy), current medications.		X		X					
Review surgical report (if applicable) to identify structures involved.		X		X					
Recognize chemotherapeutic agents used and side effect profiles.	X				X				
Descibe radiation approaches and structures involved.	X				X				
Inspect relevant lab values (hemoglobin, WBC, platelets).		X		X					
Review diagnostic imaging results.		X				X			
Functional review									
Assess mobility, and any adaptive equipment used. Appraise walking distance, balance/falls.		X			X				
Inquire about activities of daily living.		X		X					
Inquire about fatigue.		X			X				
Ask about disability (inability to return to work or school, inability to drive a vehicle).		X		X					
Incorporate a standardized patient reported outcome measure (such as a PROMIS-based tool) for physical function.		X						X	
Physical Examination		X			X				
Measure vital signs, height, weight, pain VAS, orthostatics if applicable.	X			X					
Evaluate visible physical effects of condition (amputation, hemiplegia).		X		X					
Perform manual muscle testing.		X		X					
Perform range of motion assessment.		X		X					
Perform sensory testing.		X		X					
Perform reflex testing.		X		X					
Perform cranial nerve testing.		X		X					
Perform coordination testing.									
Perform special tests for further assessment.		X			X				

Cancer Rehabilitation Medicine Curriculum

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				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Perform gait and balance testing.		X		X					
Inspect handheld dynamometry.		X				X			
Assess posture and body mechanics during sitting and/or standing, walking.		X			X				
Medical Knowledge									
Define types of mobility impairments seen in the condition.	X				X				
Identify types of mobility impairments seen as effects of treatment of the condition.									
Explain how body mechanics impact function.	X				X				
List orthotics and adaptive aids which may be appropriate for cancer-related mobility limitations.	X					X	X		
Diagnostics and Functional Measurement									
State goals of measurement and or/research: evaluate effect of treatment, characterize a population, characterize change over time, estimate need, characterize the impact of a specific impairment, determine whether patients have crossed a critical threshold.	X					X			
Select and interpret appropriate assessment tools: self-report, clinical/functional report and objective testing.		X					X		
Integrate assessment tools into visit, and/or knowledgably translate therapist-performed outcome measures into overall plan of care, including:									
Self report measure such as Patient Reported Outcome Measurement Information System (PROMIS), Disabilities of the Arm, Shoulder and Hand (DASH), Activity Measure for Post Acute Care (AM-PAC).		X				X	X		
Objective testing such as grip strength, six minute walk test (6MWT) or other timed walk test, Timed up and go (TUG), 5X sit to stand, balance measurement (Berg, Tinetti).		X				X	X		
Global function measures such as Functional Independence Measure (FIM), Barthel Mobility Index, Karnofsky Perfomance Scale (KPS), Eastern Cooperative Oncology Group (ECOG).		X				X	X		
Management									
Prescribe physical therapy and/or occupational therapy.		X		X					
Incorporate vocational rehabilitation into rehabilitation plan.		X			X				
Discuss energy conservation techniques and ergonomic strategies for activities of daily living (minimizing amount of bending with dressing and bathing, use of devices, minimizing overexertion, taking frequent breaks).			X			X			
Prescribe adaptive equipment.		X							
Prescribe durable medical equipment (DME).		X							
Complete letter of medical necessity.		X				X			
Perform peer-to-peer for insurance coverage.		X				X			
Prepare disability documents for employer.		X				X			
Explain insurance coverage and payor types.	X					X			

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CONTENT DOMAIN: GLOBAL IMPAIRMENT/SYMPTOM SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Precautions and Special considerations									
Predict isolation precautions/contact isolation and incorporate into plan.	X				X				
Identify weight bearing precautions and incorporate into plan. See Bone Metastases and Bone Health sections.	X				X				
Define spine precautions and incorporate into plan.	X				X				
Relate impact of intubation on endurance, swallowing, communication.	X				X				
Evaluate impact of lymph node dissection and possible complications. Establish whether any precautions with range of motion, movement or lifting are needed (see Breast Cancer section).	X					X			
Implement appropriate safety measures for postcraniotomy patients (see Neurologic Cancer section).		X		X					
Thromboembolic complications									
Identify general risk factors for DVT/PE (knowledge, core basic).	X			X					
Describe impact of cancer on thromboembolic risk.	X					X			
List symptoms of DVT/PE (pain, inflammation, skin changes, shortness of breath, rapid and shallow breathing, chest pain, tachycardia).		X		X					
Obtain appropriate studies for detection of thromboembolism.		X		X					
Initiate management of thromboembolism, including transfer to more appropriate setting when needed.				X	X				
Employ appropriate activity precautions during the early phase of thromboembolic treatment.				X					
Cardiovascular									
Assess whether cardiovascular precautions are needed.		X		X					
Establish parameters for physical activity, such as Borg Rating of Perceived Exertion, heart rate parameters, vital signs pre and post exertion.		X				X			
Cachexia and Sarcopenia									
Identify cachexia effects including fatigue, anorexia, weakness, loss of adipose tissue, and skeletal muscle.	X					X			
Identify risk factors such as mucositis, xerostomia, and other causes which lead to decreased oral intake.	X			X					
Recognize factors contributing to malabsorption and malnutrition.	X			X					
Determine nutritional needs for patient.	X				X	X			
Incorporate speech therapy into care plan.		X		X					
Incorporate nutritionist into care plan.		X		X	X				
Explain the impact nutrition has on skeletal muscle and immune function.	X							X	X

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				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
NEUROMUSCULAR EFFECTS - ALSO SEE "MOBILITY", "PAIN" AND "NEUROLOGIC TUMORS" SECTIONS.									
History									
Obtain routine history, including motor and sensory symptoms, pain and its characteristics, functional limitations, and other current symptoms. Assess underlying health comorbidities and baseline function.		X		X					
Physical Examination									
Evaluate range of motion, strength, muscle bulk, sensation, coordination, reflexes.		X		X					
Appraise cranial nerves.		X		X					
Assess cognition and speech.		X			X				
Evaluate gait, balance, posture and head support (dropped head), and movement patterns.		X			X				
Use a standardized objective measure, such as grip strength, a timed walk test, timed up and go (TUG), 5 times sit to stand. See Mobility section.		X					X		
Medical Knowledge									
Direct and Indirect (paraneoplastic) Neuromuscular Effects of Tumor									
Describe central nervous system effects of malignancy (direct--brain, spinal cord).	X			X					
For central nervous system lesions, identify expected motor impairments in association with location or level of lesion, ie ataxia, hemiparesis, extent of paraparesis or tetraparesis.	X				X				
Explain polyneuropathy as a direct or indirect effect of malignancy.	X				X				
Describe patterns of localized peripheral nervous system involvement, i.e., direct- plexopathy, radiculopathy or mononeuropathy due to tumor; polyradiculopathy due to carcinomatosis.	X				X				
List the characteristics of polyneuropathy seen in small cell lung cancer (sensory or sensorimotor; usually indirect but sensory neuropathy may be direct related to dorsal root ganglion invasion).	X							X	
Recall the characteristics of polyneuropathy seen in lymphoma (indirect-demyelinating).	X							X	
Discuss polyneuropathy seen in renal cell cancer (indirect-variable presentation).	X							X	
Explain other paraneoplastic effects including Lambert-Eaton syndrome, cerebellar degeneration.	X						X		
Neuromuscular Effects of Treatment									
Identify peripheral nerves that may be affected by surgical treatment of cancer (spinal accessory, intercostobrachial, etc.).	X					X			
Describe characteristics of chemotherapy associated neuropathy (general).	X				X				
State characteristics of polyneuropathy due to taxanes (breast, lung, ovarian)-sensory>motor.	X					X	X		
State characteristics of polyneuropathy due to vincristine (lymphoma and others)-motor=sensory.	X					X	X		
State characteristics of polyneuropathy due to carboplatin (ovarian, lung), oxiplatin (colon)- pure sensory.	X							X	

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				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Radiation-associated neuromuscular effects--see Radiation section									
Identify risk factors for radiation encephalopathy.	X				X				
List subtypes of radiation encephalopathy (see Cognitive section).	X						X		
Explain the occurrence of radiation plexopathy.	X				X				
Compare and contrast the characteristics of tumor invasion versus radiation plexopathy.	X						X		
Corticosteroid myopathy									
Steroid myopathy: Characterize the acute effects of high-dose steroids on the musculoskeletal system.	X				X				
Explain why corticosteroids affect certain muscle groups.	X					X			
Describe the impact of fluorinated corticosteroids.	X					X			
Interpret physical exam findings in patients with steroid myopathy.	X				X				
State the diagnostic workup for steroid myopathy and failures of certain tests.	X				X				
Explain rehabilitation approaches to managing steroid myopathy.	X				X				
Diagnostics									
Electrodiagnosis (Also see Electrodiagnosis section within Procedures category)									
Explain the role of EMG in cancer rehabilitation, when to refer, and contextualize into the plan of care.	X					X	X		
Demonstrate skills for performing EMG basic--common mononeuropathies and radiculopathy, routine polyneuropathy.		X				X			
Demonstrate skills for performing EMG advanced--plexopathy, cranial nerves, myoneural junction, complex polyneuropathy, and myopathy evaluation.		X				X		X	
Describe characteristic findings, such as myokymia, in setting of irradiated tissue.	X					X			
Recognize when precautions may be needed for electrodiagnostic testing (see EMG section).						X	X		
Imaging									
Order plain X-rays, CT or MRI to evaluate unexplained signs and symptoms.	X				X				
Discuss the role of advanced imaging (typically with contrast when assessing for tumor); how to interpret and order brachial plexus MRI.	X						X		
Management									
Recognize when reevaluation by oncology for direction of care may be needed.		X				X			
Prescribe physical and occupational therapy programs for impairments from cancer-related neuropathy and other neuromuscular effects.		X			X				
Prescribe adaptive equipment, orthotics, footwear and gait aids when appropriate.		X			X				
Prescribe evidence-based medications to assist with neuropathic pain management, such as antiepileptic and related membrane stabilizer agents, serotonin norepinephrine reuptake inhibitors, tricyclics, and topical agents.		X			X				

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				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
COGNITIVE IMPAIRMENT									
History									
Identify cancer- and treatment-related risk factors for cognitive impairments (i.e. brain metastasis, brain radiation, chemotherapy).					X				
Obtain history of cognitive symptoms--patient described symptoms; memory, attention, word-finding, processing speed, other.		X			X				
Record history of functional impact of cognitive changes.		X			X				
Evaluate for possible related or confounding problems in the setting of cancer-related cognitive impairment, such as sleep disturbance, fatigue, mood/anxiety/coping issues, pain, and medication-related (cognitive side effects).		X				X			
Examination									
Recognize mental status changes.		X		X					
Perform a basic cognitive examination noting affect/sensorium, orientation, attention, memory, processing speed, language, visual-spatial function.		X			X				
Perform a standard scored evaluation, such as the Montreal Cognitive Assessment (MoCA) or Mini-Mental Status Examination (MMSE).		X				X			
Medical Knowledge. Causes of Cancer-related cognitive impairment and physiologic mechanisms									
Brain Tumor									
List tumor types likely to affect cognition--see Neurologic tumors/characteristics.	X					X			
Compare and contrast differences between adult and pediatric populations-- long term impact on learning, including educational and employment outcomes; evidence for cognitive therapy.	X						X		
Radiation therapy	X					X			
Identify early radiation encephalopathy (headaches, lethargy, worsening of focal deficits; onset days to weeks; steroid-responsive).	X						X		
Identify early delayed encephalopathy (somnolence syndrome, onset 1-6 months, demyelination from radiation injury to oligodendrocytes, may be steroid responsive).	X						X		
Differentiate between real or pseudoprogression on imaging of some glioblastoma patients with recent radiation therapy and temozolamide, with or without clinical changes.							X		
Identify late delayed encephalopathy/radiation necrosis (vascular endothelial injury occurs, may be life threatening; related to dynamic interactions between multiple cell types, including astrocytes, microglia, and neurons,proinflammatory changes, and eventual neuronal damage related to oxidative stress.	X						X		
Describe long term effects of whole brain radiation (chronic cognitive changes most pronounced in the very young and the elderly).	X						X		

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				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Chemotherapy	X				X				
Recall physiological mechanisms (elevated levels of cytokines, DNA damage, neurotoxicity-related brain white matter damage).	X							X	
Describe clinical characteristics (attention, memory, executive function).	X						X		
Diagnostics for cancer related cognitive impairment									
Identify appropriate cognitive testing.	X			X					
Interpret cognitive testing results.	X				X				
Inspect and/or obtain imaging studies when clinically appropriate-- CT, MRI.		X			X				
Employ a standardized cognitive screening assessment, such as MOCA.						X			
Incorporate neuropsychological assessment, or evaluation by a speech/language pathologist, into care plan.		X				X			
Interpret and contextualize neuropsychologic testing results based on provider summary input.	X					X			
Communicate neuropsychologic testing results with patient.			X			X			
Demonstrate knowledge of tools employed by cognitive specialists to evaluate cognitive domains including learning/memory, executive function, processing speed, attention and working memory.	X					X			X
Employ computerized cognitive testing.	X								X
Management of cancer related cognitive impairment									
Prescribe speech therapy for cognitive strategies.	X				X				
Evaluate medications including methylphenidate, modafanil, donepazil.	X							X	
Compile contributing factors--pain, sleep, fatigue, depression, medication side effects, etc.	X				X				
Explain the effects of potential benefits of exercise on cognitive impairment.	X					X	X		
Consider adjunctive modalities such as neurofeedback.	X								X
Education and counseling for cognitive impairment.									
Advise regarding strategies for daily routine.		X				X			
Integrate employment considerations into the overall plan.		X				X			
Determine when driving needs to be evaluated or addressed.		X				X			
LYMPHEDEMA									
History									
Record routine history, including underlying health and function.		X		X					
Obtain detailed history of the swelling including onset, bodily location(s), time course, severity of edema, fluctuation pattern if any.		X				X			
Score severity and quality of symptoms, i.e., aching, heaviness, neuritic features, any overlying pain pattern. Understand how different descriptions narrow the differential diagnosis.						X			

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				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Report an appropriate cancer history, including current disease status, i.e., active disease, long term survivor, etc.	X	X				X			
Include risk factors such as history of lymph node involvement, extent of surgery (lymphatics), radiation (lymphatic beds), locoregional infection/cellulitis, treatment complications and other possible inciting factors. Relate these factors to the patient's presentation as appropriate.		X				X	X		
Elicit information pointing to concerning pathology (DVT, cellulitis, malignant lymphedema due to cancer recurrence).	X	X				X			
Evaluate comorbid skin conditions (cellulitis, drainage/leakage, ulcers, "blistering", radiation burn).		X				X			
Examine for comorbid musculosketelal conditions (especially affecting shoulders, knees, back, hands) that may impact function and the patient's ability to perform lymphedema care.		X			X	X			
Elicit family history as it relates to lymphedema, including understanding of hereditary forms of lymphedema.		X						X	
Obtain history of any diagnostic studies performed in the past (i.e., venous studies, body CT or MRI, lymphoscintigraphy, labs).		X				X			
Record general history of treatment modalities already tried and their effects.		X				X			
Obtain more detailed history of treatments already tried, i.e., specific types of garments and other supplies, specific focus of past courses of lymphedema therapy.		X					X		
Obtain general history of weight (or BMI) over the course of time, especially over the evolution of the lymphedema.		X				X			
Record history of sleep (flat or sitting).		X					X		
Recognize lymphedema as a significant source of anxiety for cancer patients.		X				X			
Evaluate mood and coping.		X			X				
Assess physical activity level, including exercise habits, ability to perform functional living skills, and any assistive device use or other adaptations the patient may be making.		X			X				
Evaluate family situation and overall level of support for assistance with care when needed.		X				X			
Determine whether cognitive barriers may be present.		X				X			
Evaluate patient priorities (education/counseling, preference for aggressive treatment vs most limited intervention, preference for certain types of treatment, impact of daily living and economic constraints).		X				X			
Physical Examination									
Obtain weight/BMI.		X		X					
Generally assess limb size (observation for general severity, assymetry, whole versus partial limb involvement), describe general characteristics of non-limb (ie chest wall, facial, scrotal, abdominopelvic) lymphedema.		X				X			
Evaluate soft tissue characteristics. Distinguish pitting versus nonpitting edema.		X				X			
Record specific observations of lymphedema characteristics, including employing a measurement system (circumferential, impedance, or other), and other descriptive details such as creasing, areas of lobulation, etc.		X					X		
Evaluate general skin characteristics (i.e., erythema, trophic discoloration, presence/characteristics of wounds, drainage), and location/extent of these changes.		X			X				
Evaluate skin characteristics more specifically, i.e., cutaneous fibrosis, peau d'orange, stasis papillomatosis, hyperkeratosis, verrucous changes, blistering.							X		

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				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
For lower extremity patients, perform Stemmer's sign.		X				X	X		
Appraise arterial status of the affected limb, especially lower limb (i.e., warm or cool to touch, pedal pulses, dopplerable pulses).						X			
Measure range of motion, especially of the affected limb but also generally.		X		X					
Rate motor function including strength, coordination, balance.		X		X					
Evaluate sensory function (potential need for precautions with compression modalities to an insensate limb); axillary sensation in breast cancer patients.		X		X					
For patients with history of axillary lymph node surgery, evaluate for axillary banding or cording.		X					X		
Medical Knowledge									
Anatomy and physiology of lymphedema									
Recall normal lymph system anatomy: major vessels and lymph territories, lymph nodes, lymph capillary characteristics.	X					X			
Describe normal lymphatic function and physiology.	X					X			
Discuss the physiology of impaired lymphatic function, such as common causes (post-surgical and/or postradiation fibrosis, congenital anomalous, lymphovenous insufficiency in morbidly obese); lymph as high protein fluid, high oncotic pressure and implications for infection risk, poor diuretic response.	X					X			
Characterize the physiology of normal and impaired lymphatic function (more detailed knowledge of lymphatic structures; cellular-level mechanisms in normal and pathological states; differential risk impacts based on type and extent of cancer treatment, etc.).	X						X		
Lymphedema classification and risk stratification									
Recognize that lymphedema may be inherited or acquired.	X			X					
Describe the importance of body mass index (BMI) in lymphedema.	X				X				
Identify and describe the inherited types which include congenital lymphedema or Milroy's disease, lymphedema praecox or Meige's disease presenting childhood up to age 35, and lymphedema tarda presenting after age 35.	X							X	
Know the general risk factors fo cancer-related lymphedema including surgery, radiation.	X					X			
Characterize lymphedema risk stratification based on specifics of the cancer care received (extent of surgery, possible impact of complications).	X						X		
Compare and contrast benign versus malignant lymphedema (latter is painful, generally less responsive to treatment).	X					X			
Identify location-related factors in the approach to lymphedema management, ie upper limb, lower limb, head and neck, trunk, genitalia.	X						X		
Recognize non-cancer causes of edema/lymphedema (i.e., congenital, lipedema, obesity-related, trauma, filariasis; systemic comorbidities).	X					X			

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CONTENT DOMAIN: GLOBAL IMPAIRMENT/SYMPTOM SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Tumor types associated with lymphedema									
Breast cancer-- Be able to recognize and manage a noncomplicated case of postmastectomy lymphedema (such as, basic evaluation, education and counseling, prescribe garment, therapy).		X				X			
Breast cancer-- Be able to manage a complicated case of postmastectomy lymphedema (atypical patterns of involvement, comorbid chest wall pain issues, active cancer, severe or refractory clinical situation, significant clinical or socioeconomic barriers, significant psychological factors, etc.).		X					X		
Evaluate and manage lymphedema in association with other cancers (gynecologic, head and neck, melanoma, lymphoma, etc.).		X					X		
Precautions (or not) for cancer related lymphedema									
Identify common precautionary practices in the setting of lymphedema (or risk thereof) and have a general knowledge of current evidence supporting those precautions or not. Such precautions might include needlesticks, air travel, limb constriction as with blood pressure measurement, air travel, exercise, and use of therapy modalities in certain risk settings. (Note--in general, exercise should actually be encouraged but advanced gradually. Precautions regarding needlestick, blood pressures, and air travel also appear to be overblown, but may still merit consideration in some situations.)	X					X			
Optimally contextualize precautions to an individual patient's clinical situation, for meaningful nuanced decision-making and effective communication with the patient.		X	X				X		
Lymphedema severity, management and related concerns									
Characterize the stages of lymphedema (Stage 0,1,2, or 3).	X					X			
Describe a method of obtaining circumferential measurements at consistent landmarks for basic clinical surveillance.	X					X			
Discuss other mechanisms of evaluating and monitoring lymphedema severity, including volumetric conversion from the measurements, water displacement, perometry, impedance measurement and ultrasound. Recognize paradigms for determining significance and severity of these measurements.	X							X	
Identify common clinical issues that may interact with lymphedema severity and management (skin, musculoskeletal comorbidities, obesity).	X				X				
Identify other diagnostic possibilities that might really be the major concern, such as venous insufficiency, cardiopulmonary issues, renal, hepatic, thyroid, medication side effects, lipedema, and systemic fluid overload.		X				X			
List the elements of complex decongestive therapy for lymphedema, including exercise, lymphatic massage, multilayer wrapping or bandaging, skin care, education, and transition to a maintenance regimen.	X					X	X		
Describe the role of exercise in lymphedema management.	X					X	X		
Describe the role of compression in lymphedema management, and basic types of compression supplies that are available (ie garments, wraps, pumps).	X					X			
Characterize compression supplies (i.e., types of garments, custom vs non-custom and their indications, types of pumps and wraps).	X						X		
Identify indications specifically for multilayer bandaging, either as initial care or adjunctvely/intermittently long term.	X					X	X		

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CONTENT DOMAIN: GLOBAL IMPAIRMENT/SYMPTOM SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Describe purported mechanism of manual lymph drainage/lymphatic massage and role in lymphedema care.	X					X			
Describe manual lymph drainage/lymphatic massage including different techniques, specific clinical settings in which such care plays a major role (face, chest wall, other) .	X							X	
Diagnostic testing									
List indications for ordering ultrasound to rule out deep vein thrombosis.	X					X			
State indications for vein mapping studies for venous insufficiency.	X						X		
Name indications for ordering CT pelvis/venography.	X					X			
Describe indications for utilizing bioimpedance.	X							X	
List indications for ordering lymphoscintigraphy.	X						X		
State indications for ordering ICG angiography.	X								X
Other (labs, such as CBC to screen for infection, blood chemistries to screen for renal insufficiency; TSH, etc.).	X					X			
Describe the components of a prospective surveillance model for lymphedema, including diagnostic testing.	X							X	
Management									
When appropriate, refer for treatment with a specialized lymphedema therapist, including possible complex decongestive therapy, and transition to a maintenance regimen.		X				X			
Incorporate comorbidities into plan of care as needed.		X				X	X		
Prescribe exercise including prehabilitation and preventative exercises for lymphedema.		X					X		
Prescribe a basic compression garment (sleeve or knee high stocking).		X				X			
Demonstrate decision-making for 20/30mmHg, 30/40mmHg, or other compression strength.		X				X			
Demonstrate decision-making for off-the-shelf versus custom garment, circular knit versus flatknit.		X					X		
Demonstrate decision making for other style or type of garment (i.e., knee high, thigh high, capri, chaps, pantyhose, atypical sleeve options, glove, gauntlet, or other). Knowledge of specific characteristics and brands.		X						X	
Prescribe a basic wrap garment (such as for calf).		X				X			
Prescribe a more extensive wrap garment system. Demonstrate knowledge of different characteristics and brands.								X	
Prescribe specialized compression garments as for nighttime use.		X						X	
Evaluate for and prescribe a pneumatic compression pump. Explain basic indications, contraindications, and settings.		X					X		
Discuss f types of pump systems (basic vs advanced), brands, designs, cost, etc., and the appropriate clinical situations for use.		X						X	
Prescribe bandaging supplies. Counsel patient about expectations.		X					X		
Integrate a prospective surveillance model into clinical care.		X					X		
Spearhead necessary care for complex situations which require outside specialist input.		X				X	X		

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				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Pharmacologic considerations									
Prescribe antibiotics for cellulitis.		X		X					
When feasible, avoid medications with edema as a side effect (amlodipine, pregabalin).		X				X			
Describe the role of diuretics or lack thereof in management-- generally not indicated for lymphedema (may be for venous insufficiency).		X				X			
Identify topical agents for secondary skin effects-- moisturizers, antifungals, keratolytics (ammonium lactate, urea, salicyclic acid), topical antipruritis agents (antihistamines, corticosteroids); retinoids.		X						X	
Surgical and interventional therapies for lymphedema									
Explain possible surgical indications (localized primary lesions, failure of other treatments); acceptable surgical risk (including infection risk), earlier intervention more effective.	X						X		
Discuss types of surgical approaches for lymphedema (microlymphatic-venous anastomoses, lymph node transfers, excisional surgeries).	X							X	
Summarize utility of stellate ganglion block in treating lymphedema.	X								X
Payor issues									
Recall that payor issues affect coverage for certain lymphedema supplies, such as compression garments and wrap garments (differences existing between Medicare, Medicaid, Commercial, other).	X					X			
Characterize the major payors and impact on coverage of lymphedema supplies. Be able to counsel patients in-depth on expectations for coverage, and to explain the authorization process and other downstream expectations when applicable.							X		
Establish effective lines of communication with key vendors and other stakeholders. Maintain communication with lymphedema therapists for team problem solving when payor barriers exists. Be able to advise about cost effective strategies, including possible website or charitable options when coverage is lacking or suboptimal.								X	
Education and counseling of patients with (or at risk for) lymphedema									
Advise the patient in a general way about the nature of the condition and expectations with the plan of care. Incorporate a basic understanding of precautionary strategies.			X			X			
Counsel patients on obesity and its impact on lymphedema. Emphasize importance of physical activity and weight management.			X		X				
Discuss impact of comorbidities which may mimic or exacerbate lymphedema, and identify which health care providers can help them optimize these issues.			X			X	X		
Discuss concurrent neurologic or musculoskeletal impairments, and management options.			X			X			
Provide detailed patient guidance, incorporating possible backup treatment options, impact on lifestyle or finances (especially in setting of health disparities), prognostic and other and long range considerations. Incorporate a nuanced perspective of precautionary strategies. Evaluate and discuss impact on function of the underlying condition and treatment. Be able to describe in detail what will likely be happening in any treatments that are ordered. Recognize when additional resources may be needed to help with coping or social factors.			X					X	

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CONTENT DOMAIN: GLOBAL IMPAIRMENT/SYMPTOM SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
CANCER RELATED FATIGUE									
History									
Obtain subjective report from the patient.		X		X					
Review medical history and identify risk factors for fatigue in the setting of cancer, such as cancer treatment, advanced/metastatic disease, sarcopenia.		X			X				
Review medical history and identify associated medical comorbidities, i.e., endocrine/metabolic disorders such as thyroid and adrenal; anemia, sleep disturbance (insomnia, sleep apnea), pain, psychological changes (depression, anxiety, stress), infection, cardiac (congestive heart failure, atrial fibrillation), dehydration, nutritional deficiencies, deconditioning, medication side effects.	X					X			
Predict expected or possible fatigue effects related to disease (localization, extensiveness).	X						X		
Predict expected or possible fatigue effects related to treatment (chemotherapy, radiation, surgery).	X						X		
Obtain history of physical performance (physical weakness or tiredness).	X			X					
Inquire about mood.	X			X					
Inquire about motivation (lack of initiative).	X			X					
Inquire about cognitive aspects of fatigue (mental fatigue with cognitively demanding tasks, slowing of thought processes, distraction, memory deficits).	X			X					
Inquire about local muscle endurance.		X			X				
Physical Examination									
Perform neurologic examination (see Mobility, Neuromuscular sections), including assessment of motor function and low threshold to assess cognitive function.		X		X					
Obtain vital signs.		X		X					
Evaluate gait and balance.		X		X					
Assess cardiovascular and pulmonary status.		X		X					
Incorporate a standardized objective measure, such as grip strength, a timed walk test, timed up and go (TUG), 5 times sit to stand. See Mobility section.		X					X		
Medical Knowledge									
Define clinical characteristics of fatigue.	X				X				
Describe characteristics of central vs physical/peripheral fatigue.	X					X			
Discuss the differential diagnosis of fatigue in the cancer patient.	X						S		
Diagnostics									
Employ a standardized fatigue scale, such as visual analog scale (VAS), PROMIS Fatigue, EORTC QLQ Fatigue, Fatigue Severity Scale, Fatigue Impact Scale, and others.		X				X	X		
Request pertinent laboratory data related to metabolic or nutritional status.		X			X				
Obtain cardio/respiratory measures as indicated (pulmonary function studies, cardiopulmonary exercise testing).		X							X

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CONTENT DOMAIN: GLOBAL IMPAIRMENT/SYMPTOM SPECIFIC				CORE			SPECIALIZED		
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	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Management									
Incorporate aerobic and anaerobic exercise.	X			X					
Evaluate for pharmacological treatment, i.e., methylphenidate, modafanil, steroids, antidepressants.	X				X				
Treat and/or refer for treatment of comorbid conditions.	X				X				
Address cognitive and psychological features.	X			X					
BONE HEALTH STRATEGIES									
History									
Recognize clinical contexts in which patients are at risk for clinically significant bone loss (hypogonadism, glucocorticoid use, alcoholism, Vit D deficiency, rapid weight loss, frailty, tobacco use, high caffeine intake).	X				X				
Low dietary calcium and Vitamin D.	X			X					
Rheumatoid arthritis.	X				X				
Medications: glucocorticoids, antiepileptics, immunosuppressive agents, long-term heparin, total parenteral nutrition, cytotoxic drugs, proton pump inhibitors, medications to induce hypogonadal states (aromatase inhibitors, tamoxifen, androgen deprivation therapy in prostate cancer).	X				X				
Family and reproductive history.									
Evaluate for medications or clinical comorbidities (such as underlying neurologic, musculoskeletal or cardiovascular conditions) that may be contributing to fall risk.									
Physical Examination									
Obtain vital signs, including orthostatics in high fall risk individuals.		X		X					
Evaluate strength.		X		X					
Measure range of motion especially spine, hips.		X		X					
Analyze posture, observe for kyphosis or kyphoscoliosis.		X		X					
Evaluate gait, balance and observe for signs of frailty such as slow pace.		X		X					
Assess fall risk.		X		X					
Perform a formal fall risk assessment (see Mobility).		X				X			
Medical Knowledge									
Demonstrate knowledge of anatomy and structures most vulnerable to clinically significant osteopenia and osteoporosis (i.e., hips, spine).	X			X					
Describe the physiology process of bone remodeling, including bone resorption and formation, calcium deposition and and time course factors.	X			X					
Summarize typical bone mass over time, including gender differences (“accelerated phase”).	X			X					

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CONTENT DOMAIN: GLOBAL IMPAIRMENT/SYMPTOM SPECIFIC				CORE			SPECIALIZED		
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	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Describe the concept of bone mineral density (mass of mineral per volume of bone), peak bone mass minus net amount of bone loss over time.	X			X					
Define osteopenia.	X			X					
Define osteoporosis.	X			X					
Oncology-specific bone loss:									
Bone loss associated with cancer therapies: AI therapy, BMT, Androgen deprivation therapy, AI + gonadotropin-releasing hormone agonist, ovarian failure secondary to chemotherapy, glucocorticoid use.	X							X	
Recognize side effects of antiresorptive agents: osteonecrosis of the jaw, hip fracture with chronic use, arthralgia with Zometa.	X						X		
Breast Cancer: chemotherapy induced ovarian failure, aromatase inhibitor treatment.	X							X	
Thyroid cancer: hyperthyroidism, iatrogenic thyroid-stimulating hormone (TSH) suppression.	X							X	
Prostate Cancer: gonadotropin-releasing hormone agonists, metastatic disease.	X							X	
Diagnostics									
Lab testing: serum 25-hydroxycitamin D (25-OHD), parathyroid hormone, glomerular filtration rate, 24-hour calcium, thyroid studies, etc.	X							X	
Imaging: Dual-energy x-ray absorptiometry (DXA).	X				X				
T-score/Z-score: WHO definition of osteoporotic bone mineral density.	X				X				
Classify severity (normal, osteopenia, osteoporosis).	X				X				
Monitor response to treatment.	X				X				
Management									
Provide guidance on optimizing exercise and safe physical activity.			X			X			
Implement and educate the patient in fall prevention measures.			X		X				
Supplement management (Calcium/Vitamin D).		X		X					
Formulate plan for medication management (including possibly by referral to another specialist)--pharmacologic treatment (bisphosphonates, IgG2 monoclonal antibody (denosumab), selective estrogen receptor modulator (raloxifene), recombinant parathyroid hormone (teriparatide), human parathyroid hormone-related peptide (abaloparatide).	X	X							X
Address limited mobility and independence: chronic pain, kyphoscoliosis.	X			X					
Prescribe physical therapy for instruction in weight-bearing and resistance exercises, balance training, fall prevention, postural retraining, body mechanics.		X			X				
Evaluate need for bracing, and bracing options.		X				X			
Perform nutrition consults in cases of weight loss for improvement of caloric intake.	X			X					

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American Academy of Physical Medicine and Rehabilitation

CONTENT DOMAIN: GLOBAL IMPAIRMENT/SYMPTOM SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
PAIN & SYMPTOM MANAGEMENT									
History									
Perform a general pain history in the setting of cancer.		X		X					
Gather information on pain duration, characteristics, aggravating and alleviating factors.		X		X					
Review medical history as it pertains to pain symptoms, including change in symptom pattern/intensity over time, previous diagnostic testing, previous medications trialed, and other treatment modalities already trialed.		X		X					
Identify concerning symptoms that may point to new cancer, cancer recurrence, or worsening tumor burden.		X				X			
Incorporate knowledge of the various pain types and characteristics into history-taking, i.e., somatic, visceral, nociceptive musculoskeletal, neuropathic.		X		X					
Evaluate trajectory and timing characteristics of pain, ie acute, constant vs intermittent, incident, acute on chronic, chronic.									
Examine for associated symptoms (motor, sensory, bowel, bladder, cognitive or visual changes, nausea, dizziness, etc.).		X		X					
Examine for symptoms of central sensitization in the setting of chronic pain.		X			X				
Obtain a visual analog pain score.		X		X					
Employ a formal brief screening tool for self-reported pain evaluation.		X				X			
Discuss impact of pain on daily function with patient/caregiver.			X						
Physical Examination									
Obtain vital signs.		X		X					
Target examination to the painful region.		X		X					
Inspection-- postural changes or deformity, atrophy, asymmetry, abnormal skin characteristics (rash, lesion, ulceration, color/temperature change, trophic changes, hair loss), swelling/effusion.		X		X					
Palpation (tenderness, guarding, mass/adenopathy).		X		X					
Range of motion.		X		X					
Special tests for localized pain, as for spine, knee, shoulder, etc.		X			X				
Strength.		X		X					
Sensation.		X		X					
Reflexes.		X		X					
Gait and balance.		X		X					
Gauge cognitive status, such as ability to process information and employ strategies.		X			X				
Gauge psychological status, such as presence of anxiety, mood, coping concerns.		X			X				

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American Academy of Physical Medicine and Rehabilitation

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				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Medical Knowledge									
Pain									
Define nociceptive, neuropathic, somatic and visceral pain.	X				X				
Compare and contrast characteristics of benign versus malignant pain.	X						X		
Understand and utilize the World Health Organization (WHO) Analgesic Ladder, including adjuvants (AEDs, SNRIs, TCAs, steroids, physical modalities, landmark-guided injections), non-opioid analgesics, weak opioids, strong opioids & interventional pain procedures.	X					X	X		
Discuss possible medication options for neuropathic pain, such as antiepileptic and related membrane stabilizer agents, serotonin norepinephrine reuptake inhibitors, tricyclics and topical agents.	X				X				
Discuss possible medication options for bony pain, such as nonsteroidal antiinflammatory agents, bisphosphonates, and calcitonin.	X					X	X		
Describe the role of injections in pain management for the cancer patient and survivor. (Also see "Procedures" section.)	X					X	X		
Outline indications for referral for interventional pain care including pump or stimulator implantation. (Also see "Procedures" section.)	X							X	
Describe clinical concepts particular to opioid management: naivete/tolerance, dependence, withdrawal, pseudo-addiction, addiction.	X					X			
Express opioid abuse risk stratification, risk mitigation and management in the setting cancer pain management.	X						X		
Recognize clinical contexts requiring opioid redosing/rotation, e.g., new/worsened renal/hepatic insufficiency, and/or opioid toxicity, e.g., myoclonus, delirium (cognitive impairment, hallucinations, agitation/somnolence), opioid-induced hyperalgesia, seizures, etc.		X				X	X		
Recall and utilize opioid equianalgesic conversion factors and incomplete cross-tolerance to calcuate appropriate/safe dosing for opioid rotation.	X					X			
Explain methadone selection considerations, e.g., opioid tolerant, neuropathic/bone pain, new/worsened renal insufficiency/failure, opioid toxicity on high-dose conventional opioids & the need for expertise to manage methadone.	X								X
Describe unique pharmocology/pharmacokinetics of methadone, e.g., non-linear opioid equianalgesia, long half-life, with respect to rotation/intitiation/titration and the need for expertise to manage methadone.	X								X
Summarize methadone screening/monitoring considerations for initiation/continuation of methadone, e.g., neuropathic/bone pain/opioid toxicity on high-dose conventional opioids, QT-prolongation, hepatic metabolism, drug-drug interactions and the need for expertise to manage methadone.	X								X
Nausea									
Describe physiological stimuli giving rise to nausea including visceral, vestibular and chemoreceptor trigger zone (i.e., bloodstream chemicals and toxins) inputs, and their mediating neurotransmitters, i.e., serotonin/dopamine, histamine/acetylcholine, and serotonin/dopamine, respectively.	X							X	
Describe mediating factors in nausea such as central pathways (especially medial prefrontal cortex), autonomic activity, and hormonal inputs.	X							X	
Outline possible work-up of nausea, including laboratory evaluation and/or imaging.	X					X		X	

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American Academy of Physical Medicine and Rehabilitation

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	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Discuss medication treatment options for nausea, and possible side effects, including 5-HT3 antagonists, phenothiazines, benzamides, cannabinoids, antihistamines, anticholinergics, corticosteroids, and benzodiazepines.	X							X	
Explain the difference between antiemetic and prokinetic agents.	X					X			
Describe possible differences in management of chronic versus acute nausea.	X							X	
Dyspnea									
Identify mechanisms of dyspnea and their implications. Often multifactorial.	X			X					
Identify underlying physiologic causes of dyspnea, including noxious, neuropathic, visceral, pleuritic, and psychological.	X					X	X		
Diagnostics		X							
Obtain appropriate diagnostic imaging when indicated.		X			X				
Obtain electrodiagnostic testing when indicated.		X			X				
Obtain appropriate laboratory data.		X			X				
Employ a formal brief screening tool for depression, either routinely or with low threshold.		X				X			
Management									
Discuss various treatment options for pain with the patient.			X			X	X		
Prescribe non-opioid analgesics and adjuvant medications.		X			X				
Prescribe physical or occupational therapy for exercise, manual treatment, and other physical modalities.		X			X				
Perform or evaluate for procedural management of pain (see separate "Procedures" section).		X			X				
Assess for other specialized manual treatment approaches, such as osteopathic modalities or massage therapies.		X				X			
Evaluate for opioid management, including consideration of mild versus strong opioids.		X				X	X		
Initiate opioid management including selection, titration and rotation, including methadone. Recognition and management of opioid adverse effects/toxicities, e.g., opioid-induced constipation, myoclonic jerks, delirium, and opioid-induced hyperalgesia.		X				X	X		
Initiate controlled substance risk mitigation plan.		X			X				
Discuss opioid risks and mitigation with patient and caregiver.			X		X				
Refer for psychotherapy for pain coping strategies.		X			X				
Prescribe appropriate antinausea, antiemetic agent.		X				X	X		
For nausea with an inflammatory component (e.g., malignant GI obstruction, leptomeningeal disease) include corticosteroids.						X	X		
For dyspnea, investigate and correct impairments of oxygenation and ventilation, anemia, etc.		X		X					
Prescribe appropriate medication for symptomatic management of non-hypoxemic/non-hypercapneic dyspnea (e.g., low-dose opioids are safe and effective, benzodiazepines are not recommended).		X				X	X		
Employ adjunctive strategies for non-hypoxemic/non-hypercapneic dyspnea, such as open doors/windows, open curtains, fans, etc.		X			X				

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American Academy of Physical Medicine and Rehabilitation

CONTENT DOMAIN: GLOBAL IMPAIRMENT/SYMPTOM SPECIFIC				CORE			SPECIALIZED		
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	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
BONE METASTASES - SEE BONE HEALTH									
History									
Inquire about localized pain at bones or joints.	X				X				
Identify bone health concerns based on patient's available imaging, such as known bony metastatic disease or underlying osteopenia or osteoporosis.		X			X				
Inquire about history of prior pathological or osteoporotic fractures.		X			X				
Inquire about history of falls.		X			X				
Physical Examination									
Perform targeted examination at site of bone disease.									
Examination as per "mobility" section with special attention to fall risk.		X		X					
Medical Knowledge									
Identify risk factors for pathologic fractures (lytic versus blastic, pain, size, cortical bone involvement).	X				X				
Describe possible physiologic mechanisms of bone metastasis.	X							X	
Identify tumor types with high risk of bone metastasis.	X					X	X		
Discuss possible treatment options for bone metastasis (i.e., radiation, surgery, chemotherapy, bone protection strategies).	X						X		
Diagnostics									
If not already done, obtain appropriate imaging to evaluate for impending pathological fracture.		X			X	X	X		
Risk stratify bony metastatic lesions, including incorporating scoring tools for impending pathological fracture. Differentiate criteria for spine management (3 column, Spine Instability Neoplastic Score or SINS, Neurologic/Oncologic/Mechanical/Systemic or NOMS) vs limb (i.e., Mirels, etc.) evaluation.		X					X		
Management									
Discuss fracture risk with patient and treatment team.			X	X					
Refer for orthopedic surgical consideration when appropriate.			X			X	X		
Establish rehabilitation plan for mobility, fracture prevention.		X			X	X			
Prescribe appropriate bracing or gait aids.		X			X				
Prescribe (and counsel patients regarding) appropriate activity/exercise and body mechanics for bone health and bone protection in setting of iatrogenic osteopenia/osteoporosis and bone metastasis.		X					X		
Define clinical indications, risks and benefits of radiation and bisphosphonate treatment of bone metastases. Recall fracture risk of stereotactic body radiation therapy (SBRT) versus traditional external beam radiation therapy (EBRT) - 50% lifetime risk with SBRT.	X							X	

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American Academy of Physical Medicine and Rehabilitation

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	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Recognize, work-up and manage of hypercalcemia of malignancy.		X						X	
Recognize, work up, risk stratify and manage of osteopenia/osteoporosis in the setting of steroids, estrogen/androgen deprivation treatments. See Bone Health Section.		X					X		
Manage malignant bone pain with adjuvants (AEDs/steroids), non-opioid analgesics, opioids including methadone.		X						X	
RADIATION FIBROSIS									
History									
Obtain history regarding onset of skin changes, range of motion limitations, or motor-sensory changes to the affected region.		X				X			
Review records for details of the radiation field and radiation dosing.		X				X			
Physical examination									
Examine skin for erythema, skin breakdown, thickening.		X		X					
Evaluate range of motion of the affected area.		X		X					
Examine for swelling of the affected area, especially if lymphatic bed has received radiation.		X		X					
Assess motor-sensory changes related to the radiated area.		X		X					
When clinically pertinent to the bodily region of radiation exposure, evaluate for the following impairments:		X							
myelopathy		X					X		
radiculopathy		X		X					
plexopathy		X					X		
myopathy		X					X		
dropped head syndrome		X					X		
shoulder dysfunction		X				X			
cervical dystonia		X				X			
trismus		X				X			
Medical knowledge									
Recognize radiation fibrosis as a major impairment seen in cancer patients.	X					X			
Identify common radiation fields and dosing (see General Education).	X						X		
Describe the pathophysiology of radiation fibrosis (see General Education).	X						X		
Demonstrate the ability to review common imaging findings in radiation fibrosis.		X						X	
Interpret physical exam findings in radiation fibrosis.		X					X		

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CONTENT DOMAIN: GLOBAL IMPAIRMENT/SYMPTOM SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Diagnostics									
When medically appropriate, obtain imaging to assure the changes are not related to tumor or other structural cause.		X				X			
When medically appropriate, obtain electrodiagnostic studies to clarify peripheral nerve lesions in terms of diagnosis and severity.		X				X			
Management									
Prescribe exercise and physical modalities that may be employed for radiation fibrosis.		X				X	X		
For individuals with history of high dose radiation to joints or soft tissues, counsel on long-term need for daily range of motion exercises to the affected area.									
Describe possible skin care options for radiation changes.	X						X		
Outline evidence for the role of medications for radiation fibrosis (i.e., pentoxifylline, Vitamin E).		X					X		
Identify indications for advanced measures such as hyperbaric therapy and surgery/neurolysis.		X						X	
Perform injections with botulinum toxin to treat radiation fibrosis syndrome.		X						X	X
PSYCHOLOGICAL SYMPTOMS									
History									
Inquire about mood and coping.		X		X					
Inquire about cognition, fatigue, pain, sleep, life stressors.									
Review medical record for any psychiatric history and any psychoactive medications prescribed.		X		X					
Incorporate more in-depth questioning as appropriate especially for serious concerns.		X			X				
Physical examination									
Observe affect, eye contact, speech and movement patterns.		X		X					
Medical knowledge									
Identify psychological complications seen in the cancer patient, such as depression, anxiety, fear of recurrence, posttraumatic stress.		X				X			
Distinguish specific cancers and/or cancer treatments which may have psychological changes as an effect.	X	X						X	
Recognize role of other factors such as physical symptoms (fatigue, pain), body image concerns, underlying personality, social supports/stressors, and cognition which may be affecting psychological coping and function.		X				X			
Demonstrate awareness of guidelines (NCCN, etc) for assessment and management of psychological effects of cancer.	X						X		
Recognize impact of psychological factors in the assessment and management of pain.									

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CONTENT DOMAIN: GLOBAL IMPAIRMENT/SYMPTOM SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Diagnostics									
Demonstrate awareness of screening tools for distress, depression or anxiety.	X	X				X			
Management									
Demonstrate empathy and an attitude of support and hope.			X		X				
When appropriate, prescribe medication for depression or anxiety. Be aware of effects which may be either advantageous (pain control, sedation/activation) or disadvantageous (nausea, sexual dysfunction, sedation) in the context of cancer treatment. In patients taking tamoxifen, be aware of controversy surrounding agents with effect on CYP2D6 activity, consider favoring agents with minimal/no CYP2D6 effect (citalopram, venlafaxine, escitalopram, sertraline, fluvoxamine) and possibly avoid agents with such activity (paroxetine, fluoxetine).		X				X			
Demonstrate awareness of nonpharmacologic strategies for coping such as mindfulness, meditation, relaxation techniques, support groups, and direct patients to appropriate resources.			X			X			
Counsel patients on benefits of exercise in managing psychological symptoms.			X			X			
Refer to mental health providers (psychology, psychiatry or other licensed providers) when appropriate.			X		X				

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CONTENT DOMAIN: CANCER-DIAGNOSIS SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
BREAST CANCER - ALL CRM PHYSIATRISTS									
History									
Demonstrate ability to record a comprehensive treatment history including diagnosis, staging, presence of metastatic disease, surgical history including reconstruction and lymph node dissection, chemotherapy, radiation therapy, HER2 targeted therapy, and hormone therapy.		X					X		
Physical Exam									
Perform a breast/chest wall exam including palpation for common etiology of postmastectomy pain.		X					X		
Perform a shoulder exam including palpation, range of motion, and special testing for common shoulder pathology.		X			X				
Demonstrate an axillary exam (cording, fibrosis, lymphadenopathy, seroma).		X					X		
Demonstrate an upper extremity exam including ROM, strength, sensation, reflexes, edema, skin changes.		X			X				
Medical Knowledge									
Describe pathology in breast cancer (including stage, grade, TNM, estrogen status, HER2) including prognostic implications for different pathologies.	X						X		
Review breast surgeries including breast conservation, mastectomy, sentinel lymph node biopsy, lymph node dissection.	X						X		
Describe types of breast reconstructions, both implant and autologous (latissimus, TRAM, DIEP, SGAP) and functional implications of each.	X						X		
Discuss common functional side effects of breast oncologic and plastic surgery (mastectomy vs lumpectomy, lymph node dissection).	X						X		
List commonly used chemotherapeutic agents (taxanes, adriamycin, cytoxan) in breast cancer and their common adverse effects.	X	X					X		
Describe the mechanism of action of hormone therapy agents in breast cancer and the proposed etiologies of common adverse effects.	X						X		
Describe the mechanism of action of HER2 targeted therapy in breast cancer and the proposed etiologies of common adverse effects.	X								
Characterize radiation fields (whole breast, chest wall, axillary) and dosing used in breast cancer and its common adverse effects.	X	X					X		
Relate psychological sequelae of postmastectomy pain including body image concerns.									
Describe evidence basis for specific exercises for breast cancer rehabilitation and prehabilitation.	X	X					X		
Describe evidence basis for generalized exercise in primary and secondary prevention in breast cancer.								X	
Diagnosis Specific Impairments									
Breast Cancer-related lymphedema. See "Impairments/Lymphedema" section									
Particular attention to lymphedema risk factors, measurement, role of diagnostic testing, therapies, possible precautions, exercise, weight management, recognition of concerning clinical situations.									

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CONTENT DOMAIN: CANCER-DIAGNOSIS SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Postmastectomy pain syndrome									
History (postmastectomy pain syndrome)									
Demonstrate an appropriate history in patients with postmastectomy pain with special attention to cancer treatment history, quality, severity, distribution of pain, timing of pain in relation to cancer treatments, and presence of red flags which may herald signs of metastatic disease, cancer recurrence or infection.		X				X			
Medical Knowledge (Postmastectomy pain syndrome)									
Describe the clinical presentation of intercostobrachial neuralgia.	X	X					X		
Discuss the clinical presentation of neurogenic thoracic outlet syndrome.									
Identify the clinical presentation of incisional pain.	X	X			X				
Characterize the clinical presentation of neuroma.	X	X			X				
Describe the clinical presentation of axillary web syndrome.	X	X					X		
Establish the clinical presentation of chest wall musculosketal pain including spasm (especially in setting of breast reconstruction).	X	X				X			
Discuss the clinical presentation of phantom pain.	X	X			X				
Describe the clinical presentation of shoulder pain in breast cancer survivors.	X	X		X					
Physical Exam.									
Demonstrate a chest wall exam including skin exam including incisions, palpation, sensation, evaluation for edema, fibrosis, seroma.		X					X		
Demonstrate an axillary exam including lymphadenopathy, cording assessment, sensation.		X					X		
Assessment/Diagnostics (postmastectomy pain syndrome)									
Interpret imaging of the shoulder and cervical spine.	X	X			X				
Describe indications for ordering imaging of the chest wall including evaluation for suspected metastatic disease.	X	X							X
Management (postmastectomy pain syndrome)									
Discuss indications and benefits of scar massage for suspected incisional pain and radiation fibrosis.	X						X		
Prescribe appropriate rehabilitation protocol for postmastectomy chest wall pain based on type of breast surgery/reconstruction (rehabilitation contraindications in setting of different types of reconstruction, specific rehabilitation exercises/protocols for different autologous reconstructions).		X				X			
Prescribe appropriate rehabilitation protocol for postmastectomy shoulder pain.		X		X					
Prescribe appropriate medications for postmastectomy pain.		X				X			
Demonstrate proficiency in performing botulinum toxin injections for chest wall pain.		X							X

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CONTENT DOMAIN: CANCER-DIAGNOSIS SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Demonstrate proficiency in performing nerve blocks for chest wall pain (serratus plane, intercostal nerve block, erector spinae block).		X							X
Demonstrate proficiency in performing scapuluthoracic bursa injection.								X	
Demonstrate proficiency in performing glenohumeral injection.		X			X				
Demonstrate proficiency in performing subacromial injection.		X		X					
Demonstrate proficiency in performing percutaneous needle tenotomy.		X							X
Demonstrate proficiency in performing intercostobrachial nerve block.		X							X
Demonstrate proficiency in performing neuroma injections.		X							X
Recognize and manage effects of central pain in post breast surgery pain syndrome.									
Aromatase inhibitor induced musculoskeletal symptoms (AIMSS)									
History (AIMSS)									
Obtain a history for a patient presenting with AIMSS including time course of symptoms, distribution, history of rheumatologic/musculoskeletal conditions.		X					X		
Physical Examination (AIMSS)									
Examine for joint deformities, effusions, including those that could be associated with other rheumatologic conditions.		X			X				
Assess for common musculoskeletal complaints in AIMSS such as DeQuervain's, carpal tunnel syndrome, trigger fingers.		X			X				
Assessment/Diagnostics (AIMSS)									
Identify appropriate lab tests that may be ordered to exclude other rheumatologic conditions.	X							X	
Order and interpret imaging/electrodiagnostic studies as appropriate, depending on symptoms of AIMSS.									
Management (AIMSS)									
Describe and prescribe an appropriate rehabilitation protocol for patients with AIMSS.	X	X						X	
Discuss the evidence basis for exercise in AIMSS.	X							X	
Demonstrate the prescribing of exercise in AIMSS.		X						X	
Discuss the evidence basis for and prescribe pharmacologic agents in AIMSS.	X							X	
Discuss the evidence basis for and prescribe vitamins/supplements in AIMSS.	X							X	
Discuss the evidence basis for acupuncture in AIMSS.	X							X	
Describe the role of therapeutic injections in the management of AIMSS.		X			X				

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CONTENT DOMAIN: CANCER-DIAGNOSIS SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Functional outcome measures in AIMSS: Demonstrate understanding of the appropriate use of the measures below	X								X
Quick-DASH (Disabilities of Arm, Shoulder and Hand)	X							X	
Australian/Canadian Osteoarthritis Hand Index (AUSCAN)	X							X	
Western Ontario and McMaster Osteoarthritis Index (WOMAC)	X							X	
Breast Cancer Prevention Trial-Musculoskeletal Symptom (BCPT-MS)	X							X	
GI/GU/GYN - ALL CRM PHYSIATRISTS									
History									
Inquire about changes in bladder function, including frequency, incontinence, pain, neurogenic changes.		X			X				
Inquire about changes in bowel function, including presence of colostomy, incontinence, pain due to proctitis.		X			X				
Inquire about changes in sexual function, including due to anatomical changes from surgery, hormonal effects of treatment.		X			X				
Inquire about presence and characteristics of abdominopelvic or back pain due to GI/GU/GYN pathology, including location, aggravating and relieving factors.		X			X				
Inquire about presence and location of swelling (lymphedema), i.e., lower limbs, scrotum/perineum, or abdomen.		X				X			
For colorectal cancer patients, identify if stoma is present.		X		X					
Identify if any tubes or stents are present (especially for upper GI cancers and upper GU cancers).		X		X					
Examine for significant change in weight (loss or gain), or nutritional barriers (nausea, anorexia, dysphagia, odynophagia).		X		X					
Read surgical report with focus on anatomy, surgical approach, biopsy/resection of lymph nodes, structures involved/resected, revision surgeries (ie anastamoses, neobladder, ostomy) and identify impairments that may result as a result of surgical intervention.	X				X				
Name additional treatments including chemotherapy and radiation therapy, and impairments that may occur as a result of these therapies.		X			X				
List anatomical structures that may be exposed to radiation beam.	X			X					
Evaluate for impact of bowel or bladder symptoms on daily living including ADL's, IADL's, work, leisure.		X			X				
Physical examination									
Obtain weight / body mass index.		X		X					
Perform skin assessment identifying scarring from surgical intervention or radiation therapy, signs/symptoms of infection.		X		X					
Perform pelvic/genital examination, including assessment of skin, wounds, scar tissue, anatomic abnormalities, bimanual examination, signs/symptoms of infection.		X						X	
Perform abdominal palpation for scar tissue, anatomic changes, swelling, distention; evaluate stoma if present.		X			X				

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CONTENT DOMAIN: CANCER-DIAGNOSIS SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Perform rectal examination, including assessment of skin, wounds, scar tissue, anatomic abnormalities, palpable masses, hemorrhoids, bleeding, rectal tone.		X			X				
Perform neurologic examination to determine presence of sensory and motor impairments.		X		X					
Perform examination of extremities and abdominopelvic region to identify presence of edema, edema characteristics (pitting vs non-pitting), Stemmer sign, signs/symptoms of infection.		X			X				
Medical knowledge									
Analyze regional anatomy to identify potential impairments that may occur.	X				X				
Describe the evidence for prehabilitation in gastrointestinal malignancies.	X						X		
Identify common impairments associated with colorectal cancers .	X					X			
Discuss impairments associated with esophageal and gastric malignancies.	X						X		
Recall impairments associated with pancreatic cancer.	X						X		
Identify impairments associated with renal cell and bladder cancers, including characteristics of metastatic spread, and, in the case of renal cell, potential for paraneoplastic polyneuropathy.	X						X		
Relate impairments associated with prostate cancer, including pelvic-floor related sequelae, and systemic concerns (effects of antiandrogen therapies, characteristics of metastatic spread).	X					X	X		
Explain potential sequelae of testicular cancer.	X						X		
Summarize sequelae of endometrial, cervical and vulvar cancers, including pelvic floor-related sequelae, and lymphedema.	X						X		
Summarize sequelae of ovarian cancer, including possible patterns of metastatic spread, and paraneoplastic phenomena.	X						X		
Describe common surgical (and other procedures) approaches for GI, GU and Gyn malignancies.	X								
Recognize chemotherapeutics used in treatment and side effect profiles.	X								
Discuss radiation therapy approaches (structures involved, regional anatomy which may be exposed to radiation beam, scar tissue formation).	X								
Outline complications which may occur after radiation therapy including skin involvement, scar tissue formation, impact on digestive tract, bowel and bladder.	X								
Assessment/Diagnostics									
Determine appropriate imaging to evaluate symptoms including pain, bowel changes, urinary symptoms, edema, etc.		X			X				
Identify measurement strategies for lymphedema (see Lymphedema section).		X				X			
Obtain electrodiagnostic testing to evaluate neuropathic symptoms, including plexopathy, and interpret results.		X			X				
Order urodynamic testing when appropriate.		X			X				

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CONTENT DOMAIN: CANCER-DIAGNOSIS SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Management	X				X				
Lymphedema-- See Lymphedema section									
Dysphagia (also see Head and Neck section)									
Discuss role of speech therapy in evaluation of dysphagia.	X			X					
State various imaging modalities which can be used to evaluate dysphagia including Modified Barium Swallow and Flexible Endoscopic Evaluation of Swallowing and Sensory testing.	X				X				
Recognize medications and surgical interventions incorporated in management of dysphagia.	X				X				
State various diet types based on swallowing assessment.	X				X				
Initiate therapy for weakness, sensory impairments, oromotor impairments, postural impairments which may impact swallowing.	X			X					
Identify nutritional needs which may be impacted by swallowing.	X				X				
Skin									
Devise management strategies for skin hygiene, wound treatment.	X				X				
Initiate therapy for scar tissue management.	X				X				
Treat infection.	X			X					
Bladder/Bowel dysfunction/ incontinence									
Discuss pattern of dysfunction-overactivity, overflow incontinence.	X				X				
Discuss/initiate bowel/bladder program including medication, pelvic floor therapy.	X				X				
Identify role and timing for referral to GU/GI for management.	X			X					
Recognize surgical interventions incorporated in management.	X				X				
Manage infection.	X			X					
Incorporate imaging including X-ray, US, CT in management.	X			X					
Interpret urodynamic testing.		X							X
Counsel patients on importance of adherence to bowel/bladder programs.			X		X				
Discuss sexual health concerns with patient, empathize with patient.		X	X			X	X		
Pelvic floor									
Integrate pelvic floor therapy into management plan.		X					X		
Identify contraindications to pelvic floor therapy and modalities.	X						X		
Discuss referral for interventional procedures such as peripheral nerve blocks, sympathetic blocks, pelvic floor trigger point.	X					X			
Perform interventional procedures such as peripheral nerve blocks, sympathetic blocks, pelvic floor trigger point.		X							X

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CONTENT DOMAIN: CANCER-DIAGNOSIS SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Sexual Health. Also see "Sexuality" section.									
Provide education and counseling on sexual effects of treatment and possible strategies.		X				X	X		
Identify and refer to providers for management of sexual health concerns.	X				X				
Neurologic impairments									
Characterize underlying etiology of neurologic sequelae seen in GI/GU/gyn cancers and cancer treatments including surgery, radiation therapy, chemotherapy.	X			X					
Obtain appropriate diagnostic testing such as EMG, imaging.									
Bony Metastatic Disease (prostate, renal cell)									
See bone metastasis section.									
Nutrition									
See Nutrition section.									
Reconditioning, obesity management									
See Exercise, Mobility sections.									
Identify precautions for exercise after abdominal surgery or when a stoma is present.									
NEUROLOGIC TUMORS ALL CRM PHYSIATRISTS									
All Neurologic Tumors Also see "Mobility" and "Neuromuscular" sections within "Global Impairments"									
History									
Record information on neurologic symptoms and timing of onset.		X		X					
Obtain information about functional impact of these symptoms.		X			X				
Assess whether tumor is benign or malignant.		X		X					
Conclude whether malignant tumor is primary or metastatic.		X		X					
Identify type of tumor and grade.		X				X	X		
Characterize neurologic structures involved, including review of imaging data for area of brain or spinal cord involved.		X							
Read surgical report with focus on structures resected and area of the brain or spinal cord involved.		X			X				
Identify type of radiation used in management and structures exposed to radiation field.		X				X	X		
Define systemic treatments underway or planned.		X				X	X		

Cancer Rehabilitation Medicine Curriculum

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CONTENT DOMAIN: CANCER-DIAGNOSIS SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Physical exam									
Demonstrate technique for performing neurological examination, including manual muscle, sensory, and reflex testing.		X		X					
Describe and demonstrate technique for assessment of spasticity.		X		X					
Demonstrate technique for performing posture, coordination, balance and gait assessment.		X			X				
Utilize imaging findings to assist in targeting neurologic examination.		X			X				
Medical Knowledge									
Discuss epidemiology of neurological tumors and major subtypes including benign, primary malignant, and metastatic.	X				X				
Anticipate pattern(s) of clinical presentation based on tumor location and brain or spinal tracts involved.	X				X				
Explain the role of surgery in managing neurological tumors.	X					X			
Summarize the role of radiation in managing neurological tumors.	X					X	X		
Outline the role of systemic therapies in managing neurological tumors.	X							X	
Identify possible early and late manifestations in relation to radiation treatment.	X					X	X		
Review systemic treatments (chemotherapy, immunotherapy) used in management of brain and spinal cord tumors.	X					X	X		
List side effects of systemic treatments.									
Corticosteroids (see Neuromuscular section)				X					
Chemotherapy (see Neuromuscular section)	X					X	X		
Management									
Identify expected inpatient rehabilitation outcomes of patients with brain tumor or neoplastic spinal cord injury (i.e., similar FIM progression as corresponding non-neoplastic patients, similar discharge to community rates, often shorter length of stay, higher rate of transfer back to acute care), and incorporate this knowledge into decision-making for acute rehabilitation level of care.	X	X				X			
Assess patient's physical, cognitive and psychosocial needs, and review with patient/caregiver and team.			X		X				
In inpatient setting, maintain appropriate thromboembolic prophylaxis regimen, in conjunction with acute care recommendations as indicated.		X		X					
Evaluate and prescribe appropriate DME (wheelchair, assistive device, home equipment, bracing) for patient.		X		X					
Locate community resources for obtaining DME.		X				X			
Include required DME documentation into physician note.		X				X			
Write letter of medical necessity for DME.		X				X			
Initiate medication management for pain symptoms.		X			X				
Discuss evidence for neuromodulation in spasticity management.	X				X				

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CONTENT DOMAIN: CANCER-DIAGNOSIS SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Initiate oral medication management for spasticity.		X		X					
Initiate oral medication for other issues if needed (sleep, mood, cognition).		X			X				
Perform injections including botulinum toxin or phenol for spasticity.		X				X			
Evaluate for ITB trial.		X			X				
Evaluate for utilization of modalities including serial casting, electrical stimulation.		X				X			
Serve as a support to the patient, family and team, cultivating a culture of hope, providing education, and determining the appropriate context for critical discussions (i.e., physiatry versus other providers).		X				X	X		
Discuss role of social worker and case management.		X		X					
BRAIN TUMORS									
History (Brain Tumor)									
Inquire about possible associated issues including sleep disturbance, mood and coping changes, pain, bowel and bladder changes, fatigue, seizures.		X			X				
Match tumor type and grade based on WHO classification.	X							X	
Identify unique tumor characteristics such as O[6]-methylguanine-DNA methyltransferase (MGMT) and isocitrate dehydrogenase (IDH) status.	X								X
Physical Exam (Brain Tumor) (see Neuromuscular, Cognitive and Mobility sections)									
Demonstrate technique for evaluating cognition and communication.		X			X				
Demonstrate technique for evaluating coordination and movement patterns (including ataxia, spasticity).		X			X				
Evaluate craniotomy site if present.		X		X					
Brain Tumor Medical Knowledge									
Describe common clinical presenting features of brain tumor (ie headache, seizure, changes in cognition/ sensorium).	X					X			
Describe common motor impairments in association with location of lesion, ie ataxia, hemiparesis.	X			X					
Classify prognostic factors related to brain tumor, especially by tumor type, age implications, presenting features, and possible long term treatment effects.	X					X	X		
Discuss treatment modalities used to treat brain tumor, especially differences in radiation approaches (whole brain, conventional external beam, intensity modulated radiation therapy or IMRT, stereotactic radiosurgery, brachytherapy), and common chemotherapies (temozolamide, procarbazine, carmustine, lomustine).	X						X		
List potential adverse effects of radiation treatment, including early, early delayed, and delayed forms of encephalopathy, as well as long term effects of whole brain radiation.	X					X	X		

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CONTENT DOMAIN: CANCER-DIAGNOSIS SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Malignant primary brain tumor									
For malignant gliomas, identify differences in characteristics between glioblastoma (WHO grade 4), anaplastic astrocytoma (WHO grade 3), low grade astrocytoma (WHO grade 2) and pilocytic astrocytoma (WHO grade 1) with regard to incidence, tumor behavior, treatment, and prognosis.	X					X	X		
For other types of primary malignant brain tumor, including oligodentroglioma, primary CNS lymphoma, and medulloblastomy/embryonal/primitive neuroectodermal tumors, identify characteristics with regard to age, incidence, tumor location and behavior, treatment and prognosis.	X							X	
Define genetic and biomarker factors (such as MGMT promoter status as a favorable prognostic factor in glioblastoma) with regard to primary malignant brain tumors, and implications for response to treatment and prognosis.	X								X
Benign primary brain tumor									
Outline incidence, neuroanatomic predilections, clinical behavior/characteristics, and treatment strategies for benign brain tumor subtypes including meningioma, pituitary adenoma, acoustic neuroma/nerve sheath tumors, hemangioblastoma, ependymoma, craniopharyngioma, and epidermoid tumors. (For malignant nerve sheath tumors and chordoma, see Bone and Soft Tissue Tumors section.)	X					X	X		
Metastatic brain tumor									
Identify which primary tumor types most commonly metastasize to brain (breast, lung, melanoma, kidney, bladder).	X					X			
Describe purported mechanisms of metastatic disease spread to brain.	X					X	X		
Identify clinical situations in which excision is considered (i.e., single metastasis, the cancer otherwise controlled and lesion is the main factor impacting survival).	X						X		
Assessment/Diagnostics (Brain Tumor)									
Determine if additional imaging is needed, including imaging modality options, indication for contrast study.		X				X			
Management (Brain Tumor)									
Establish rehabilitation medicine plan including physical, occupational and speech therapies.		X		X					
Discuss effects on rehabilitation outcomes, if any, between different brain tumor presentations such as malignant vs benign tumor, primary versus metastatic tumor, first versus subsequent presentation to acute rehabilitation, concurrent radiation or not, and incorporate into acute rehabilitation decision-making and approach to care.	X	X				X			
In inpatient setting, maintain appropriate anticonvulsant regimen if indicated, in conjunction with neurosurgical or neurology recommendations.		X		X					
Demonstrate coordination of care with other specialists including neurology and neurosurgery.		X			X				
Establish bowel and bladder programs.									
Educate patient and/or family on precautions (seizure, incisional, falls).		X			X				
See "Cognitive" section within "Global Impairments".									

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CONTENT DOMAIN: CANCER-DIAGNOSIS SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
SPINAL TUMORS									
History (Spinal Tumors)									
Inquire about possible associated issues including sleep disturbance, mood and coping changes, pain, spasms, bowel and bladder changes, fatigue.		X			X				
Identify tumor based on location: extradural, intradural extramedullary, intradural intramedullary.	X					X	X		
Physical Examination (Spinal Tumors)									
Describe and demonstrate technique for performing rectal examination for sphincter function.		X		X					
Use rectal examination to determine if injury is complete or incomplete.		X			X				
Use manual muscle testing and sensory examination to determine a neurologic level of injury (i.e., ASIA).		X			X				
Describe and demonstrate skin assessment for pressure injuries, radiation skin changes, surgical incision sites.		X			X				
Utilize imaging findings (location of spinal involvement, anatomic structures involved, identification of radiation-related spinal cord changes) to optimize the motor-sensory examination.		X			X				
Medical Knowledge (Spinal Tumors)									
Describe common clinical presenting features of neoplastic spinal cord injury.	X					X			
Compare patterns of neurologic involvement neoplastic spinal cord injury (complete versus incomplete, paraplegic versus quadriplegic), and similarities and differences with non-neoplastic spine injury (i.e., traumatic, etc.).	X				X				
Identify which primary tumor types most commonly metastasize to the spine (i.e., breast, lung, prostate, renal, GI, thyroid).	X					X			
Review incidence, neuroanatomic predilections, clinical behavior/characteristics and treatment strategies for primary spinal or spinal cord tumor subtypes such as multiple myeloma, ependymoma, hemangioblastoma, schwannoma/neurofibroma. (For malignant nerve sheath tumors and chordoma, see Bone and Soft Tissue Tumors section.)	X					X	X		
Summarize prognostic factors related to neoplastic spinal cord injury, especially by tumor type, presenting features, and possible long term treatment effects.	X					X	X		
Describe common pathophysiologic/anatomic mechanisms of neoplastic spinal cord injury.	X					X	X		
Describe purported mechanisms of metastatic disease spread to the spine.	X					X	X		
Assessment/Diagnostics (Spinal Tumors)									
Identify risk situations for back pain (and any other associated symptoms) being of neoplastic origin, and obtain appropraite imaging.		X				X			
With other oncology specialists, incorporate a formal spinal stability or spine management paradigm, such as the spinal instability neoplastic score (SINS) or neurologic, oncologic, mechanical, and systemic (NOMS) framework.		X						X	
Order imaging such as renal/bladder US and abdominal x-ray/CT to evaluate bowel and bladder anatomy.	X					X			

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CONTENT DOMAIN: CANCER-DIAGNOSIS SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Management (Spinal Tumors)									
Establish rehabilitation medicine plan including physical, occupational therapies.		X		X					
Identify expected inpatient rehabilitation outcomes between neoplastic and nonneoplastic SCI (level, completeness, age, possible need for radiation), and incorporate into acute rehabilitation decision-making and approach to care.	X					X			
Demonstrate coordination of care with other specialists including neurology, neurosurgery, and/or orthopedics.		X			X				
Discuss evidence for functional electric stimulation in gait.	X				X				
Establish bowel and bladder programs.	X				X				
Treat urinary tract infections if needed.	X				X				
Treat pressure injuries.	X				X				
Educate patient on importance of bowel and bladder programs.		X	X		X				
Educate patient on spinal precautions.		X	X		X				
Educate patient on pressure injury prevention.		X	X		X				
Discuss sexual functioning with patient.		X	X			X		X	
Initiate management for sexual dysfunction.		X						X	
HEMATOLOGIC CANCERS - ALL CRM PHYSIATRISTS									
History									
Obtain information about clinical presentation and treatment course, including primary oncologic treatment modalities, and complications of treatment.		X				X			
Identify if the patient is cytopenic or has other evidence of immunosuppressed status.		X			X				
Inquire about signs and symptoms including fatigue, numbness, weakness, pain, skin changes, loss of joint motion.		X			X				
Inquire about stamina and activity tolerance.		X			X				
Physical exam /see Mobility and Neuromuscular sections									
Identify signs and symptoms of treatment related complications									
Cardiomyopathy (heart and lung auscultation, evaluate for shortness of breath, presence of edema).		X			X				
Chemotherapy-induced Peripheral Neuropathy (perform motor-sensory examination, balance).		X			X				
Osteoporosis (identify any kyphosis or postural deviations, frailty).		X			X				
Steroid myopathy (perform motor examination with attention to proximal/core muscle groups).		X			X				
GVHD - Acute, Chronic (identify any areas of skin thickening, fibrosis, open lesions; perform range of motion examination of joints).		X						X	
Evaluate gait and balance, transfers, posture (including dropped head) and other functional mobility.		X			X				

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CONTENT DOMAIN: CANCER-DIAGNOSIS SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Medical Knowledge									
Name types of hematologic cancers.	X				X				
List characteristics of the various forms of leukemia, including acute myelogenous leukemia (AML), acute lymphocytic leukemia (ALL), chronic myelogenous leukemia (CML), and chronic lymphocytic leukemia (CLL).	X						X		
Identify characteristics of lymphoma types includingHodgkin's snd Non-Hodgkin's.	X						X		
Identify characteristics of multiple myeloma.	X						X		
Recognize indications, toxicities, timing, and precautionary strategies related to common treatment approaches:									
Chemotherapy	X						X		
Stem Cell Transplant - Autologous, Allogenic	X							X	
CAR-T Therapy	X							X	
Radiation therapy	X						X		
Diagnosis-specific impairments									
Polyneuropathy. See Neuromuscular and Mobility sections.									
Corticosteroid myopathy. See Neuromuscular section.									
History (Corticosteroid myopathy)									
Recognize past, ongoing, and potential future use of corticosteroids.		X		X					
Physical exam (Corticosteroid myopathy)									
Identify the presence of proximal greater than distal weakness.		X		X					
Assessment (Corticosteroid myopathy)									
Evaluate possible alternative etiologies of muscle weakness. Consider electrodiagnostic study, laboratory evaluation, imaging and/or muscle biopsy if indicated.		X				X	X		
Management (Corticosteroid myopathy) –									
Reduce corticosteroids as able.		X				X	X		
Prescribe a strengthening program, considering that low intensity may be needed based on myopathic muscle and reduced tolerances.		X				X			
Prescribe assistive device and other DME if needed.		X			X				

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CONTENT DOMAIN: CANCER-DIAGNOSIS SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Graft versus Host Disease (GVHD), Acute and Chronic									
Evaluation (GVHD)	X				X				
Identify the timing of allogenic stem cell transplant.		X			X				
Differentiate between GVHD and other skin changes such as due to rheumatologic or dermatologic disorders, drug reaction, etc.		X				X	X		
Physical exam (GVHD)									
Describe and demonstrate thorough complete musculoskeletal and neurologic examination.		X			X				
Management (GVHD)									
Employ strategies for location/body system specific rehabilitation interventions and treatments (i.e., strategies to maximize standing tolerance).							X		
Prescribe bracing/splinting for cutaneous GVHD.							X		
Management (general Hematologic)									
Describe and educate patients on how to perform safe home exercise program.		X				X	X		
Prescribe physical and occupational therapy for functional mobility, self care, range of motion, and other issues such as bracing/equipment needs.		X				X	X		
Describe and educate patients and rehabilitation team on precautions with therapy interventions and exercise.	X							X	
Incorporate weight-bearing exercises into program for bone health.		X				X			
Prescribe medications for neuropathic pain and other symptom control issues.		X				X			
Refer to cardiology or pulmonary services for specialized management and/or cardiac or pulmonary rehabilitation if appropriate.		X				X			
HEAD AND NECK CANCERS- ALL CRM PHYSIATRISTS									
History									
Identify signs and symptoms of treatment related complications, such as speech or swallowing changes; neck and/or shoulder pain, weakness, or loss of motion; jaw limitations, and skin or soft tissue edema or thickening.	X						X		
Record the location of primary tumor and metastases as well as prior surgeries and/or radiation history.	X						X		
Physical exam									
Observe postural assessment in sitting and standing.		X			X				
Evaluate ROM of cervical spine, shoulder, oral cavity/mouth.		X		X					
Perform scapula assessment in static position and motion (i.e., dyskinesis, winging).		X			X				
Assess skin/connective tissues (i.e., thickening, fibrosis, open lesions).		X			X				

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CONTENT DOMAIN: CANCER-DIAGNOSIS SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Examine for evidence of edema.		X			X				
Perform manual muscle testing.		X		X					
Assess speech including volume and clarity.		X			X				
Medical Knowledge									
Describe common chemotherapy and radiation treatment approaches including in combination.	X						X		
Describe the surgical treatment approach including the extent of surgery, potential sacrifice of soft tissue, nerves and/or muscles as well as extent of lymph node sampling. Demonstrate awareness of functional manifestations of different surgical techniques.	X						X		
Identify the various types of head and neck tumor pathology.	X						X		
Define the common locations of primary tumor and metastases.	X						X		
DIAGNOSIS-SPECIFIC IMPAIRMENTS									
Trismus									
History (Trismus)	X						X		
Inquire about functional ramifications of the patient's limited jaw opening (pain, malnutrition, speech changes).	X						X		
Physical exam (Trismus)									
Describe and demonstrate technique for oral cavity opening, postural assessment, cervical ROM, any shift of bite (overbite, underbite, or lateral shifting). Assess dentition for any defects/missing teeth. Appraise oral lesions or ulcers, palpation of neck musculature, muscles of mastication, TMJ, and perform skin/connective tissue of face and neck assessment including for pain, stiffness, fibrosis.			X				X		
Management (Trismus)									
Describe and educate patients on rehabilitation interventions including stretching of jaw – active and passive using devices (i.e., tongue depressors, jaw opening/splinting devices), strengthening of muscles of mastication, postural training, and consideration for botulinum toxin injection for spasms or pain.	X						X		
Demonstrate proficiency in botulinum toxin injection for spasms and/or pain of head and neck muscles.		X							X
Head and Neck Lymphedema Also see "Lymphedema" section within Global Impairments									
History (H&N lymphedema)									
Inquire about facial swelling, including location, severity, and any functional ramifications.	X						X		

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CONTENT DOMAIN: CANCER-DIAGNOSIS SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Physical Exam (H&N lymphedema)									
Examine for facial lymphedema including location, severity and soft tissue characteristics.		X					X		
Demonstrate a technique for facial and neck measurements to monitor lymphedema.		X							X
Management (H&N lymphedema)									
Educate patients on rehabilitation interventions including postural training, goals of lymphedema therapy, precautions, and cellulitis risk.		X					X		
Refer patients for complex decongestive therapy including manual lymphatic drainage, use of compression garments, trial of pneumatic compression pump.		X					X		
Prescribe appropriate supplies including compression garments, pneumatic compression pump.		X					X		
Dysphagia									
History (Dysphagia, H&N):									
Inquire about swallowing changes, including choking symptoms, tolerance for solids vs liquids, pain or sensory (including taste) changes with eating, presence of dry mouth, and ability to maintain adequate hydration and nutrition.	X					X	X		
Note presence of alternative feeding method such as nasogastric or gastric tube.		X		X					
Review history for extent of surgery and radiation, including to oral, pharyngeal, and laryngeal structures. In case of laryngectomy, note type of laryngectomy, especially if total (no aspiration risk assuming intact surgical result) or partial (increased aspiration risk).						X	X		
Record any recent history of pneumonia or other new respiratory symptoms.		X			X				
Physical Exam (Dysphagia, H&N)									
Observe facial/oral symmetry and lip seal.		X			X				
Locate oral secretions.		X			X				
Observe strength of phonation and cough.		X			X				
Assess hyoid bone elevation with a volitional swallow.		X				X			
If clinical concern of aspiration, auscultate lungs.		X		X					
Demonstrate technique for PO trial of liquids/pills/solid food.		X				X			
Assessment/Diagnostics (Dysphagia, H&N)									
Demonstrate technique for PO trial of liquids/pills/solid food.									
Review and apply findings of modified barium swallow (MBS) and fiberoptic endoscopic evaluation of swallowing (FEES) assessments.		X				X			

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CONTENT DOMAIN: CANCER-DIAGNOSIS SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Management (Dysphagia, H&N)									
Place appropriate referrals for more in-depth assessment of swallowing including speech pathology, MBS or FEES.		X			X				
Provide education/reinforcement of rehabilitation interventions including strengthening of oral-pharyngeal muscles, compensatory techniques to minimize aspiration risk (i.e., chin tuck, head turn, head tilt), dietary modifications.									
Address nutritional concerns, including referral to nutrition service when appropriate, and if major impairment, establishment of alternative feeding method.	X				X				
Communication									
History (Communication)									
Review history for extent of surgery and radiation, including to oral, pharyngeal, and laryngeal structures, and jaw.		X				X	X		
Obtain history of changes in speech and communication related to treatment.		X			X				
Physical examination (Communication, H&N)									
Observe facial/oral symmetry, tongue strength/symmetry, and lip seal.		X			X				
Examine for any anatomical changes (i.e., glossectomy, mandibular defect or reconstruction, palatal surgery, tracheostomy).		X		X	X				
Identify general speech characteristics including hoarseness, volume, nasality, intelligibility.		X			X				
Observe articulation characteristics including lingual, labial and pharyngeal sounds.		X				X			
Assess cognition to determine learning abilities for the various communication options.		X			X				
Assessment/Diagnostics (Communication, H&N)									
Describe the role of videostroboscopy in assessing speech abnormalities.		X				X			
Management (Communication, H&N)									
Refer to speech pathologist for assessment and therapy.		X		X					
Reinforce strategies to optimize speech and communication, including exercises for articulation, pitch and volume, and use of nonverbal adjuncts such as good eye contact and gestures.		X				X			
In conjunction with speech pathologist, identify appropriate communication options for patients with complete laryngectomy, including tracheoesophageal fistula (prosthesis), electrolarynx devices, and esophageal speech.		X				X	X		
Explain physioanatomical factors in normal speech production and with the laryngectomy strategies.		X				X	X		

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CONTENT DOMAIN: CANCER-DIAGNOSIS SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Musculoskeletal (Neck, shoulder, including scapular dyskinesis/winging)									
History (Musculoskeletal, H&N)									
Inquire about presence of neck or shoulder pain, stiffness or weakness, or difficulty with use of the ipsilateral upper limb.		X			X				
Review history for extent of surgery and radiation, in relation to the spinal accessory nerve (i.e., radical neck dissection) as well as other neuromuscular structures.	X				X				
Physical Exam (Musculoskeletal, H&N)									
Assess neck, upper back, and shoulder posture and muscle bulk, including any asymmetries.		X			X				
Measure neck and shoulder range of motion and strength.		X			X				
Assess scapulae in static position and with limb elevation for evidence of winging or dyskinesis.		X				X			
Examine for any areas of localized fibrosis or tenderness.		X				X			
Examine for other regional pathologies (i.e., rotator cuff tendinopathy, rhomboid or trapezius strain, bicipital tendinopathy, acromioclavicular arthropathy, etc.).		X				X			
Assessment/Diagnostics (Musculoskeletal, H&N)									
Describe the role of electrodiagnostic testing to determine extent and severity of localized nerve injury.		X				X			
Employ an outcome tool to monitor extent of disability from neck and shoulder limitations (i.e., Shoulder Pain and Disability Index or SPADI, Disabilities of the Arm, Shoulder and Hand, or DASH).		X						X	
Management (Musculoskeletal, H&N)									
Educate patients on rehabilitation interventions including scapular stabilization and strengthening, and postural training, including avoidance of scapular protraction and shoulder internal rotation.	X				X				
Refer to physical or occupational therapy for goals related to the identified neck or shoulder impairments.		X			X				
Prescribe medications to assist with pain control or muscle spasm.		X			X				
Employ procedural/injection options to assist with pain control or muscle spasm.		X				X	X		
Evaluate options and appropriateness of orthotics for scapular stabilization.		X						X	
Incorporate any precautions, such as related to skin/incisional or neck vessel status.		X				X	X		
MELANOMA-ALL CRM PHYSIATRISTS									
History									
Inquire regarding general signs and symptoms including pain (soft tissue, joint), swelling, fatigue, strength, numbness/tingling.		X			X				
Interpret pathology findings and staging including BRAF mutation and estrogen receptor status.		X						X	
Review surgical care including extent (lymph node dissection, complex reconstuctions).		X				X	X		
Analyze chemotherapy regimen if any.		X				X	X		

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CONTENT DOMAIN: CANCER-DIAGNOSIS SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Break down immmunotherapy regimen if any.		X					X		
Review radiation therapy intevention if any.		X				X	X		
Physical examination									
Assess the surgical site.		X				X	X		
Perform a neurologic exam (see "CNS tumors", "Mobility" and "Neuromuscular" sections).		X		X					
Examine for lymphedema, including limb size and soft tissue characteristics (see "Lymphedema" section).		X				X	X		
Evaluate range of motion of structures in the treatment field.		X			X				
Perform an appropriate physical exam if bone mets are suspected.		X				X	X		
Evaluate for physical exam findings of immune-mediated arthritis.		X						X	
Medical Knowledge									
Relate the incidence of upper and lower extremity lymphedema in skin cancers.	X						X		
Discuss precautions in lymphedema treatment of patients with skin cancers (See "lymphedema" section).	X					X	X		
State the side effects of checkpoint inhibitors and implications for rehabilitation.	X							X	
Characterize the acute effects of high-dose steroids on the musculoskeletal system (See "Neuromuscular" section).	X				X				
Describe the clinical characteristics of immune-mediated arthritis.		X						X	
Name common sites and characteristics of melanoma-related metastases.	X						X		
Describe characteristics of melanoma-related brain metastases.	X							X	
Describe characteristics of melanoma-related bone metastases.								X	
Assessment/Diagnostics									
Determine appropriate imaging to evaluate symptoms.		X			X				
Identify measurement strategies for lymphedema (see "Lymphedema" section).		X				X			
Order electrodiagnostic testing to evaluate neuropathic symptoms, including polyneuropathy, and interpret results.		X			X				
Explain the diagnostic workup for suspected or known bone metastases.	X							X	
Perform a vertebral column stability assessment, including radiographic, patient-reported, and physical exam findings (See "Bone Metastases" section).	X	X							X
Perform an evaluation for limb metastasis, including Mirel's score. (See "Bone Metastases" section).	X							X	
Perform appropriate work-up for immune-mediated arthritis.		X						X	

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CONTENT DOMAIN: CANCER-DIAGNOSIS SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Management									
Prescribe lymphedema treatment and counsel patient (see Lymphedema section).		X				X	X		
Prescribe appropriate interdisciplinary rehabilitation therapies for neuropathic or myopathic sequelae of systemic therapies.		X				X			
Address locoregional musculoskeletal sequelae.		X				X	X		
BONE AND SOFT TISSUE TUMORS-ALL CRM PHYSIATRISTS									
History									
Examine for limb pain, swelling, and stiffness.		X		X					
Appraise weakness, myalgias, and sensory symptoms.		X		X					
Inquire about ambulation ability, including distance able to walk, need for assistive device, etc.		X		X					
Inquire about other daily living functions--ADL's, IADL's, work/school.		X			X				
Identify the pathology, including subtype.	X							X	
Identify surgical treatment including amputation vs limb salvage for non-metastatic extremity sarcomas.	X						X		
Name systemic therapies employed in treatment.	X						X		
Identify radiation treatment employed in care including dosing and bodily location.	X						X		
Physical examination									
Assess affected limb including the tumor itself (i.e., if pre-op and tumor is visible), level of amputation (if applicable) or description of the limb sparing outcome (i.e., scapulectomy or other intercalary resection, wide soft tissue resection, rotationplasty, etc.).									
Assess skin and soft tissue status (i.e., surgical healing, prosthetic weight-bearing sites).		X			X				
Measure range of motion.		X		X					
Describe and demonstrate a knee joint and surrounding tissue exam.		X					X		
Describe the patient's type of prosthesis and components, if applicable.									
Evaluate prosthetic fit, if applicable.		X			X				
Examine neurological status especially strength and sensation.									
Evaluate gait in an amputee, including in someone with a prosthesis, or a high-limb amputation without a prosthesis.		X			X				
Assess gait in someone who underwent limb salvage surgery.		X					X		
Medical Knowledge									
Describe the common pattern of metastases of sarcomas.	X							X	

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CONTENT DOMAIN: CANCER-DIAGNOSIS SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Amputation and limb sparing									
State common amputation levels for sarcoma, and associated functional outcomes.	X							X	
Describe types of limb salvage surgeries.									
Characterize functional outcomes following limb salvage surgery, including rotationplasty.	X							X	
Discuss possible complications after limb salvage surgery, including rotationplasty.									
Describe common gait deviations after limb salvage surgery.		X				X			
Describe possible orthotic needs after limb salvage surgery.	X	X			X				
Malignant nerve sheath tumors and chordomas									
Outline treatment and prognosis of malignant nerve sheath tumors and chordomas.	X							X	
Identify potential impairments by location/level of lesion.	X					X	X		
For individuals with caudal lesions, optimize seating for pressure relief and pain control.		X						X	
Desmoid tumors									
Define the natural history, including associated syndrome (e.g., Gardner's) and treatment.	X								X
Discuss common patterns of desmoid (abdominal vs extraabdominal vs plantar).	X								X
Systemic therapy side effects									
Review myalgia caused by tyrosine kinase inhibitors and pain management strategies.	X							X	
Survivorship-specific issues									
Describe unique challenges faced by adolescents and young adults as they transition to adulthood.	X							X	
Characterize the long-term effects of chemotherapy (e.g., anthracyclines).	X						X		
Recall late complications of limb salvage.	X							X	
Assessment/Diagnostics									
Describe indications for electrodiagnosis or imaging.	X					X		X	
Describe indications for gait lab referral.	X							X	
Management									
In conjunction with the patient and treatment team, set goals including prosthetic vs nonprosthetic management, and walking versus wheelchair level mobility.		X	X			X		X	
Prescribe appropriate orthotics or prosthetics, in conjunction with team including physical/occupational therapist and orthotist/prosthetist.		X				X		X	

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CONTENT DOMAIN: CANCER-DIAGNOSIS SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Treat residual limb pain/neuroma pain, phantom limb pain, polyneuropathy pain (see "peripheral neuropathy" section).		X			X				
Address skin issues occurring with prosthetic use.		X				X			
Manage functional aspects of CIPN, including motor-sensory changes (see Peripheral Neuropathy, Neuromuscular, Mobility sections).	X	X			X				
Apply orthotic support for focal weakness without exacerbating pain, as for malignant nerve sheath tumors.	X	X						X	
Address late complications of limb salvage and rotationplasty approaches.		X						X	
Optimize school integration, leisure participation, and employment.		X				X			
THORACIC/LUNG - ALL CRM PHYSIATRISTS									
History									
Inquire about cancer history: symptoms at diagnosis, pathology, treatment.		X			X				
Inquire about pulmonary symptoms.		X		X					
Inquire about pain symptoms including post-thoracotomy pain, neuropathic pain, bony pain.		X			X				
Inquire about neurological changes including numbness and weakness (potentially associated with polyneuropathies and/or paraneoplastic syndromes).		X			X				
Inquire about patient's physical function and activity tolerance.		X			X				
Inquire about smoking history.		X		X					
Physical Exam									
Perform a chest wall exam (inspection, palpation, incisions, neurologic exam).		X			X				
Demonstrate a pulmonary exam.		X		X					
Demonstrate a shoulder exam.		X		X					
Perform a neurologic and/or musculoskeletal examination targeted to the symptomatic region (especially, any peripheral neuropathic, paraneoplastic, or metastatic concern).		X			X				
Medical Knowledge									
Describe common cancer pathologies seen in thoracic/lung cancer (small cell, non-small cell).	X			X					
List common surgical techniques (thoracotomy) and their morbidity.	X						X		
Identify commonly utilized chemotherapeutic agents in lung cancer and their morbidity.	X						X		
Recite commonly used radiation techniques and their morbidity.	X						X		
Recall patterns of metastatic disease and their associated functional sequalae.	X						X		
Assessment/Diagnostics									
Describe indications for ordering chest wall or other diagnostic imaging (spine, shoulder).	X					X	X		
Describe indications for ordering electrodiagnostic testing.	X				X				

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CONTENT DOMAIN: CANCER-DIAGNOSIS SPECIFIC				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Management									
Incorporate pulmonary function testing results into rehabilitation treatment plan and expected functional prognosis.		X				X	X		
Prescribe post-thoracotomy pain rehabilitation.		X					X		
Prescribe pharmacologic management of post-thoracotomy pain.		X					X		
Appropriately refer patients for interventional procedures including intercostal nerve blocks, intercostal joint injections, neuroma injection, botulinum toxin (See "Procedures").		X					X		X
Evaluate patient for and prescribe prehabilitation (See "Prehabilitation" section within "Areas of Practice").		X						X	
Establish a conditioning/rehabilitation plan including options such as home/community exercise program, physical therapy, occupational therapy, and/or formal pulmonary rehabilitation (including cardiopulmonary exercise testing).		X	X			X	X		
Integrate use of a strategy for target exercise intensity, such as the Borg Rating of Perceived Exertion scale.		X				X			
Address smoking cessation with patient, if applicable.			X	X					
Evaluate and address dyspnea (see Pain and Symptom Management section under "Global Impairment-Symptom Specific" category).		X		X			X		
Incorporate use of a functional outcome measure such as 6MWT or Chronic Respiratory Disease Questionnaire.		X						X	

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CONTENT DOMAIN: PROCEDURES				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Note-- In this section, "Specialized" may also refer to non-CRM proceduralists, such as intervential pain specialists or electromyographers. Not all CRM physicians are expected to perform specialized procedures, though some may.									
General procedure-related competencies									
Evaluate soft tissue pain generators.		X			X				
Evaluate neuropathic pain generators.		X			X				
Assess bony and articular pain generators.		X			X				
Assess spinal pain generators.		X			X				
Identify indications for specific procedures in the overall clinical context of patient management, including pros and cons of performing the procedure versus alternative options.	X					X	X		
List potential complications and precautionary scenarios for procedures, including high versus negligible risk situations (i.e., infection, low platelets/WBC, lymphedema, hyperglycemia, allergy, anatomic location of procedure including proximity to tumor and/or to vital structures, when to transfuse or administer pre-injection G-CSF, when to hold chemotherapy such as bevacizumab, etc.).	X					X	X		
Discuss the role of imaging and other diagnostics in decision-making for procedures.	X					X	X		
Describe the evidence basis for procedure(s) for the particular clinical condition.	X						X	X	
For injection procedures, identify preferred approaches (i.e., landmark guided, ultrasound, fluoroscopic, EMG-guided), for the particular intervention.	X	X			X	X	X		
For injection procedures, discuss appropriate injectate options (i.e., local anesthetic, corticosteroid, botulinum toxin, hyaluronate, dextrose, platelet rich plasma) for the particular clinical indication, including advantages and disadvantages of each.	X	X				X			
Identify indications for more invasive or long-lasting procedures including radiofrequency ablation, spinal or peripheral nerve stimulator and pain or spasticity pump, vertebroplasty, and for other unusual (to PM&R) procedures such as visceral pain blocks.	X	X				X	X		
Demonstrate awareness of integrative options such as acupuncture (i.e., diagnoses that can benefit from treatment, evidence based utilization).	X								X
Discuss injection options with patients in the context of overall care, including considerations pertinent to informed consent.			X			X	X		
Contextualize the need for injection as related to cancer/treatment effect versus comorbidity, and counsel patient.	X		X			X	X		
Obtain informed consent for procedures, with the appropriate level of documentation.		X				X	X		
Predict any post-procedure activity limitations and discuss with the patient.			X			X	X		
Enumerate procedures performed in personal scope of practice and demonstrate competence.		X	X		X	X	X	X	X
For procedures not within personal scope of practice, demonstrate awareness of the range of injection options, refer when appropriate, and contextualize the procedure within the overall management scheme.		X	X			X	X	X	X
Identify a method to monitor procedure outcomes (i.e., pain score, function metric).		X	X			X	X		

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CONTENT DOMAIN: PROCEDURES				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Specific Conditions-- Medical Knowledge of Procedure, Indications and Contraindications									
Soft tissue disorders									
Trigger point injections for myofascial pain (local anesthetic, dry needling)									
Common sites including paraspinal and shoulder girdle.	X				X				
Unusual sites including pelvic floor.	X								X
Neuroma injection (ie postmastectomy)	X							X	X
Tendon and bursa injections									
Common sites including subacromial, radiostyloid, bicipital, anserine (corticosteroid).	X				X				
Scapulothoracic bursa in breast cancer patients (corticosteroid).	X					X			X
Percutaneous tenotomy/TENEX .	X					X			
Trigger finger (corticosteroid)						X			
Muscle spasm/dystonia/spasticity (botulinum toxin)	X								
Pectoralis major, consider serratus, latissimus dorsi in breast cancer patients.	X					X		X	X
Cervical dystonia.	X					X		X	
Radiation fibrosis.	X					X		X	
Spasticity.	X					X			
Trismus (masseter, medial pterygoid, temporalis, anterior digastric).	X					X		X	
Jaw deviation/TMJ pain (lateral pterygoid).	X					X			X
Peripheral neuropathic pain									
Mononeuropathy/Single nerve block									
Median nerve (carpal tunnel), suprascapular, occipital.	X					X			
More specialized sites including intercostal, intercostobrachial, pudendal (see Visceral pain, below).	X					X			X
Serratus plane block for chest wall pain.	X					X			X
Role of RFA/cryoablation.	X					X			X
CIPN									
Role of DRG stimulation (extrapolation from diabetic neuropathy).	X								X
Thoracic outlet syndrome									
Botulinum toxin injection to scalene, pectoralis minor (ultrasound).	X								X

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CONTENT DOMAIN: PROCEDURES				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Complex regional pain									
Ganglionic blocks (stellate, lumbar sympathetic, celiac, impar, sphenopalatine).	X								X
Spinal and bone/articular pain									
Joints									
Intraarticular injections (corticosteroid, viscosupplementation).	X				X	X			
Unusual intraarticular sites (i.e., intercostal joint, small joints, etc.).	X					X		X	
Spinal etiologies									
Common injections including facet, transforaminal epidural, interlaminal.	X					X	X		
Role of RFA/cryoablation.	X					X		X	
Vertebroplasty.	X								X
Radiofrequency ablation for spinal metastases.	X								X
Visceral pain									
Celiac plexus block (abdominal cavity malignancies).	X							X	
Ganglion impar (pelvic and low abdominal malignancies).	X							X	
Pudendal nerve block (pelvic and low abdominal malignancies).	X								X
Transversus abdominus plane (TAP) block, usually for bigger solid tumor resections/abdominal surgeries to help differentiate visceral from abdominal wall pain.	X								X
Miscellaneous									
Sialorrhea									
Parotid gland botulinum toxin injections.	X							X	
Lymphedema									
Ganglionic blocks (stellate, lumbar sympathetic).	X								X
Spasticity									
Botulinum toxin injections.	X				X				
Intrathecal baclofen pump.	X					X			

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American Academy of Physical Medicine and Rehabilitation

CONTENT DOMAIN: PROCEDURES				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Pain-Various									
Opioid pump indications.	X					X		X	
Procedural approaches in CRM physiatry practice									
Procedures which are often landmark-guided									
Trigger point injection for myofascial pain (common sites as above): evaluate and refer.		X		X					
Trigger point injection for myofascial pain: perform injection.		X			X				
Atypical/advanced trigger point injection (such as pelvic floor): evaluate and refer.		X						X	
Atypical/advanced trigger point injection (such as pelvic floor): perform injection.		X							X
Tendon and bursa injection (common sites as above): evaluate and refer.		X			X				
Tendon and bursa injection (common sites as above): perform injection.		X				X			
Joint injection (common sites, especially knee): evaluate and refer.		X			X				
Joint injection (common sites, especially knee): perform injection.		X			X				
Trigger finger injection: evaluate and refer.		X				X			
Trigger finger injection: perform injection.		X				X		X	
Carpal tunnel injection: evaluate and refer.		X				X			
Carpal tunnel injection: perform injection.		X				X		X	
Botulinum toxin injection of large muscle groups: evaluate and refer.		X				X	X		
Botulinum toxin injection of large muscle groups: perform injection.		X							
Procedures which are often ultrasound-guided									
Neuroma injection (i.e., postmastectomy): evaluate and refer.		X					X		
Neuroma injection (i.e., postmastectomy): perform injection.		X							X
Scapulothoracic bursa injection: evaluate and refer.		X					X		
Scapulothoracic bursa injection: perform injection.		X							X
Botulinum toxin injection for unusual sites such as scalenes, pectoralis minor (thoracic outlet syndrome), facial and jaw muscles (radiation fibrosis), parotid: evaluate and refer.		X					X		
Botulinum toxin injection for unusual sites such as scalenes, pectoralis minor (thoracic outlet syndrome), facial and jaw muscles (radiation fibrosis), parotid: perform injection.		X							X
Basic nerve blocks (median/carpal tunnel; suprascapular): evaluate and refer.		X			X				
Basic nerve blocks (median/carpal tunnel; suprascapular): perform injection.		X				X			
Less common nerve blocks (intercostal, intercostobrachial, pudendal): evaluate and refer.		X					X		
Less common nerve blocks (intercostal, intercostobrachial, pudendal): perform injection.		X							X
Serratus plane block: evaluate and refer.		X					X		
Serratus plane block: perform injection.		X							X

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American Academy of Physical Medicine and Rehabilitation

CONTENT DOMAIN: PROCEDURES				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Ganglionic blocks (stellate, lumbar sympathetic, impar, celiac, sphenopalatine): knowledge level, possibly evaluate and refer.		X					X		
Ganglionic blocks (stellate, lumbar sympathetic, impar, celiac, sphenopalatine): perform injection.		X							X
Electrodiagnosis (EMG/NCV's) Also see "Neuromuscular Effects" section									
Conditions used for									
Clinically evaluate mononeuropathies in association with cancer and its treatment.		X			X				
Clinically evaluate polyneuropathy in association with cancer or with chemotherapy/immunotherapy.		X			X				
Clinically assess cervical and lumbosacral plexopathy and radiculopathy/polyradiculopathy in association with cancer, surgery, and/or with radiation therapy.		X			X				
Clinically assess myopathic or neuromuscular junction processes as paraneoplastic effects of cancer.		X				X			
Technique									
Demonstrate skills for performing EMG basic: common mononeuropathies and radiculopathy, routine polyneuropathy.		X			X				
Demonstrate skills for performing EMG advanced: plexopathy, cranial nerves, myoneural junction, complex polyneuropathy, and myopathy evaluation.		X				X			
Recognize characteristic findings, such as myokymia in setting of irradiated muscle.		X				X			
Complications									
Approach electrodiagnostic evaluation in the setting of lymphedema.		X				X	X		
Approach electrodiagnostic evaluation in the setting of thrombocytopenia or neutropenia.		X				X	X		
Outcomes									
Contextualize electrodiagnostic findings into patient care.		X				X	X		
Botulinum toxin injection									
Conditions used for									
Examine for cervical dystonia in head and neck cancer.		X				X	X		
Examine for shoulder girdle dystonia in breast cancer.		X				X	X		
Evaluate for dystonias from radiation fibrosis.		X				X	X		
Perform with guidance with ultrasound, emg and/or e-stim.		X				X	X		

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CONTENT DOMAIN: PROCEDURES				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Image-guided fluoroscopic injections - Some specialized CRM physiatrists									
Conditions used for									
Analyze neuropathic pain generators (i.e., radiculopathy, plexopathy, mononeuropathies).		X			X				
Evaluate articular pain generators (axial and peripheral joints).		X			X				
Technique									
Demonstrate skills to perform fluoroscopy guided injections (use of machine, evaluation of imaging, utilization of needle techniques).		X							X
Characterize proper safety considerations for use of fluoroscopic imaging.		X							X
Complications									
Recognize which co-morbid conditions can cause increased risk in cancer population (i.e., cancer localization, anti-coagulation, thrombocytopenia, lymphedema).	X					X			
Discuss the general risk factors for fluoroscopic procedures.	X					X			
Outcomes									
Review symptom management following the procedure with the patient.			X						X
Evaluate additional pain generators pending response.		X				X			
Ultrasound diagnostic evaluation (musculoskeletal) - Some specialized CRM physiatrists									
Conditions used for									
Clinically evaluate for use of ultrasound in assessing myofascial dysfunction both static and dynamic.		X				X			
Use ultrasound to assess myofascial dysfunction both static and dynamic.		X							X
Clinically evaluate for use of ultrasound to assess neuropathic pain generators.		X				X			
Use ultrasound to assess for neuropathic pain generators.		X							X
Clinically evaluate for use of ultrasound to assess articular pain generators.		X				X			
Use ultrasound to assess articular pain generators (peripheral joints).		X							X
Clinically evaluate for use of ultrasound to assess soft tissue dysfunction (bursa, tendon, ligament) static and dynamic.		X				X			
Use ultrasound to assess soft tissue dysfunction (bursa, tendon, ligament) static and dynamic.		X							X
Technique									
Describe the general approach to imaging (use of the modality, advantages/disadvantages, how results will be integrated into assessment and plan).	X								X
Utilize ultrasound and interpret images.		X							X

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CONTENT DOMAIN: PROCEDURES				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Complications									
Explain the changes in structure and physiology associated with cancer diagnosis and treatment.	X								X
Outcomes									
Utilize results in the assessment and formulation of treatment plan.	X					X	X		
Discuss conservative or interventional treatment options based on findings.	X					X	X		

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CONTENT DOMAIN: WELLNESS/SURVIVORSHIP				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Employment/Disability/Community issues - All physiatrists									
List the risk factors for cancer patients remaining unemployed following cancer treatment.	X						X		
Develop a rehabilitation plan to help patients return to work.		X			X				
Distinguish the difference between cancer and cancer treatment contributing to unemployment.	X						X		
Recognize signs of financial toxicity and make appropriate referrals.	X						X		
Identify cancer treatment/conditions that limit prolonged desk work (lymphedema, AIMSS, etc.).	X							X	
Identify cancer treatment/conditions that limit manual labor (compression fractures, cachexia, etc.).	X							X	
Evaluate and manage CRCI as a barrier to returning to work.		X						X	
Recognize signs of caregiver burden.	X			X					
Propose community programs that help survivors return to work.	X			X					
Exercise in Cancer - All CRM physiatrists									
Describe ACSM guideline recommendations.	X						X		
Identify long-term cardiovascular complications of chemotherapy.	X						X		
Prescribe exercise to treat fatigue.		X					X		
Recognize when patients need pre-exercise cardiac clearance (e.g., lightheadedness with exertion, a-fib, heart failure, etc.).	X				X				
Recognize non-cardiac factors necessitating pre-exercise clearance (osteoporosis, lymphedema, severe arthritis, etc.).	X					X			
State the recommended amount of metabolic equivalents one should attain per week (15 to reduce mortality, 3-6 for some protective effect).	X							X	
Generate a FITT prescription (frequency, intensity, time, type).		X		X					
Distinguish the differences between exercise types (HIIT, resistance, plyometric, etc.).	X			X					
Describe up-to-date guidelines in exercise oncology.									
Survivorship - All CRM physiatrists									
Discuss survivorship care guidelines for given disease groups and diagnoses, when applicable.	X						X		
State the required components of a Survivorship Care Plan.	X						X		
List community programs, including support groups, to help survivors.	X						X		
Manage the unique needs of AYA survivors transitioning to adulthood.		X	X					X	
Consider potential needs of geriatric cancer survivors, including increased attention to comorbidities, avoidance of polypharmacy and high risk medications, identification of delirium/dementia/depression, attention to fall risk, consideration of caregiver needs, impact of geriatric-related concerns on choices/ options for treatment and their functional implications, and the role of home health services.		X	X			X	X		

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CONTENT DOMAIN: WELLNESS/SURVIVORSHIP				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Nutrition in Cancer Patients - Some specialized CRM physiatrists									
Evaluate nutritional status/needs.	X	X			X				
Provide individualized nutritional advice improve dietary intake and potentially decrease some of the toxicities.		X				X			
Initiate referral to RD.	X			X					
Outline the role of enteral nutrition via tube feeding, or parenteral nutrition.	X				X				
Identify available resources on the role and contraindications of vitamins, minerals, and other dietary supplements.	X					X			
Recognize available resources on fad diets: benefits/risks.	X					X			
Identify fortified, commercially prepared or homemade nutrient-dense beverages or foods.	X					X			
Prescribe fortified, commercially prepared or homemade nutrient-dense beverages or foods.	X							X	
Name foods to avoid during/after radiation therapy.	X							X	
List bowel/bladder irritants.	X					X			
Counsel patient on the importance of adequate hydration.	X				X				
Identify weight loss/cachexia.	X			X					
Manage weight loss/cachexia.		X				X			
Counsel patient on obesity and management.			X	X					
Discuss with patient taste changes related to cancer treatment.			X				X		
Manage taste changes in head/neck cancer and those related to cancer treatments.		X					X		
Identify xerostomia on examination.		X		X					
Manage xerostomia.		X					X		
Resource https://www.cancer.net/survivorship/healthy-living/nutrition-recommendations-during-and-after-treatment									
Sexuality - Some specialized CRM physiatrists									
Identify sexual orientation/gender identity in clinical context.	X			X					
Demonstrate empathy about sexual orientation/gender identity.			X	X					
Provide counseling on sexual orientation/gender identity.			X		X				
Describe normal sexual neurophysiology-male/female erections.		X		X					
Display empathy for individuals experiencing changes to sexuality, sexual desire, sexual functioning.			X					X	
Discuss surgical intervention GU/GYN/GI cancers: impact on anatomy, skin, tissue quality, nerve function, appearance.	X							X	
Describe radiation therapy (abdomen/pelvis):impact on anatomy, skin, tissue quality, nerve function, appearance.	X							X	
Outline systemic treatments impacting energy levels, arousal, bowel/bladder function, hormone levels.	X							X	
Identify pain impacting sexual functioning.	X		X					X	

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CONTENT DOMAIN: WELLNESS/SURVIVORSHIP				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Manage pain impacting sexual functioning.		X							X
Counsel patient on pain impacting sexual functioning.			X						X
Counsel patients and caregivers on sexual concerns/intimacy/body image.			X						X
Explain role of pelvic floor therapy.	X					X			
Initiate referral to Erectile dysfunction specialists (M).		X				X			
Initiate referral to Women's Health specialists (W).		X				X			
Propose vaginal tissue management: lubricants, moisturizers, dilator therapies and contraindications.		X							X
Initiate medication management for erectile dysfunction.		X				X			
Evaluate external genitalia (M) and perineum/evaluation of abdomen/pelvis.		X			X				
Evaluate external genitalia, perinuem, perform intravaginal examination, evaluation of abdomen and pelvis.		X							
Resource: https://www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/fertility-and-sexual-side-effects/how-cancer-affects-sexuality.html									
Complementary and integrative health strategies (including osteopathic) - Some specialized CRM physiatrists									
Identify role of integrative medicine or complementary medicine for management of symptoms.	X					X			
Discuss types of integrative medicine interventions including massage, acupuncture, osteopathic manipulation, mediation, supplementation, yoga, Tai Chi/Qigong, music therapy.	X					X			
Initiate referral to integrative medicine.		X				X			
Recognize contraindications to integrative medicine interventions.	X					X			
Explain evidence behind integrative medicine interventions.	X					X			
Counsel patient on integrative medicine.			X			X			
Describe the mechanism of action and mode of delivery for CBD/THC.	X					X			
Recognize contraindications for CBD/THC.	X					X			
Counsel patients on how to obtain CBD/THC.			X			X			
Initiate CBD/THC.		X						X	
Identify the role of antioxidants in management of symptoms/cancer.	X					X			
Recognize contraindications to antioxidants.	X					X			
Resource: https://www.cancer.net/navigating-cancer-care/how-cancer-treated/integrative-medicine/types-complementary-therapies									

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American Academy of Physical Medicine and Rehabilitation

CONTENT DOMAIN: AREAS OF PRACTICE/OTHER				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
All Settings of Practice (including inpatient consultative, acute inpatient rehabilitation, outpatient)									
Discuss common impairments seen in cancer patients, and their functional impact, which trigger referral to physiatry and/or rehabilitation services (see "Global Impairment/Symptom" section).	X				X	X			
Identify by Cancer Diagnosis which types of impairment are most likely to be seen, and which cancers are most likely to produe impairment and functional disability (see "Cancer Specific" section).	X			X					
Identify common referral sources to physiatry.	X					X			
Review the medical record, including cancer diagnosis (type, stage, metastatic involvement if applicable), treatments (surgical history, chemotherapy, radiation therapy, biologics/immunotherapy, etc.), current medications, and relevant comorbidities.		X		X					
Interpret recent and pertinent diagnostic imaging results.	X			X					
Evaluate the patient's symptoms, including onset, location, quality, timing, progression, exacerbating/ relieving factors, and any symptom clusters.		X			X				
Assess motor and sensory status, range of motion of major joints, cranial nerves and cognition. Evaluate balance stamina and functional mobility (see Impairment section, especially Neuromuscular, Mobility and Cognition subsections).		X		X					
Assess skin and soft tissues for edema, thickening, fibrosis, open lesions.		X			X				
Name applicable further examination approach for specific diagnoses and impairments.		X				X			
Appraise Goals of treatment including preventative, supportive, restorative or palliative focus.		X				X			
Evaluate Prognosis for improvement/response with rehabilitation care, and disability prevention, taking into account the impact of current acuity, and prognostic factors related to the underlying condition(s).		X						X	
Determine appropriate imaging/radiological studies, and/or laboratory studies.		X			X				
Identify possible Precautionary scenarios in cancer rehabilitation management, especially with regard to bony metastatic disease, blood counts, infection risk, lymphedema and cardiotoxicity.	X					X			
Predict possible Barriers to rehabilitation interventions including upcoming treatments, side effects, and/or insurance coverage.	X					X	X		
Determine appropriate medical and surgical referrals.	X				X				
Describe the role of physical therapy, occupational therapy speech therapy and nursing in the care setting (i.e., consultative, inpatient rehabilitation, outpatient).	X			X					
Write comprehensive therapy prescriptions for physical therapy, speech therapy, and/or occupational therapy.		X			X				
Examine for other treatment options including medications, procedures, etc.									
Prescribe adaptive equipment and durable medical equipment (DME).		X			X				
Initiate and maintain communication with patients, families and other providers.		X		X					
Monitor and fulfill educational needs of patients, families and staff regarding the underlying condition, and cancer rehabilitation-related treatments and outcomes.			X				X		
Identify applicable functional outcome measures for specific diagnoses and impairments.		X				X			
Determine applicability of PROs for specific diagnoses and impairments.		X						X	
Be aware of established Guidelines which relate to supportive care and rehabilitation for common impairments and specific cancers (see "Guidelines" section).								X	

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American Academy of Physical Medicine and Rehabilitation

CONTENT DOMAIN: AREAS OF PRACTICE/OTHER				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Outline which cancer rehabilitation treatments have the strongest evidence.	X						X		
Determine when telemedicine may be an appropriate platform to optimize management.			X			X			
Demonstrate ability to discuss key aspects of building and marketing a cancer rehabilitation program.		X						X	
Inpatient rehabilitation consults									
See competencies for "All Settings of Practice".									
Review current presentation including reason for admission, prior care settings, readmission/disposition trends, current length of stay, new progression of disease/anatomy of disease (paying particular attention to width of metastases, invasion/encasement of vital structures, lymphangetic/leptomeningeal disease), inpatient treatments and response this admission.		X			X				
Personally view any critical imaging.		X				X			
Evaluate nutritional status.		X			X				
Assess skin integrity and wound care.		X			X				
Analyze labs values and trends (thrombocytopenia, anemia, neutropenia, hypercalcemia of maligancy).		X			X	X			
Recognize tumor lysis syndrome (hyperuricemia, hyperkalemia, hyperphosphatemia, and/or secondary hypocalcemia).		X					X		
Evaluate extent of therapeutic- or disease-related immunosuppression.		X				X	X		
Examine for presence and extent of bone metastases.		X				X			
Identify presence/number/location of lines, catheters and other tubes, and their management.		X			X				
Assess ongoing or new treatment burdens, such as hemodialysis, photophoresis, radiation therapy, etc.		X		X					
Appraise functional status, including pre-presentation cognitive/functional status/trajectory, current cognitive/functional status/trajectory, activity tolerance, participation and progress with current therapies.		X			X				
Assess pain and other symptoms, appropriate symptom management, and response.		X				X	X		
Note near-term care coordination needs (radiation, chemotherapy, other subspecialty).			X			X			
Note code status/change in code status, current/future oncologic treatment plans/barriers, palliative care involvement, consideration of hospice disposition, if applicable.		X			X				
Make rehabilitation recommendations and coordinate with the primary team toward optimizing rehabilitation outcomes within the context of care.		X			X				
Incorporate relevant monitoring for patient safety, e.g., activities in the setting of thrombocytopenia, anemia, neutropenia, monitoring for bone metastasis presentations, tumor lysis syndrome, hypercalcemia of maligancy, etc.		X							
Serve as a support and resource to the acute care team.			X			X			
Recommend strategies for improvement/sustainment of function and patient safety after discharge taking into account concurrent care needs, the post-acute continuum of care, patient-centered/family-centered functional goals, availability/depth of psychosocial support structures, residential accessibility and resources available.		X				X			

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American Academy of Physical Medicine and Rehabilitation

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				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Assessment of rehabilitation level of care/post-acute care management and decision making - All physiatrists									
See competencies for "All Settings of Practice".									
See competencies for "Inpatient Rehabilitation Consults".									
Describe the indications for rehabilitation at different levels of care: home health, outpatient, inpatient rehabilitation (including acute inpatient rehabilitation, skilled nursing facility).	X				X				
Identify prognosis for improvement and/or disability prevention. Take into account the impact of current cancer-related acuity, and prognosis of comorbidities and their treatments.		X			X				
Evaluate the planned near-term investigations and treatments, bearing in mind their likely impact on the patient's function and on rehabilitation logistics.		X			X				
Review interdisciplinary therapy evaluations and response to therapy treatments, including tolerance, participation and functional progress.		X			X				
Assess the likelihood and expected timeline for accruing sufficient functional gains for community discharge.		X			X				
Recognize the post-acute continuum of care, patient-centered/family-centered functional goals, availability/depth of psychosocial support structures, residential accessibility, and resources available, including payer business models.		X				X			
Steward resources, including engage and negotiate with other stakeholders to determine treatment timelines, priorities, costs, sustainability thresholds.		X					X		
Inpatient acute rehabilitation - All physiatrists									
See competencies for "All Settings of Practice".									
See competencies for "Inpatient Rehabilitation Consults".									
See competencies for "Interdisciplinary Team Leadership and Care Coordination".									
See competencies for "Assessment of rehabilitation level of care/post-acute care management and decision-making".									
Manage symptoms to support the patient's comfort and tolerance of intensive rehabilitation.		X			X				
Manage concurrent medical needs to maintain and optimize stability. Navigate management for patients with decompensated status, initiating appropriate medical or surgical referrals, and diagnostic investigation and care. When needed, transfer the patient to a different care setting (see also "Inpatient Rehabilitation Consults").		X				X			
For improvement/sustainment of function after discharge, identify the post-acute continuum of care, patient-centered/family-centered functional goals, availability/depth of psychosocial support structures, residential accessibility, and resources available.		X			X				

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CONTENT DOMAIN: AREAS OF PRACTICE/OTHER				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Interdisciplinary rehabilitation team leadership and care coordination - All physiatrists									
See "All Settings of Practice".									
Develop an individualized, interdisciplinary plan of care toward optimizing rehabilitation outcomes within the clinical context.		X			X				
Prescribe appropriate interdisciplinary rehabilitation and nursing interventions.		X		X					
Incorporate observations and input from rehabilitation team into plan of care.		X			X				
Cancer impact on rehabilitation: communicate with patient, family and rehabilitation staff on expected rehabilitation progress, incorporating any impact of the cancer on the rehabilitation plan of care and outcomes.		X	X		X				
Rehabilitation impact on cancer: communicate with patient, family and rehabilitation staff on possible/ expected impact of the rehabilitation on cancer care, such as the role of optimized performance status in maximizing cancer treatment options, and the beneficial effects of physical activity in the outcomes of some cancers.		X	X				X		
Involve oncology team in communications when appropriate.		X		X					
Manage difficult conversations with patients and families, maintaining a supportive attitude, and demonstrating judgment in when to take the lead, and when to defer major discussions to other managing providers.			X			X	X		
Engage in stewardship of resources as noted per "Assessment of Rehabilitation Level of Care" section.		X					X		
Advanced cancer (impact on rehabilitation approach, i.e. goal setting, precautions)									
See "All Settings of Practice".									
See "Inpatient Rehabilitation Consults".									
See "Inpatient Acute Rehabilitation".									
See "Outpatient Rehabilitation".									
See "Assessment of Level of Care".									
Communicate with the patient's oncologic team for clinical clarity and overall prognosis, when needed.			X		X				
Recognize the varied prognostic implications with regard to advanced cancer, from "metavivors" to end-of-life situations.	X					X	X		
Employ strategies to maintain function in the setting of barriers such cachexia, fatigue, pain, GI concerns (anorexia, nausea, constipation), malignant lymphedema, and neurological changes.		X				X	X		
Value other supportive care providers including palliative care and hospice personnel, spiritual ministry, etc, and integrate rehabilitation into patient management appropriate to the clinical context.		X			X				
In cases where candicacy for inpatient acute rehabilitation is equivocal, communicate with the patient and family/caregivers to elicit availability and depth of the social support system, as well as understanding of clinical and functional trajectory, and goals of rehabilitation care and within context of overall care.			X			X	X		

Cancer Rehabilitation Medicine Curriculum

aapm&r
American Academy of Physical Medicine and Rehabilitation

CONTENT DOMAIN: AREAS OF PRACTICE/OTHER				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Prehabilitation - All CRM physiatrists									
See "All Settings of Practice".									
See "Outpatient Rehabilitation".									
Describe common diagnoses with evidence supporting prehabilitation.	X						X		
Identify and describe the role of the various medical, surgical and rehabilitation professionals that may be involved in prehabilitation.	X							X	
Summarize the multimodal approach to prehabilitation (specific targeted exercise/therapy program, dietary/ nutritional support, behavior modification/smoking cessation, stress reduction/addressing psychosocial stressors/issues).	X								X
Identify co-morbidities that may impact response and recovery from upcoming cancer treatments.	X				X				
Educate patients in common expected impairments and possible functional impact from upcoming cancer treatments.	X					X			
Prescribe a prehabilitation program appropriate to the type of cancer, the patient's clinical context, and the institutional and community resources.		X					X		
Discuss outcome measures commonly employed in prehabilitation.	X						X		
Rehabilitation during treatment - All CRM physiatrists									
See competencies for "All Settings of Practice".									
See competencies for "Inpatient Rehabilitation Consults".									
See competencies for "Outpatient Rehabilitation".									
See competencies for "Assessment of Level of Care".									
See competencies for "Interdisciplinary Team Leadership and Care Coordination".									
Identify where patients are along their treatment spectrum.	X			X					
State common types of impairments seen in various treatment modalities and regimens (see "Global Impairment" section).	X				X				
Demonstrate ability to differentiate and prioritize acute and chronic impairments.		X					X		
Recognize any red flags in history and presenting symptomatology.	X				X				
Evaluate fatigue and incorporate strategies to improve or mitigate its effects.		X				X			
Develop a plan to support patient function during treatment, addressing physical activity, social integration, possible occupational demands and other patient priorities.		X					X		
Outpatient rehabilitation - All physiatrists									
See competencies for "All Settings of Practice".									
See competencies for "Rehabilitation during Treatment".									
See competencies for "Interdisciplinary Team Leadership and Care Coordination".									
See competencies for "Prehabilitation".									

Cancer Rehabilitation Medicine Curriculum

aapm&r
American Academy of Physical Medicine and Rehabilitation

CONTENT DOMAIN: AREAS OF PRACTICE/OTHER				CORE			SPECIALIZED		
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	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
See competencies for "Advanced Cancer".									
Identify the phase of care (i.e., prehabilitation, active treatment, survivorship, hospice).	X			X					
Ascertain the CRM physiatrist's role within the network of other providers (oncology, rehabilitation and other) that may be involved in the patient's care.		X			X				
Differentiate cancer-related and non cancer-related issues being addressed in scope of practice.			X				X		
Educate patients on CRM's physiatrist's role for them and set clear expectations.			X			X	X		
Engage community resources such as local cancer support organizations when appropriate.		X				X	X		
Recognize common insurance coverage issues for outpatient benefits pertaining to scope of care.	X					X			
Prosthetics, orthotics, adaptive aids and other equipment - All physiatrists									
Identify role of Prosthetists and Orthotists in the rehabilitation team.	X			X					
Identify role of physical and occupational therapists in determination of durable medical equipment, assistive devices and adaptive aids.	X			X					
Compare similarities and differences between individuals with amputation due to cancer compared to other amputee groups (such as age, level of amputation), and the potential impact on decision-making and outcomes.	X					X	X		
Predict possible orthotic and equipment needs in individuals status post limb sparing procedures.	X							X	
Predict possible orthotic and equipment needs in individuals with motor impairment due to cancer.	X				X				
Predict possible orthotic and equipment needs in individuals with pain or bony metastatic disease.	X				X				
Prosthetics									
Upper Extremity Prostheses.									
Describe the types of prosthetic systems – passive, body powered, Externally powered, Hybrid system.	X					X			
Lower Extremity Prostheses.									
Describe Medicare Functional Classification Levels (K levels).	X					X			
Level 0 - Does not have the ability/potential to ambulation.									
Level 1 - Household ambulator.									
Level 2 - Limited community ambulator.									
Level 3 - Community ambulatory/Variable cadence.									
Level 4 - Active/Athletic activities.									
Determine appropriate timing for assessment for prosthetic evaluation and fitting.		X				X			
Recognize expected upcoming treatment and side effects that can limit or compromise prosthetic evaluation and fitting.	X							X	
Describe the utility of functional and cosmetic prostheses.	X							X	
Hemipelvectomy/Hip disarticulation.									
Determine appropriateness socket fit and load/weight bearing based on extent/technique of surgical amputation.		X				X			

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American Academy of Physical Medicine and Rehabilitation

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				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Orthotics									
Describe the indications for use of Orthotics: protection, correction, assistance with function.	X				X				
Distinguish between static and dynamic splinting and goals of each.	X					X			
Head/Neck Orthotics.									
Explain appropriate use of helmets for patient status post craniectomy.	X			X					
Describe type of devices for Trismus (Therabite/OraStretch) and precautions/contraindications of use.		X					X		
Upper Extremity Orthotics: prescribe hand and wrist splints, as well as splinting to elbow or shoulder when appropriate.		X			X	X			
Prescribe spinal Orthotics: Headmaster collar, Hard Cervical collars, Miami J, Philadelphia Collars, TLSO/ Jewett brace, spinal support braces.		X			X	X			
Lower Extremity Orthotics: prescribe foot orthotics, AFO's, KAFO's with appropriate componentry.									
Assistive Devices/Wheelchair.									
Describe the appropriate use of Standard walker, Rolling Walker, 4 Wheeled Walker, Hemiwalker.	X			X					
Explain the appropriate use of straight cane, quad cane.	X			X					
Identify the appropriate candidate for manual wheelchair and power mobility devices including power wheelchair and electric scooter.	X				X				
Discuss the goals of fitting for wheelchair and seating system.	X				X				
Identify key modifiable components of wheelchairs to accommodate specific impairments.	X				X				
Pediatric cancer rehabilitation	X						X		
Identify common tumor types seen in children, including variations in incidence according to age group (i.e., younger-ALL, CNS; adolescent-Hodgkin's lymphoma, osteosarcoma).	X						X		
Discuss overall survival characteristics for childhood cancers and how this has changed over time.	X							X	
Describe potential common long term effects of childhood cancers including possible impact on general health, school and work.	X							X	
Explain the Childhood Cancer Survivor Study.	X							X	
List factors in childhood cancer and its treatment which may predispose to obesity (i.e., cranial irradiation, corticosteroids, inactivity, younger age, female gender, possibly chemotherapy).	X							X	
List factors in childhood cancer or its treatment which are associated with long term neurocognitive effects (brain tumor, CNS irradiation especially younger age, intrathecal methotrexate).	X	X						X	
Employ strategies to manage neurocognitive effects of treatment (longitudinal follow-up, neuropsychologic testing, cognitive therapy with speech and language pathologist and/or occupational therapist, school reentry strategies including possible Individualized Education Plan, possible medication strategies).	X								X
Relate possible sequelae of spinal radiation in children (radiation myelitis with weakness/spasticity; scoliosis/ kyphosis).	X						X		

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American Academy of Physical Medicine and Rehabilitation

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				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Describe neuromuscular effects which may occur in the treatment of acute lymphocytic leukemia (i.e., chemotherapy-associated polyneuropathy, corticosteroid myopathy) and how to approach these conditions in a child.	X							X	
State precautions or considerations which might impact activity recommendations during or after ALL treatment (cytopenias, cardiac toxicity, bone health effects).		X						X	
Prescribe medication for neuropathic pain in children and age-appropriate dosing.	X						X		
Name types of brain tumor which are seen in children and young adults but rarely in older individuals (i.e., medulloblastoma, primitive neuroectodermal tumor, pilocytic astrocytoma).	X						X		
Describe location characteristics of brain tumor in children (more likely to occur infratentorially than in adults, except age 0-2 and late adolescence).		X					X		
Recognize possible impairments related to pediatric brain tumor and its treatment (weakness, sensory deficits, visual deficits, cognitive changes, hearing loss including chemotherapy-related, speech and swallowing changes, neuroendocrine effects).		X						X	
Implement rehabilitation interventions to address pediatric brain tumor-related impairments (physical, occupational and speech therapies; orthotics and assistive/adaptive devices, ophthalmology assessment, visual therapy with occupational therapist or neurooptometrist, low vision services, hearing evaluation including baseline evaluation in risk situations, hearing aids, swallowing assessment, educational and later vocational interventions, medications).	X						X		
Identify the common pediatric bone sarcoma diagnoses (osteosarcoma, Ewing sarcoma), typical age of presentation (adolescence), and sites of involvement (distal femur, proximal tibia, proximal humerus).	X							X	
Discuss sarcoma treatment options of amputation and limb sparing, including types of limb sparing options that are available.	X								X
List outcomes and complications of pediatric sarcoma treatment, including complications of amputation compared to limb sparing, and age-related considerations in choice of limb-sparing procedure.		X							X
Manage the rehabilitation process for sarcoma-related amputation and limb sparing, including interdisciplinary communication with oncology and orthopedic specialists, appropriate rehabilitation therapies and activity strategies, prosthetics and gait aids, pain control, skin and wound management, monitoring for complications, and strategies to prevent deconditioning during prolonged treatment.		X							X

Cancer Rehabilitation Medicine Curriculum

aapm&r
American Academy of Physical Medicine and Rehabilitation

CONTENT DOMAIN: GENERAL EDUCATION				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Cancer related accreditation standards (CoC, NAPBC, CARF)									
Commission on Cancer									
Participate in Accreditation Related Meetings/Activities.		X						X	
Recognize the structure of accreditation standards.	X							X	
Describe the Rehabilitation Care Services standard.		X						X	
Assist with writing/modifying your local plan for compliance with the Rehabilitation Care Services Standard.		X						X	
Discuss the Palliative Care Services standard.		X						X	
Discuss the Survivorship Program standard.		X						X	
Work with cancer committee on integrating rehabilitation services into Survivorship Program standard.		X						X	
National Accreditation Program for Breast Centers (NAPBC)								X	
Participate in Accreditation Related Meetings/Activities.		X						X	
Recognize the structure of accreditation standards.	X							X	
Characterize the Support and Rehabilitation standard.		X						X	
Assist with writing/modifying your local plan for compliance with the Support and Rehabilitation Standard.		X						X	
Describe the Breast Cancer Survivorship Care standard.		X						X	
Cancer rehab CARF									
Participate in Accreditation Related Meetings/Activities.		X						X	
Recognize the structure of accreditation standards.	X							X	
If your local program is not cancer CARF accredited or working on accreditation, work with other CARF specialty teams to gain CARF experience.		X						X	
Cancer rehab program marketing/program building									
Characterize local institutional culture, referral sources, data on diagnoses.	X					X	X		
Leverage EHR for referrals.		X				X	X		
Demonstrate skills in interacting with all disciplines of the cancer care team (med onc, surg onc, rad onc, APPs, navigators, etc.).		X				X	X		
Outline cancer rehab care delivery models.	X							X	
Demonstrate awareness of utilizing philanthropy for program building.		X					X		
Cancer related guidelines (NCCN, ASCO, ACS, ONS, ACSM guidelines on (fatigue, pain, neuropathy, cognition, exercise, lymphedema)									
Describe rehabilitation related NCCN guidelines.		X					X		

Cancer Rehabilitation Medicine Curriculum

aapm&r
American Academy of Physical Medicine and Rehabilitation

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	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Describe rehabilitation related ASCO guidelines.		X					X		
Describe rehabilitation related ACS guidelines.		X					X		
Recite the opportunities to utilize guideline-based care to assist in building a cancer rehab program.		X						X	
Characterize the components of NCCN and ASCO guidelines for cancer related cognitive impairment and how the physiatrist can participate in this guideline based care in both clinical care and program development.		X					X		
Describe the components of NCCN and ASCO guidlines for cancer related fatigue and how the physiatrist can participate in this guideline based care in both clinical care and program development.		X					X		
Identify the components of NCCN and ASCO guidlines for cancer related pain and how the physiatrist can participate in this guideline based care in both clinical care and program development.		X					X		
Describe the components of NCCN and ASCO guidlines for chemotherapy induced polyneuropathy and how the physiatrist can participate in this guideline based care in both clinical care and program development.		X					X		
Identify the components of NCCN and ASCO guidlines for cancer related lymphedema and how the physiatrist can participate in this guideline based care in both clinical care and program development.		X					X		
Summarize the components of ACSM guidelines for exercise in cancer.									
Cancer Rehabilitation Functional Outcome Measures									
List common functional outcome measures used in cancer care (especially Karnofsky and ECOG).		X						X	
Name commonly used quality of life measures in cancer care.		X						X	
State commonly used pain outcome measures in cancer care.		X						X	
Describe commonly used outcome measures to assess cancer related fatigue.		X						X	
Discuss commonly used outcome measures to assess cognition in cancer.		X						X	
Explain commonly used objective measures in cancer (grip strength, 6MWT, etc.).		X						X	
Describe components of cancer rehab metrics consortium patient reported outcome measure.		X						X	
Other PROMIS MEASURES?									
Health Disparities in Cancer Care									
Recall cancer statistics and outcomes in underrepresented populations.	X						X		
Identify key factors leading to financial toxicity in cancer.	X						X		
Demonstrate ability to compassionately assist patients in navigating social barriers to cancer care.		X						X	
Describe how ableism may impact cancer care.	X							X	
Discuss barriers to return to work in cancer patients.	X						X		
Demonstrate ability to engage in return to work conversations with cancer patients.		X						X	
Discuss barriers to access to cancer and cancer rehabilitation services.		X					X		
Apply culturally sensitive care to patients of different backgrounds.		X			X				

Cancer Rehabilitation Medicine Curriculum

aapm&r
American Academy of Physical Medicine and Rehabilitation

CONTENT DOMAIN: GENERAL EDUCATION				CORE			SPECIALIZED		
				1	2	3	4	5	6
	Knowledge	Skill	Attitude	Basic	Intermediate	Advanced	Basic	Intermediate	Advanced
Communication Skills in Cancer Rehab									
Use motivational interviewing.		X					X		
Assess and manage Social Determinants of Health.		X					X		
Coordinate care with other members of oncology and rehabilitation team.		X					X		
Demonstrate empathy to patients and families.		X		X					
Cultivate a culture of hope.					X				
Perform a high stakes counseling session with a patient (e.g., end of life).		X				X			
Communicate realistic expectations and goals incorporating functional prognosis.		X				X			
Cancer Knowledge									
Manipulate epidemiology & statistics in oncology.		X					X		
Recall the principles of neoplasia.	X					X			
Recite components of cancer staging.		X				X	X		
Outline common cancer treatment modalities.		X				X	X		
Describe common chemotherapeutic agents, mechanism of action, common toxicities.		X					X		
Break down hormonal therapies, their indications, and toxicities.		X					X		
Break down immunotherapy agents, their indications, and toxicities.		X						X	
Explain radiation including basic physics, radiation fields, types of radiation, toxicity.		X					X		
Discuss cancer surgery including breast/breast reconstruction, lymph node dissections, neck dissection, abdominopelvic surgeries, craniotomy, limb sparing, amputation, thoracotomy, wide local excision.		X					X		