Entrustable Professional Activities (EPAs) and Workplace-based Assessment (WPBA)

in Rehabilitation Medicine Residency Training 2020

By The Board of Training and Examination in Rehabilitation Medicine
The Royal College of Physiatrists of Thailand

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Forward

This book of Entrustable Professional Activities (EPAs) and Workplace-based Assessment (WPBA) for Residency training in Rehabilitation Medicine in Thailand is accomplished by the task force of EPAs and WPBA leaded by Associate Prof. Apichana Kovindha and Dr. Pattarapol Yotnuengnit, Boards of Training and Examination in Rehabilitation Medicine (TERM), under the Royal College of Physiatrists of Thailand (RCPhysiatrT).

Representatives from 9 training institutes seriously brainstormed, provided inputs and comments after trials of implementation, criticized the first 9 EPAs and 6 Direct Observation of Procedural Skills (DOPS), and early this year the task force of TERM finalized the necessities of 13 EPAs and 5 WPBA. These are based on the benefits of the trainees who would become competent physiatrists for the country.

On behalf of the RCPhysiatrT, I would like to express my sincere thanks to the task force and the Board of TERM for their efforts and times spending so that the book of EPAs and WPBAs for residency training in Rehabilitation Medicine is now ready for implementation.

Associate Prof. Vilai Kuptniratsaikul, MD, FRCPhysiatrT
President, the Royal College of Physiatrists of Thailand
17th April 2020

Preface

According to the medical education improvement policy of the Medical Council of Thailand, the Board of Training and Examination in Rehabilitation Medicine (TERM) under the Royal College of Physiatrists of Thailand (RCPhysiatrT) revised and published the Rehabilitation Medicine training curriculum, the 2018 revision, in accordance with the Postgraduate Medicine Education of the World Federation of Medical Education (WFME) for Quality Improvement: the 2015 revision.

The revised curriculum has been approved by the Medical Council of Thailand in 2018. It aims at international standards of postgraduate training so that all trainees shall achieve professional competencies which consist of: 1) patient care, 2) medical knowledge and practical skills, 3) interpersonal and communicational skills, 4) practice-based learning and improvement, 5) professionalism, and 6) system-based practice.

To ensure that the trained physicians who shall become a physiatrist having such professional competencies, the Board of TERM developed Entrustable Professional Activities (EPAs), milestones and Direct Observation of Procedural Skills (DOPS). In addition, the RCPhysiatrT appointed a working group of EPAs and WPBA which consisted of representatives from all nine training institutes. The working group identified problems in implementation the EPAs and DOPS, reviewed and revised the EPAs, and developed necessary Workplace-based Assessment (WPBA) apart from DOPS. We do hope that these revised EPAs and new WPBA will be implemented by all training institutes.

For this occasion, I would like to acknowledge the Board of TERM and the EPAs and WPBA Working Group for devoting their times and efforts in making the EPAs and WPBA in Rehabilitation Medicine Residency Training in Thailand ready for implementation in 2020.

Wipawan Leelasamran, MD, RCPhysiatrT
Chairperson
The Board of Training and Examination in Rehabilitation Medicine
16th April 2020

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Contents

Entrustable Professional Activities (EPAs)

EPA Table Outline

	Prerequisite	Milestones of Performance Competencies			Expected Outcomes & Competencies of a Rehabilitation Physician (Physiatrist) to be able to	
		M1	M 2	M 3	Details	Codes
Basic knowledge	(details)	(details)	(details)	(details)	(details)	(details)
Evaluation & Diagnosis	(details)	(details)	(details)	(details)	(details)	(details)
Rehabilitation & Management	(details)	(details)	(details)	(details)	(details)	(detail)
Workplace-based Assessment (WPBA)		Methods and numbers of cases with "satisfied performance" to ensure Entrusted Performance Level 4 ☐ **mini-CEX** mini-Clinical Evaluation Exercise ☐ **DOPS** Direct Observational Professional Skills ☐ **CbD** Case-based Discussion			**Summary of WPBA in a 3-year residency training program**	

Note [Abbreviations and full terms]

EPA 1: Evaluating and Managing Pain

	Prerequisite	Milestones			Expected Outcomes & Competencies	
		M 1	M2	M 3	Details	Codes
Knowledge	▪ Review physiology and pathophysiology of acute and chronic pain (somatic, visceral, nociceptive, neuropathic pain). ▪ Review biomechanic and ergonomics.	▪ Describe common causes of MSK pain conditions (e.g. MPS, arthritic pain, tendinopathy) including related biomechanic, ergonomics and consequences of MSK pain.	▪ Describe neuropathic pain (radicular pain, central pain, nerve injury, CRPS etc.), consequences and complications of pain. ▪ Describe CBT for treatment of pain, and behavior modification.	▪ Describe uncommon/ complex pain conditions (e.g. fibromyalgia, chronic pain, cancer pain, sport injury), consequences and complications; and surgical/anesthetic interventions, and CAM (e.g. acupuncture).	▪ Describe different types and causes of pain, related factors (predisposing, perpetuating and precipitating factors), consequences and complications. ▪ Describe EBM of pharmacological and non-pharmacological treatments including surgical/anesthetic interventions, and CAM for pain management.	MKS1 MKS2
Evaluation & Diagnosis	▪ Review pain assessment in MSK pain and imaging (e.g. x-ray, US, CT etc.) of MSK conditions.	▪ Make a correct diagnosis of common cause of MSK pain. ▪ Identify consequences and related factors of MSK pain.	▪ Comprehensively assess bio-psycho-social aspects affecting pain and functioning. ▪ Correlate EDx, MRI spine, spinal cord and brain findings for diagnosis of neuropathic pain.	▪ Evaluate complex pain with more specific assessment tools. ▪ Correlate imaging, US, bone scan findings for diagnosis of complex pain.	▪ Make a correct diagnosis of cause of pain, and identity related factors, consequences and complications. ▪ Select appropriate and safe investigations for proper diagnosis ▪ Provide accurate prognosis.	PC1 PC4 ICS1 ICS2
Rehabilitation & Management	▪ Review pharmacological and non-pharmacological management. ▪ Review various diagnoses of causes of pain based on ICD-10. ▪ Review principles of ethical decision making.	▪ Prescribe appropriate pharmacological and non-pharmacological treatments e.g. physical modalities, therapeutic exercises, etc. ▪ Perform trigger point injection/dry needling. ▪ Provide adequate patient education.	▪ Manage with interdisciplinary and comprehensive approach including CBT, and behavioral modification. ▪ Provide proper patient education, planning and goal setting. ▪ Perform intra-articular/ soft tissue injection with/without US-guide with safety precaution.	▪ Perform a proper counseling or referral for pain control with other therapy e.g. epidural/ intra-thecal nerve block, CAM, with concern of EBM, safety and cost-effectiveness.	▪ Demonstrate appropriate, comprehensive and interdisciplinary rehabilitation management and counseling based on sound decision making, safety, and cost-effective. ▪ Provide an appropriate referral to other specialists for pain control.	PC5 PC6 ICS4 ICS6 PF1 PF2 PC3 SBP3
Workplace-based Assessment (WPBA)		**mini-CEX:** 1 MSK pain case **DOPS:** 1 case of dry needling/ trigger point injection	**DOPS:** 1 case for Intra-articular/ soft tissue injection	**mini-CEX:** 1 cases of cancer pain, chronic pain, or sports injury	**Summary of WPBA** ▪ **mini-CEX:** 2 cases ▪ **DOPS:** 2 cases	

Note: CBT, cognitive behavioral therapy; CAM, complementary and alternative medicine; CRPS, complex regional pain syndrome; CT, computer tomography; EBM, evidence-based medication; EDx, Electrodiagnosis; ICD, International Classification of Diseases and related disorders; MPS, myofascial pain syndrome; MRI, magnetic resonance imaging; MSK, musculoskeletal; US, ultrasonography

EPA 2: Evaluating and Managing Brain Disorders

	Prerequisite	Milestones			Expected Outcomes & Competencies	
		M 1	M 2	M 3	Details	Codes
Knowledge	▪ Review neuro-anatomy, -physiology and -pathology of stroke, TBI, dementia, Parkinson, brain tumor; and risk factors of stroke.	▪ Describe stroke and its consequences e.g. weakness, spasticity, cognitive impairment, emotional disturbance, dysphagia, dysphasia; and complications.	▪ Describe other dysfunctions after stroke and TBI e.g. perceptual dysfunctions, incontinence. ▪ Describe concept of neuroplasticity.	▪ Describe dementia with cognitive, behavioral and psychosocial problems. ▪ Describe Parkinson and its consequences e.g. abnormal movements and gait pattern, etc.	▪ Describe common brain disorders such as stroke, Parkinson, TBI; related problems, impairments and disability; control of stroke risk factors; prognostic factors; and medical/surgical treatments.	MKS1 MKS2
Evaluation & Diagnosis	▪ Review neurological examination and interpretation of NIHSS score. ▪ Review ICD-10 related with brain disorders.	▪ Evaluate stroke with following measures e.g. Brunnstrom motor recovery scale, TMSE, PHQ9, MRS, Barthel ADL index, etc. ▪ Evaluate dysphagia, and dysphasia. ▪ Interpret CT and MRI brain findings.	▪ Evaluate dysfunctions with the following tools/ tests e.g. perceptual dysfunction tests, MoCA, Rancho Los Amigos scale, FAC, gait speed, etc.	▪ Evaluate cognitive, behavioral and psychosocial problems. ▪ Evaluate abnormal movements.	▪ Perform special tests to assess severity of impairments related to brain disorders especially with NMS, perceptual, cognitive and communication dysfunctions. ▪ Obtain a complete problem list including diagnosis, body structure/function impairments, activity limitations, participation restrictions, environmental and personal factors. ▪ Provide accurate prognosis. ▪ Select appropriate and safe investigations.	PC1 PC2 PC3 PC4
Rehabilitation & Management	▪ Review medications for stroke and comorbidity. ▪ Review mobility and ADL and basic rehabilitation. ▪ Review non-technical skills (e.g. patient education, ethical decision making, communication skills).	▪ Prescribe appropriate conventional (physical and occupational therapy), orthoses, and mobility aids, and therapy for dysphagia and dysphasia. ▪ Complete inpatient and outpatient medical records	▪ Provide adequate patient education to get informed consent and make a right decision in treatment. ▪ Manage swallowing and perceptual dysfunctions appropriately. ▪ Perform chemoneurolysis. (See EPA 6 Spasticity)	▪ Describe non-invasive brain stimulations (tDCS, TMS), music therapy, etc. appropriately. ▪ Manage/make a referral for cognitive and behavioral disturbance, psychosocial problem appropriately.	▪ Set appropriate goals, treatments, and rehabilitation program and counseling. ▪ Demonstrate rehabilitation management with an interdisciplinary approach.	PC5 PC6 ICS1 ICS4 PF2 SBP1
Workplace-based Assessment (WPBA)		**mini-CEX:** 1 case	**mini-CEX:** 1 case	**CbD:** 1 case	**Summary of WPBA** ▪ **mini-CEX:** 2 cases ▪ **CbD:** 1 case ▪ Chart review: 5 cases	
		Chart review: 5 cases				

Note: ADL, activities of daily living; CT, computer tomography; FAC, functional ambulatory category; ICD, International Classification of Diseases and related disorders; MoCA, Montreal cognitive assessment; MRI, magnetic resonance imaging; MRS, modified Rankin scale; NMS, neuromusculoskeletal; NIHSS, National Institute of Health Stroke Scale; PHQ9, patient health questionnaire 9; TBI, traumatic brain injury; tDCS, transcranial direct current stimulation; rTMS, repetitive transcranial magnetic stimulation; TMSE, Thai mental state examination

EPA 3: Evaluating and Managing Traumatic and Non-traumatic Spinal Cord Injury (SCI)

	Prerequisite	Milestones			Expected Outcomes & Competencies	
		M 1	M 2	M 3	Details	Codes
Knowledge	▪ Review neuro - anatomy, -physiology and -pathology of TSCI and spine injuries.	▪ Describe spinal injuries, TSCI, and consequences e.g. DVT, AD, postural hypotension, NLUTD, NBoD, neuropathic pain (see EPA1), depression.	▪ Describe spasticity, HO, osteoporotic fracture; PrU, sexual dysfunction, and complications related to NLUTD and NBoD.	▪ Describe NTSCI (e.g. tuberculosis; NMO, MS; spina bifida (MMC), tumors, myelopathy, vascular disorders, post-traumatic syringomyelia.	▪ Describe TSCI and common NTSCI including related consequences and complications in details.	MKS1 MKS2
Evaluation & Diagnosis	▪ Review neurological exam based on ISNCSCI. ▪ Review ICF framework, and tools of assessing ADL.	▪ Perform neurological exam and diagnosis based on ISNCSCI. ▪ Make diagnoses of secondary conditions in post-acute phase. ▪ Identify impairments, disability based on ICF.	▪ Make diagnoses of secondary conditions in chronic phase. ▪ Assess ADL with SCIM-V3; psycho-social problems and QOL. ▪ Perform a cystometry and write a proper report.	▪ Identify patient/family's needs & expectation, and environmental barriers ▪ Identify needs for surgery, advanced therapy & assistive tech. ▪ Perform UDT and write a proper report.	▪ Make correct diagnoses of TSCI/ NTSCI, and of secondary conditions. ▪ Identify rehab problems including psychosocial problems based on ICF, SCIM-V3, QoL questionnaire etc. ▪ Perform cystometry/UDT and complete a report with sound comment and suggestion of appropriate management	PC1 PC4 PC2
Rehabilitation & Management	▪ Review conventional rehabilitation therapy, mobility aid and assistive devices. ▪ Review techniques of patient education, & counseling. ▪ Review ICD-10 and ICD-9CM. ▪ Review legislations on persons with disability.	▪ Set SMART goals, plans for rehabilitation, and provide patient & family education. ▪ Monitor medical and rehabilitation progress. ▪ Make an ethical decision for therapy/treatment, assistive device& mobility aid. ▪ Present a case at rehabilitation conferences. (see EPA12) ▪ Prevent, early detect and treat complications. ▪ Complete medical record.	▪ Treat complications e.g. spasticity (see EPA6). ▪ Provide high specification assistive devices, mobility aids for increasing independency, treating and preventing complications. ▪ Discuss a case at rehabilitation conference with team. (see EPA 12) ▪ Write a rehabilitation consultation and a referral to other specialists when necessary.	▪ Provide efficient rehab consultation with other specialty /organization to solve medical/surgical condition or to improve functional independency. ▪ Provide appropriate counseling for patient &family to accept disability, have a positive coping strategy and right attitude, and realize self-efficacy.	▪ Set appropriate goals and plans for patients with TSCI/NTSCI in post-acute & chronic phases. ▪ Provide adequate and appropriate patient & family education and counseling. ▪ Conduct a holistic interdisciplinary team approach and comprehensive rehabilitation management based on ethical decision making (see EPA 12). ▪ Complete a correct and complete medical record according to ICD-10 and ICD9-CM.	PC3 PC5 PC6 ICS1 ICS2 ICS4 ICS6 PF1 PF2 SBP1 SBP3
Workplace-based Assessment (WPBA)		**mini-CEX:** 1 case of TSCI	**CbD:** 1 case of TSCI with complications	**DOPS:** 1 case of UDT 1 case of cystometry	**Summary of WPBA** ▪ **mini-CEX:** 1 case ▪ **DOPS:** 2 cases ▪ **CbD:** 1 case ▪ **Chart review:** 5 cases	
		Chart review: 5 cases				

Note: AD, autonomic dysreflexia; ADL, activities of daily living; DVT, deep vein thrombosis; EBM, evidence-based medicine; HO, heterotopic ossification; ICD, International Classification of Diseases and related disorders; ICF; international classification of functioning, disability and health; ISNCSCI, International standards neurological classification for SCI; MMC, meningomyelocele; MS, multiple sclerosis; NMO, neuromyelitis optica; NBoD, neurogenic bowel dysfunction; NLUTD, neurogenic lower urinary tract dysfunction; NTSCI, non-traumatic SCI; PrU, pressure ulcer; QoL, quality of life; SCI, spinal cord injury; SCIM-V3, spinal cord independence measure-V3; SMART, specific, measurable, achievable, relevant, timely; TSCI, traumatic SCI; UDT, urodynamic test

EPA 4: Evaluating and Managing Pediatric Rehabilitation

	Prerequisite	Milestones			Expected Outcomes & Competencies	
		M 1	M 2	M 3	Details	Codes
Knowledge	▪ Review normal growth & developmental milestones; primitive reflexes, and postural reactions.	▪ Review pathophysiology of CP and delayed development.	▪ Describe consequences of birth injury - brachial plexus palsy; spina bifida (meningomyelocele); scoliosis, and complicated CP.	▪ Describe congenital limb deficiency, arthrogryposis multiplex congenita; lower limb deformity, rotational deformity; DDH; common genetic disorders; learning disorders and behavioral problems.	▪ Describe growth & developmental milestones, primitive reflexes, postural reactions; and pathophysiology of pediatric diseases/disorders.	MKS1 MKS2
Evaluation & Diagnosis	▪ Review assessment of pediatric diseases/ disorders, pediatric neurological and orthopedic examination.	▪ Perform primitive reflexes, postural reactions, developmental milestones assessment; pediatric neurological and orthopedic evaluation to diagnose CP and its consequences and complications.	▪ Demonstrate clinical reasoning in diagnosis of the above-mentioned diseases/ disorders.	Demonstrate clinical reasoning in diagnosis of the above-mentioned disorders in children.	▪ Perform pediatric diseases/disorders evaluation. ▪ Identify rehabilitation and related problems including impairments and disability. ▪ Select appropriate and safe investigations. ▪ Provide accurate prognosis.	PC1 PC2 PC4
Rehabilitation & Management	▪ Review principles of rehabilitation management, goal setting and counseling. ▪ Review ICD-10 and ICD-9CM related to CP and other pediatric disease/disorders. ▪ Review healthcare and referral system.	▪ Describe impairments, goals and rehabilitation program. ▪ Provide adequate counseling for parents. ▪ Re-assess development milestones, consequences and complications. ▪ Complete a medical record of a pediatric patient with CP.	▪ Demonstrate clinical reasoning in goal setting and treatment planning of the above-mentioned diseases/disorders. ▪ Perform chemoneurolysis in children with spasticity (See EPA6). ▪ Write a rehabilitation consultation and a referral to other specialists when necessary.	▪ Demonstrate clinical reasoning in goal setting and treatment planning for the above-mentioned diseases/ disorders based on different needs and health insurances. ▪ Provide adequate and appropriate patient & parent education and counseling. ▪ Prescribe an appropriate assistive device & mobility aid, orthosis (see EPA 9), and prostheses (see EPA 8).	▪ Set SMART goals and proper rehabilitation management with a holistic interdisciplinary team approach. ▪ Provide adequate and appropriate patient & parent education and counseling. ▪ Summarize correct and complete a discharge summary and a referral letter. ▪ Prescribe an appropriate orthosis, prostheses, assistive device & mobility aid based on different needs and health insurances.	PC5 PC6 ICS1 ICS4 ICS6 PF1 PF2 PC3 SBP1 SBP3
Workplace-based Assessment (WPBA)		**CbD:** 1 common CP case	**mini-CEX:** 1 case for history taking and physical & neurological examination	**mini-CEX:** 1 case for counseling **CbD:** 1 complicated CP or NMD case	**Summary of WPBA** ▪ **CbD:** 2 cases ▪ **mini-CEX:** 2 cases	

Note: CP, cerebral palsy; DDH, developmental dysplasia of the hip; SMART, specific, measurable, achievable, relevant, timely

EPA 5: Evaluating and Managing Cardiovascular and Pulmonary Rehabilitation

	Prerequisite	Milestones			Expected Outcomes & Competencies	
		M 1	M 2	M 3	Details	Codes
Knowledge	▪ Review anatomy and physiology of CVS, lymphatic; and pulmonary systems.	▪ Describe pathophysiology of arterial occlusion, DVT, PE; lymphedema; and restrictive and COPD.	▪ Describe pathophysiology of CAD, arrhythmia, and heart failure.	▪ Describe pathophysiology cardiomyopathy and related complications e.g. complicated CABG.	▪ Describe common cardiopulmonary diseases such as CAD, COPD; medical treatments and rehabilitation therapy; and risk factors control.	MKS1 MKS2
Evaluation & Diagnosis	▪ Review peripheral vascular diseases, and tests for DVT and PE; pulmonary disorders, laboratory test and CXR; heart disease, NYHAFC, and ECG.	▪ Diagnose arterial occlusion; venous insufficiency, DVT, PE and lymphedema with non-invasive tests e.g. ABI, US compression test. ▪ Evaluate pulmonary diseases with clinical presentation, pulmonary function test, laboratory tests, and CXR.	▪ Evaluate CVS according to NYHAFC, ECG and 6MWT. ▪ Identify potential candidates and contra-indications to cardiac rehabilitation; symptoms and signs, and ECG to terminate exercise.	▪ Perform and interpret exercise testing (sub-maximal and symptom-limited maximal exercise test) before, during, after exercise in patients with cardiovascular and/or pulmonary diseases.	▪ Perform adequate evaluation for diagnosis of CVS & pulmonary diseases ▪ Provide accurate prognosis. ▪ Identify potential candidate and contra-indication to different phases of cardiac rehabilitation program. ▪ Prescribe appropriate and non-invasive investigations to confirm diagnosis and severity assessment.	PC1 PC2 PC4
Rehabilitation & Management	▪ Review cardio-vascular treatments e.g. cardiovascular drugs, CABG, PCI, and advanced cardiac life support. ▪ Review pre- and post-operative pulmonary problems. ▪ Review risks factors modification, and airway clearance techniques.	▪ Provide patient education for modifying risks of CVS and pulmonary disorder, preventing ulceration and gangrene, and aggravation of lymphedema. ▪ Prescribe prophylaxis and treatment of DVT and lymphedema. ▪ Manage airway clearance techniques and breathing based on results of relevant investigations. ▪ Prescribe a safe endurance exercise for COPD patients.	▪ Provide counseling and patient education (goals and expectations) for patients in different phases of cardiac rehabilitation. ▪ Prescribe a safe exercise program and proper monitoring for patients in different phases of cardiac rehabilitation. ▪ Write adequate and relevant data and information in a medical record.	▪ Provide adequate and appropriate patient education. ▪ Prescribe a safe exercise program for patients with cardiomyopathy and related complications e.g. complicated CABG and proper monitoring during exercise. ▪ Write a rehabilitation consultation on exercise prescription and a referral to other specialists when necessary.	▪ Set appropriate goals and provide proper managements of peripheral vascular diseases; lymphedema; pulmonary and cardiovascular diseases. ▪ Provide adequate and appropriate patient & family education and counseling. ▪ Complete medical records. ▪ Demonstrate concern of safety.	PC3 PC5 PC6 ICS1 ICS4 ICS6 PF2 SBP1
Workplace-based Assessment (WPBA)		**CbD:** 1 COPD case **mini-CEX:** 1 case of COPD	**mini-CEX:** 1 uncomplicated CAD case	**CbD:** 1 CAD rehabilitation case management	**Summary of WPBA** ▪ **mini-CEX:** 2 cases ▪ **CbD:** 2 cases	

Note: 6MWT, 6-minute walk test; ABI, ankle brachial index; CAD, coronary artery disease; CABG, coronary artery by-pass graft; COPD, chronic obstructive pulmonary disease; CVS, cardiovascular system; CXR, chest X-ray; DVT, deep vein thrombosis; ECG, electrocardiogram; NYHAFC, the New York Heart Association's functional classification; PCI, percutaneous coronary intervention; PE, pulmonary embolism; US, ultrasonography

EPA 6: Evaluating and Managing Spasticity

	Prerequisite	Milestones			Expected Outcomes & Competencies	
		M 1	M 2	M 3	Details	Codes
Knowledge	▪ Review neurophysiology of muscle tone and pathophysiology of spasticity.	▪ Describe functional anatomy, neuroanatomy and muscle control of gait.	▪ Describe common types of spasticity seen in stroke, SCI, CP, TBI.	▪ Describe abnormal gait patterns and hand deformity related to spasticity.	▪ Describe causes and consequences of spasticity that need chemical neurolysis.	MKS1 MKS2
Evaluation & Diagnosis	▪ Review physical and neurological examination of extremities. ▪ Review normal and abnormal gait due to spasticity.	▪ Obtain data from secondary sources and limited-reliable physical and neurological examination.	▪ Obtain important history and specific physical and neurological examination related to spasticity. ▪ Perform some special tests for assessing severity of spasticity.	▪ Obtain complete and accurate history and physical and neurological related to spasticity. ▪ Perform specific tests in spastic limbs related to functional performance and gait patterns.	▪ Obtain complete and accurate history and physical and neurological examination related to spasticity.	PC2 PC5 PC6 PLI2
Rehabilitation & Management	▪ Review basic knowledge in physical modality and pharmacology. ▪ Review basic anatomy of muscles and nerves of extremities. ▪ Review of stretching exercises of upper and lower extremities.	▪ Explain indication and contraindication, chemical type and dosage for neurolysis, steps of chemical neurolysis. ▪ Demonstrate anatomical landmarks for chemical neurolysis. ▪ Demonstrate stretching exercises and proper positions to reduce spasticity. ▪ Prescribe physical modality and antispastic medication and monitor its efficacy appropriately.	▪ Demonstrate clinical reasoning in prescribing rehabilitation program, medication, and injection regarding EBM. ▪ Demonstrate an appropriate informed consent for chemical neurolysis. ▪ Perform chemical neurolysis regarding standard precaution in common muscles (calf, biceps, forearm flexors). ▪ Prescribe an appropriate lower extremity orthosis/ splint (see EPA 9).	▪ Choose muscles to be treated and investigations to find treatable causes of spasticity appropriately. ▪ Perform chemical neurolysis regarding standard precaution in common and complicated muscles (e.g. Iliopsoas, hamstring, lumbricals muscles). ▪ Manage complications during the procedure appropriately. ▪ Prescribe an appropriate upper extremity orthosis/ splint (see EPA 9).	▪ Demonstrate clinical reasoning in prescribing rehabilitation program including medication, physical therapy, exercise, orthosis and injection. ▪ Demonstrate patient informing skill in appropriate manner. ▪ Perform accurate chemical neurolysis with appropriate guidance.	MKS1 MKS2 ICS4 ICS6 PLI1 SPB3
Workplace-based Assessment (WPBA)		**CbD:** 1 common case	**DOPS:** 1 common case	**DOPS:** 1 complicated case	**Summary of WPBA** ▪ **CbD:** 1 case ▪ **DOPS:** 2 cases	
		Definitions of case Common case: Stroke, Spinal cord injury and CP paraplegia who had spasticity in <u>one plane of motion</u> e.g. varus Uncomplicated case: CP quadriplegia or spasticity patients who had deformities in two or more planes of motion e.g. equinovarus				

Note: CP, cerebral palsy; EBM, evidence-based medicine; SCI, spinal cord injury; TBI, traumatic brain injury

EPA 7: Managing Electrodiagnosis (EDx) and Neuromuscular Diseases/Disorders (NMDs)

	Prerequisite	Milestones			Expected Outcomes & Competencies	
		M 1	M 2	M 3	Details	Codes
Knowledge	▪ Review anatomy and physiology of neuro-muscular system, pathophysiology of nerve diseases/injury, and common NMDs.	▪ Describe common entrapments of median, ulnar, and peroneal nerves.	▪ Describe plexopathy/injury of brachial plexus and lumbosacral plexus. ▪ Describe radiculopathy/injury of cervical, lumbar and sacral nerve roots.	▪ Describe polyneuropathy, myopathy disease, NMJ disease, and anterior horn cell diseases	▪ Describe knowledge about EDx study in peripheral nerve entrapment/injury, radiculopathy, plexopathy and other complex neuromuscular disorders.	MKS1 MKS2
Evaluation & Diagnosis	▪ Review symptoms and signs of NMDs.	▪ Perform general history taking and physical examination to make provisional diagnosis and differential diagnosis. ▪ Describe indications and planning for EDx study, focusing on NCS.	▪ Identify indications and contraindications of needle EMG. ▪ Identify necessary muscles for needle EMG.	▪ Identify those who need other EDx tests, e.g. RNS, blink reflex, SFEMG, SSR, SSEPs, MEPs, for proper diagnosis.	▪ Make proper provisional and differential diagnoses of NMDs. ▪ Make a proper plan for EDx study focusing on NCS and needle EMG. ▪ Identify normal and abnormal SSR, SFEMG, SSEPs, and MEPs.	PC1 PC4
Rehabilitation & Management	▪ Review a principle of Informed consent. ▪ Review safety precaution when using electrical stimulation and an EMG needle to avoid electrical shock and a needle injury.	▪ Provide an appropriate informed consent for EDx. ▪ Select and perform proper and necessary EDx tests suitable for the above-mentioned conditions. ▪ Complete an EDx report with correct interpretation, grading severity of diseases/injuries.			▪ Perform accurate EDx tests (NCS and needle EMG). ▪ Discuss the electrophysiology of common normal and abnormal findings encountered in EMG/NCS. ▪ Integrate overall EDx findings with all clinical data. ▪ Write a complete & accurate report. ▪ Provide adequate and appropriate counseling and patient education. ▪ Refer to another specialist when necessary.	ICS4 SBP3 PF2 PLI1
		▪ Perform motor & sensory NCS accurately, and needle EMG if needed.	▪ Perform adequate needle EMG examination and late responses accurately.	▪ Perform RNS and blink reflex accurately.		
	▪ Review patient education & counseling about EDx.	▪ Perform adequate and appropriate patient education and counseling. ▪ Write a complete and correct EDx report. ▪ Prescribe proper rehabilitation management as necessary. ▪ Reply a consultation or write a referral as necessary.				ICS1 ICS6 PC3 PC5
Workplace-based Assessment (WPBA)		**DOPS:** 2 cases of peripheral nerve entrapment	**DOPS:** 2 cases of cervical/lumbosacral radiculopathy or plexopathy/injury	**DOPS:** 2 cases of MNDs, polyneuropathy or myopathy	**Summary of WPBA** ▪ DOPS: 6 cases	

Note: EDx, electrodiagnosis; EMG, electromyography; MEPs, motor evoked potentials; NCS, nerve conduction study; NMD, neuromuscular disease; NMJ, neuromuscular junction; RNS, repetitive nerve stimulation; SFEMG, single fiber EMG; SSEPs, somato-sensory evoke potentials; SSR, sympathetic skin response.

EPA 8: Evaluating and Managing Amputees and Prostheses

	Prerequisite	Milestones			Expected Outcomes & Competencies	
		M 1	M 2	M 3	Details	Codes
Knowledge	▪ Review causes of amputations. ▪ Review classification, level, and techniques of amputation.	▪ Describe toe amputation ▪ Describe partial foot amputations.	▪ Describe BK or TT amputations.	▪ Describe AK or TF amputations. ▪ Describe motion analysis in amputee.	▪ Describe causes, levels of amputation and related consequences and complications. ▪ Describe biomechanics related to amputees and gait patterns. ▪ Identify impairments and disability related to amputees.	MKS1 MKS2
Evaluation & Diagnosis	▪ Review stump evaluation ▪ Review phantom sensation and pain. ▪ Review X-ray findings of osteomyelitis after amputation.	▪ Identify the abnormal gait patterns resulting from partial foot amputations.	▪ Identify stump maturity, K-levels in BK and common complications in amputee. ▪ Identify causes of abnormal gait patterns in BK/TT amputees.	▪ Identify K-levels in AK. ▪ Perform gait analysis in AK and identify cause of abnormal gait patterns in AK/TF amputees.	▪ Identify maturity of stump, type and details of amputation, gait pattern, functional level. ▪ Identify risk and comorbidity. ▪ Identify patients' goals and limitations.	PC1 PC2 PC4
Rehabilitation & Management	▪ Review classification of prostheses. ▪ Review stump bandaging. ▪ Review gait aids. ▪ Review holistic rehabilitation, management, phases of amputee rehabilitation, psychosocial counseling. ▪ Review ICD-10 and ICD 9CM. ▪ Review disability rights, and referral system for high-cost prostheses.	▪ Manage wound care in toe/partial foot amputee. ▪ Prescribe proper shoe modifications, foot orthoses or foot prostheses and check out procedures. ▪ Write an adequate and correct medical record.	▪ Manage BK stump. ▪ Prescribe components and check out BK/TT prostheses. ▪ Correct gait deviation and train patient how to use and maintain BK/TT prostheses. ▪ Demonstrate adequate patient and family education. ▪ Write a medical certification for permanent disability.	▪ Manage AK stump. ▪ Prescribe components and check out AK/TF prostheses. ▪ Correct gait deviations and train patients how to use and maintain AK/TF prostheses. ▪ Provide a holistic care. ▪ Recognize and identify indications for advanced or high cost prostheses. ▪ Write a referral to other specialist and a request for a high-cost prostheses.	▪ Prescribe proper prosthetic components for amputees. ▪ Perform a check out and be able to suggest a proper adjustment if needed. ▪ Set appropriate goals, treatments, and rehabilitation therapy. ▪ Provide proper counseling. ▪ Conduct an interdisciplinary approach including vocational rehabilitation and a referral to other healthcare facility. ▪ Complete a medical record. ▪ Educate patients about disability rights. ▪ Write a medical certificate for permanent disability, and a request of a high-cost prostheses.	PC3 PC5 PC6 ICS1 ICS4 PF1 PF2 SBP1 SBP3
Workplace-based Assessment (WPBA)		**CbD:** 1 partial foot amputation case	**CbD:** 1 BK/TT amputation case	**CbD:** 1 AK/TF amputation case	**Summary of WPBA** ▪ CbD: 3 cases	

Note: AK, above knee; BK, below knee; ICD, International Classification of Diseases and related disorders; TF, transfemoral; TT, transtibial

EPA 9: Evaluating and Managing Orthoses

	Prerequisite	Milestones			Expected Outcomes & Competencies	
		M 1	M 2	M 3	Details	Codes
Knowledge	▪ Review basic knowledge of MSK and neurological weakness and movement impairment.	▪ Describe conditions in need of prefabricated support or orthoses (e.g. LS support, knee support, thumb spica, spinal orthoses for spinal fractures). ▪ Describe basic mechanisms and principles of orthoses.	▪ Describe conditions (e.g. paraplegia/tetraplegia, arthropathy of hand or tendon injury) in need of a custom-made UE/LE splint/ orthoses. ▪ Describe complex biomechanics of orthoses for contracture, spastic and weakness.	▪ Describe conditions in need of a custom-made spinal orthoses (e.g. scoliosis or severe spinal deformity).	▪ Describe the principles of biomechanics of spine and extremity, orthoses, and indications for orthoses prescription.	MKS1 MKS2
Evaluation & Diagnosis	▪ Review physical and neurological examination of weakness, contracture, spasticity and deformity. ▪ Review normal X-ray of extremities and spine.	▪ Describe indications & precautions for using supports or orthoses according to patients' MSK conditions.	▪ Assess musculoskeletal & neuromuscular impairments. ▪ Assess impairments with functional ambulatory category, Fugl-Meyer UE scale, and hand function scale.	▪ Assess scoliosis from physical examination. ▪ Identify spinal instability from spinal films. ▪ Interpret scoliosis film series and identify curve progression: Cobb angle and Risser sign.	▪ Identify impairments and activity limitations as consequences of neuromusculoskeletal disease/disorder/injury. ▪ Identify indications and goals for orthoses prescription. ▪ Select appropriate investigations for specifying a proper orthoses prescription.	PC1 PC2 PC4
Rehabilitation & Management	▪ Review orthotic components, materials, designs and fabrication of UE orthoses, LE orthoses, footwear modification, spinal orthoses, benefits of orthoses and precautions.	▪ Prescribe a proper prefabricated support or orthoses. ▪ Advise and train a patient how to don-doff a support/ orthoses.	▪ Prescribe a proper custom-made orthoses of UE/LE including selection of components and materials. ▪ Advise and train a patient how to effectively use a splint/orthoses. ▪ Integrate the uses of splint/orthoses with general rehabilitation management.	▪ Prescribe and check out a custom-made scoliosis brace. ▪ Advise and train a patient how to effectively apply a custom-made scoliosis brace and exercise. ▪ Write a referral for getting a proper custom-made scoliotic brace.	▪ Prescribe proper orthoses components suitable for medical conditions. ▪ Perform a check out and be able to suggest a proper adjustment if needed. ▪ Set appropriate goals, treatments, and rehabilitation programs. ▪ Provide proper counseling. ▪ Conduct an interdisciplinary approach including vocational rehabilitation and a referral to other healthcare facility. ▪ Educate patients about disability rights.	PC3 PC5 PC6 ICS1 ICS4 PF1 PF2 SBP1 SBP3
Workplace-based Assessment (WPBA)		**mini-CEX:** 1 case in need of a prefabricated support or orthoses	**CbD:** 1 case in need of a custom-made UE/LE orthoses	**CbD:** 1 case of scoliosis in need of a custom-made spinal brace	**Summary of WPBA** ▪ mini-CEX: 1 case ▪ CbD: 2 cases	

Note: LE, lower extremity; LS, lumbosacral; MSK, musculoskeletal; UE, upper extremity

EPA 10: Evaluating and Managing Foot Disorders

	Prerequisite	Milestones			Expected Outcomes & competencies	
		M 1	M 2	M 3	Details	Codes
Knowledge	▪ Review anatomy of ankle and foot.	▪ Describe biomechanics of ankle and foot. ▪ Describe *common* foot pain and foot deformity problems.	▪ Describe pathophysiology of diabetic foot and foot problems.	▪ Describe *complicated* foot pain, foot deformity problems, and diabetic foot problems.	▪ Describe basic knowledge and applied biomechanics of ankle and foot disorders and pathophysiology of DM foot.	MKS1 MKS2
Evaluation & Diagnosis	▪ Review physical examination of ankle and foot. ▪ Review risk of diabetic foot ulcer. ▪ Review normal X-ray of ankle and foot.	▪ Identify impairments and mobility limitation as consequences of foot disorders. ▪ Make diagnosis related to simple foot pain and/or deformities such as hallux valgus, plantar fasciitis, pes planus, pes cavus.	▪ Screen and classify risk of diabetic foot ulcer. ▪ Diagnose diabetic foot ulcer with proper clinical reasoning. ▪ Interpret foot pressure graph and ABI.	▪ Diagnose *complicated foot* pain and deformity problems such as PTTD, chronic ankle sprain. ▪ Evaluate complicated foot problems such as diabetic foot ulcer, Charcot foot.	▪ Identify impairments and activity limitation as consequences of foot disorders. ▪ Perform correct evaluation techniques of *common* and *complicated* ankle and foot pain and/ or deformities including diabetic foot. ▪ Identify other complications and major co-morbid conditions.	PC1 PC2 PC4
Rehabilitation & Management	▪ Review clinical reasoning in goal setting and treatment planning. ▪ Review health services and system for patients with diabetic foot. ▪ Review ICD-10, ICD-9CM for foot disorders, and payment system for shoe modifications and orthoses.	▪ Describe types of footwears/ foot orthoses. ▪ Prescribe proper shoes, shoe modifications and orthoses for *common* foot pain and foot deformities as the above-mentioned. ▪ Provide patient education on how to wear proper shoes and/or orthoses, and to care foot. ▪ Prescribe general rehabilitation treatment e.g. exercise, physical modality for foot pain.	▪ Manage callus properly. ▪ Provide holistic diabetic foot care for *uncomplicated* diabetic foot with/without ulcer according to national diabetic foot care plan. ▪ Complete medical record according to ICD and payment system for shoes and ankle-foot orthoses.	▪ Prescribe and fit proper devices for *complicated* foot disorders including diabetic foot ulcers with shoe modifications and orthoses/ TCO, custom-made shoes, custom-molded shoes, orthoses such as UCBL shoe insert, SMO, CROW walker. ▪ Consult or referral case for surgical management.	▪ Set appropriate plan and goals for treatments and rehabilitation. ▪ Manage with a holistic interdisciplinary approach. ▪ Give advice and prescribe proper shoes, shoe modifications, orthoses, and custom-made/molded shoes. ▪ Perform fitting/check out and suggest adjustment as necessary. ▪ Demonstrate concern of health services/system/policy and cost-effectiveness of prescribing shoe modification and orthoses.	PC5 PC6 ICS1 ICS4 PF1 PF2 SBP1 SBP3
Workplace-based Assessment (WPBA)		**mini-CEX:** 1 case of common foot pain/deformity	**mini-CEX:** 1 case of uncomplicated diabetic foot pain/deformity	**CbD:** 1 case of complicated foot problems	**Summary of WPBA** ▪ **mini-CEX:** 2 cases ▪ **CbD**: 1 case	

Note: ABI, ankle-brachial index; ICD, International Classification of Diseases and related disorders; PTTD, posterior tibial tendon dysfunction; TCO, total contact orthosis; UCBL, University of California Berkeley Laboratories; SMO, supra-malleolar orthosis; CROW, Charcot restraint orthotic walker

EPA 11: Evaluating and Managing Persons with Disabilities (PWD)

	Prerequisite	Milestones			Expected Outcomes & Competency	
		M 1	M 2	M 3	Details	Codes
Knowledge	▪ Review concepts of disability according to UNCRPD and Thai legislation e.g. Empowerment of PWD Act, B.E. 2550.	▪ Describe disability concepts and the rights of PWD according to UNCRPD and Thai legislation.	▪ Describe healthcare and rehabilitation system and policy towards PWD in Thailand: IMC, CBR.	▪ Describe different health insurance schemes (UC, civil servant, and social security, and private insurance schemes), and health benefits in Thailand.	▪ Describe disability concept and models according to ICF, UNCRPD and the Empowerment of PWD Act, B.E. 2550. ▪ Differentiate the sick from the disabled. ▪ Describe healthcare and rehabilitation service, system and policy in Thailand.	MKS1
Evaluation & Diagnosis	▪ Review ICF concepts & framework (disability: impairment, activity limitation & participation restriction). ▪ Review definition of PWD according to Thai legislation.	▪ Identify disability and barriers of environmental and personal factors using ICF concepts. ▪ Assess persons with *physical disability* based on the current disability assessment protocol.	▪ Assess persons with physical disability and other disablement based on the current disability assessment protocols.	▪ Identify health and social benefits and needs of PWD according to CBR matrix. ▪ Assess PWD based on different health insurances.	▪ Write an accurate medical record regarding disability. ▪ Explain the process of PWD registration especially for those with physical disability.	PC2
Rehabilitation & Management	▪ Review health and social benefits of PWD according to the Thai legislation.	▪ Write a correct medical certificate for *physical disability* according to the Thai legislation. ▪ Provide a proper medical rehabilitation program and conduct an interdisciplinary team approach to improve PWDs' functioning and QoL.	▪ Inform PWDs about his/her rights and the access to benefits in areas other than healthcare according to CBR matrix (e.g. health, education, social, vocation, empowerment, and environment). ▪ Apply concepts of IMC and CBR, and the current policies of the Thai healthcare system to improve PWDs' QOL.	▪ Write a correct medical certification for disability based on social security and private health insurance protocols, and for applying a high-cost assistive device or technology.	▪ Write a correct medical certification for permanent disability correctly. ▪ Provide adequate and update information about PWDs' rights and benefits as well as access to the benefits in healthcare, rehabilitation and assistive device/ technology, education, vocation, social, etc.	PC5 PC6 ICS1 ICS4 PF2 SBP1
Workplace-based Assessment (WPBA)		**Document review:** 2 cases of PWD	**CbD:** 2 cases of disability certificate and advice	**CbD:** 1 cases of home visit care and applying ICF framework and CBR matrix	**Summary of WPBA** ▪ **Document review:** 2 cases ▪ **CbD:** 3 cases	

Note: CBR, community-based rehabilitation; ICF, International Classification of Functioning, Disability and Health; IMC, intermediate care; LTC, long-term care; QoL, quality of life; PWD, person with disability; UC, universal health coverage scheme; UNCRPD, United Nations Conventions on the Rights of Persons with Disabilities

EPA 12: Leading and Coordinating Interdisciplinary Team

	Prerequisite	Milestones			Expected Outcomes & Competencies	
		M 1	M 2	M 3	Details	Codes
Knowledge	▪ Review disease, injury, disease causing disability. ▪ Review basic psycho-social issues. ▪ Review non-technical skills: decision making, team communication.	▪ Describe expected rehabilitation outcomes of common diseases based on individual and society circumstances. ▪ Describe concepts of HA.	▪ Describe non-technical skills necessary for leading and coordinating team including RCA.	▪ Describe risk and conflict management, behavioral modification, and personal and inter-personal characteristics essentials for successful team management.	▪ Apply non-technical skills to lead and coordinate interdisciplinary team efficiently and effectively.	MKS1 MKS2
Evaluation & Diagnosis	▪ Review physiatric evaluation including functional and disability evaluation. ▪ Review ICF, problem-oriented medical record (S-O-A-P), ICD-10 and ICD-9CM.	▪ (Re-) assess a case based on ICF, and holistic comprehensive approach. ▪ List rehabilitation problems including patient's needs and expectation, and environmental factors.	▪ Identify poor prognostic factors for rehabilitation, specific rehabilitation issues by using specific assessment tools. ▪ Apply RCA to identify root causes of rehabilitation problems.	▪ Identify risks, conflict and barriers to achieve rehabilitation goals.	▪ Complete a list of medical, surgical and rehabilitation problems.	PC2
Rehabilitation & Management	▪ Review rehabilitation therapy (physical modalities, PT, OT, etc.) and assistive devices. ▪ Review different types of team approaches. ▪ Review healthcare services, systems, and policies in rehabilitation. ▪ Review patient safety and precautions.	▪ Gather, present and discuss data/information necessary from team meeting. ▪ Complete a medical record. ▪ Discuss the necessity and advantage of rehabilitation PCT.	▪ Distinguish between a medical role of a rehabilitation physician/physiatrist and that of a rehabilitation PCT leader. ▪ Provide comments on any barriers to achievement, and suggestions for improvement and continuation of care including referral.	▪ Lead team direction with common goals. ▪ Demonstrate a leadership leading the rehabilitation PCT with adequate knowledge and sound clinical reasoning. ▪ Minimize conflict and modify behavior for better team performance.	▪ Demonstrate as an efficient leadership in conducting and supervising the rehabilitation PCT for efficient teamwork and achieving effective in rehabilitation outcomes.	PC5 PC3 PC6 ICS1 ICS2 ICS3 ICS4 ICS5 PLI1
Workplace-based Assessment (WPBA)		**Multi-source feedback (360 degrees):** 2 times **Team meeting evaluation:** 2 times of admission conference	**Multi-source feedback (360 degrees):** 2 times **Team meeting evaluation:** 2 times of follow up conference	**Multi-source feedback (360 degrees):** 2 times **Team meeting evaluation:** 2 times of discharge planning conference	**Summary of WPBA** ▪ Multiple-source feedback: 6 times ▪ Team meeting evaluation: 6 times	

Note: HA, hospital accreditation; ICD, International Classification of Diseases and related disorders; ICF, International Classification of Functioning, Disability and Health; PCT, patient care team; PT, physical therapy; OT, occupational therapy; RCA, root cause analysis; S-O-A-P, subjective-objective-assessment-planning for investigation/treatment

EPA 13: Conducting a Research in Medical Rehabilitation

	Prerequisite	Milestones			Expected Outcomes & Competencies	
		M 1	M 2	M 3	Details	Codes
Knowledge	▪ Review research methodology and medical statistics.	▪ Describe research methodology: rationale, research question, objective, study design, study population including sampling technique, allocation; intervention and outcome measurements.	▪ Describe principles of research ethics and GCP in research, and SoP.	▪ Describe different types of statistical analysis, and process of data analysis. ▪ Describe principles of different research presentations e.g. oral presentation, manuscript, research poster.	▪ Apply research methodology and medical statistic in writing a research proposal related to rehabilitation medicine/services. ▪ Demonstrate a good attitude towards doing a clinical research.	MKS2
Rehabilitation & Management	▪ Review principles of EBM and search engine. ▪ Review principles of writing a research protocol and preparing a CRF.	▪ Use the search engine to explore EBM. ▪ Do a critical appraisal of a simple study design and easy content. ▪ Prepare proper CRFs. ▪ Complete a research proposal and get an approval by the Research Sub-committee of the RCPhysiatrT.	▪ Critically appraise more complicated study design and contents. ▪ Register one's own research protocol to the IRB and registration center. ▪ Conduct the research protocol under supervised advisers and with GCP.	▪ Critically appraise meta-analysis or network meta-analysis. ▪ Perform data collection, results analysis and conclusion. ▪ Write a full manuscript according to the ASEAN J Rehabil Med template. ▪ Present the research to the sub-committee.	▪ Conduct successfully a valuable research study. ▪ Demonstrate capability to criticize the research literatures.	PLI2 PLI 3 PF2 PF3 PF4 SBP2
Workplace-based Assessment (WPBA)		▪ Present one's own research protocol to the Research Sub-committee of the RCPhysiatrT for approval	▪ Present a progression of the study to institutional staffs	▪ Full report of the study ▪ Oral presentation to the research committee	**Summary of WPBA** ▪ 1 one's own research manuscript ▪ 1 oral presentation of one's own research project ▪ 5 times of research article appraisal ▪ 24 times of attending journal club	
Minimum No. of appraising research articles		1 article	2 articles	2 articles		
Minimum No. of attending journal club		8 sessions	8 sessions	8 sessions		

Note: ASEAN J Rehabil Med, Association of South-East Asian Nations Journal of Rehabilitation Medicine; CRF, case record form; GCP, good clinical practice; EBM, evidence-based medicine; IRB, institute research board; RCPhysiatrT, the Royal College of Physiatrists of Thailand; SoP, standard of operation

Workplace-based Assessment (WPBA)

Workplace-based Assessment (WPBA)

According to the World Federation of Medical Education (WFME) Global Standards for Quality Improvement of Postgraduate Medical Education, the program providers (training institutes) have to ensure that assessments cover knowledge, skills and attitudes so that the intended educational outcomes are met by the trainees. So far, traditional assessments such as multiple choices examination for knowledge, objective structured clinical examinations (OSCEs) and long case examination seem not enough to ensure that trainees have attained sufficient specific competence. And, workplace-based assessment (WPBA) has been introduced for evaluating trainees' performance in real workplace environment and allowing trainers/assessors to provide timely, specific, constructive, and fair feedback for trainees' improvement. Common tools used for WPBA are direct observation of procedural skills (DOPSs), mini-clinical evaluation exercise (mini-CEX), case-based discussion (CbD), and multisource feedback (MSF).

After brainstorming and discussion, the Board of Training and Examination in Rehabilitation Medicine (TERM) and the EPAs and WPBA working group have developed 5 common assessment forms for evaluating trainees' performance. Assessors are suggested to use these forms of DOPS, mini-CEX, and the CbD for formative assessment in clinical practice. The DOPS, mini-CEX and CbD assessment forms should be used in different situations and milestones by different assessors to cover all the Entrustable Performance Activities (EPAs). In addition, two other assessment forms for medical document review and leading team/meeting are developed to cover interpersonal and communication skills and system-based practice. Moreover, each training institute is allowed to use its own MSF form to cover another important core competency, professionalism.

The five WPBA assessment forms are as follows:

1. Mini-Clinical Evaluation Exercise (mini-CEX)
2. Direct Observation of Procedural Skills (DOPS)
3. Case-based Discussion (CbD)
4. Medical Document Review
5. Leading Team / Meeting

Lastly, using WPBA by all training institutes would surely promote trainees learning and ensure trainees' performance and competence according to the Rehabilitation Medicine intended outcomes.

Mini-Clinical Evaluation Exercise (mini-CEX)

By the Royal College of Physiatrists of Thailand

Resident ID

Points for Observation: Doctor-patient interaction

Institute
☐ CU ☐ PSU ☐ PMK ☐ CMU ☐ KKU
☐ Rama ☐ Siriraj ☐ Korat ☐ Rajavithi ☐ Sirindhorn ☐ Affiliation

Patient ID
……..……
Sex: ☐ M ☐ F
Age: ……. years

Case
☐ New
☐ Old with new problem
☐ Old, Follow-Up

Setting
☐ IPD ☐ OPD
☐ Special clinic
☐ Other ……

Diagnosis:

EPAs
☐ 1-MSK, pain ☐ 2-Brain disorders ☐ 3-SCI ☐ 4-Pediatrics
☐ 5-Cardiopulmonary ☐ 6-Spasticity ☐ 7-EDx, NMD ☐ 8-Prostheses
☐ 9-Orthoses ☐ 10-Foot/footwear ☐ 11-Disability ☐ Other…….

Competencies		Level of performance				
		Not applicable	Not done	Unsatisfactory	Satisfactory	Superior
PC1	1. Medical interviewing skills for history taking					
PC1	2. Physical and/or neurological examination skills					
PC4	3. Interpretation/application of investigation e.g. laboratory tests, x-ray					
PC1	4. Making diagnosis and differential diagnosis					
PC2	5. Assessing and identifying disability and related contextual factors					
PC5	6. Planning treatment/rehabilitation and setting SMART goals					
PLI1 PLI2 SBP1 SBP3	7. Making appropriate clinical judgment and ethical decision based on evidence-based medicine and concerning on health service/system/policy, law, ethics and cost-effectiveness; patient's preference, needs and expectation etc.					
ICS4	8. Educating patient/family to make them understand, accept, comply/adhere to advice					
MKS1 PF1	9. Providing/prescribing choices of medications/therapy to promoting patient's/family's autonomy/self-efficacy					
SBP3	10. Concerning of patient safety (side/adverse effect)					
PC3	11. Making an appropriate referral or follow-up					
ICS6	12. Counselling skills: attending, silence, rapport building, immediacy, focusing, questions, summarizing, reflection/paraphrasing					
ICS5	13. Communication skill e.g. interviewing, information giving, breaking the bad news including disability, etc.					
PF2	14. Professional manner e.g. behaving appropriate manner					
SBP1 SBP3	15. Organizing efficiently: managing time, leading rehab team, etc.					

Resident's reflection on his/her performance

Staff's evaluation summary

Milestone evaluated	Suitability for milestone	Time used …… min.
☐ M1	☐ Appropriate	☐ Appropriate
☐ M2	☐ Too easy	☐ Not Appropriate
☐ M3	☐ Too difficult	

Overall actual performance
☐ Good, Above standard
☐ Pass, Satisfied, Standard
☐ Borderline
☐ Poor, Failed

Staff's feedback

Staff/Assessor's Name & Signature

Date of evaluation: ……

Direct Observation of Procedural Skills (DOPS)

By the Royal College of Physiatrists of Thailand

Resident ID

Points for Observation: Procedural skills and doctor-patient interaction

Institute
☐ CU ☐ PSU ☐ PMK ☐ CMU ☐ KKU
☐ Rama ☐ Siriraj ☐ Korat ☐ Rajavithi ☐ Sirindhorn ☐ Affiliation

Patient ID……..……
Sex: ☐ M ☐ F Age: ……. years
Diagnosis

Case
☐ New
☐ Old with new problem
☐ Old, Follow-Up

DOPS
☐ TP injection ☐ UDT
☐ Dry needling ☐ Cystometry
☐ EDx – NCS ☐ Chemoneurolysis, LE
☐ EDx – EMG ☐ Chemoneurolysis, UE
☐ Other……

EPAs
☐ 1-MSK, pain
☐ 3-SCI
☐ 6-Spasticity
☐ 7-EDx, NMD
☐ Other……..

Competencies		Level of performance				
		Not applicable	Not done	Unsatisfactory	Satisfactory	Superior
PC1 PC5	1. Reviewing diagnoses/problems previous lab tests, treatments *adequately*					
	2. Performing relevant physical/neurological examinations for planning of a procedure/investigation					
	3. Checking indication, contra-indication & precaution					
SBP3	4. Informing the patient about benefits and risks and asking for informed consent					
PC4	5. Selecting an appropriate procedure					
MKS1	6. Setting the equipment properly before starting the procedure					
	7. Selecting correct medication/solution needed for the procedure					
	8. Selecting suitable body part (muscle, nerve, etc.) to be treated/tested					
ICS5	9. Informing an assistant how to assist before/during the procedure					
PC4 ICS4	10. Positioning the patient appropriately before/during the procedure					
	11. Being in a suitable place/position for better performance					
	12. Performing the technique correctly and efficiently					
	13. Concerning of safety precaution monitoring vital signs or *unwanted event, complication* during and after performing the procedure and reacting *promptly and correctly*					
	14. Informing/warning the patient adequately/regularly during the procedure					
ICS4 ICS6 SBP1 SBP3	15. Explaining findings/results of the investigation/procedure *correctly and adequately*					
	16. Making recommendation for management *based on ethical decision making*					
	17. Informing the patient choices of further treatment/management, including follow-up and/or referral if necessary					

Resident's reflection on his/her performance

Staff's evaluation summary

Milestone evaluated:
☐ M1
☐ M2
☐ M3

Suitability for milestone
☐ Appropriate
☐ Too easy
☐ Too difficult

Time used …… min.
☐ Appropriate
☐ Not Appropriate

Overall actual performance
☐ Good, Above standard
☐ Pass, Satisfied, Standard
☐ Borderline
☐ Poor, Failed

Staff's feedback

Staff/Assessor's Name & signature

Date of evaluation**:** ……..……

Case-based Discussion (CbD)

By the Royal College of Physiatrists of Thailand

Resident ID

Points for Discussion: Clinical Reasoning & Thinking

Institute
☐ CU ☐ PSU ☐ PMK ☐ CMU ☐ KKU
☐ Rama ☐ Siriraj ☐ Korat ☐ Rajavithi ☐ Sirindhorn ☐ Affiliation

Patient ID
……..……
Sex: ☐ M ☐ F
Age: ……. years

Case
☐ New
☐ Old with new problem
☐ Old, Follow-Up

Setting
☐ IPD ☐ OPD
☐ Special clinic
☐ Other ……

Competencies	Diagnosis: / EPAs	Not applicable	Not done	Unsatisfactory	Satisfactory	Superior
	EPAs ☐ 1-MSK, pain ☐ 5-Cardiopulmonary ☐ 9-Orthoses ☐ 2-Brain disorders ☐ 6-Spasticity ☐ 10-Foot/footwear ☐ 3-SCI ☐ 7-EDx, NMD ☐ 11-Disability ☐ 4-Pediatrics ☐ 8-Prostheses ☐ Other……					
PC1 PC4 MKS1	1. Collecting medical information history of illness, physical examination, investigation for primary diagnosis and secondary conditions (co-morbidity/complications)					
PC2	2. Assessing pre-morbid and current functioning for diagnosis of "disability"					
ICS1	3. Listing/completing diagnoses & related problems impairment, activity limitation, participation restriction, environmental barriers					
PC3 PC5	4. Determining the most appropriate plans and goals rehabilitation plan and goal setting by processing the collected information					
PC5 PC6	5. Creating details of treatments and rehabilitation programs for comprehensive rehabilitation team management					
SBP1 SBP3 PF5 PLI2	6. Ethically making decision on appropriate treatment options for diagnosis, treatment/prevention based on patient's medical condition; patient's preference, needs and expectation; patient's quality of life and functioning; and patient's contextual factors (environmental factors: products & technology, family support & relationship, attitude, health service/system/policy, law; and personal factors e.g. patient's attitude and coping strategy)					
PC3	7. Consulting associated professionals/experts (referral)					
ICS1 ICS4 ICS5 PF1	8. Delivering the determined treatment/rehabilitation plan/goals efficiently and accurately to rehabilitation team, patient and caregiver					
PLI1 ICS2 PF4	9. Evaluating treatment/rehabilitation outcomes to measure effectiveness					
ICS2 PC5 PC6 SBP3	10. Reflecting and determining on the outcomes whether the current treatment/rehabilitation plan should be altered and what the future plan should be					

Level of performance

Resident's reflection on his/her performance

Staff's evaluation summary

Milestone evaluated	Suitability for milestone	Time used …… min.
☐ M1	☐ Appropriate	☐ Appropriate
☐ M2	☐ Too easy	☐ Not Appropriate
☐ M3	☐ Too difficult	

Overall actual performance
☐ Good, Above standard
☐ Pass, Satisfied, Standard
☐ Borderline
☐ Poor, Failed

Staff's feedback

Staff/Assessor's Name & Signature

Date of evaluation: ……..……

Medical Document Review *By the Royal College of Physiatrists of Thailand*	**Resident ID**
Points for Observation: Medical information completeness & accuracy	**Institute** ☐ CU ☐ Rama ☐ PSU ☐ Siriraj ☐ PMK ☐ Korat ☐ CMU ☐ Rajavithi ☐ KKU ☐ Sirindhorn ☐ Affiliation
Patient ID……..…… Sex: ☐ M ☐ F Age: ……. years **Diagnosis**	**Case** ☐ New ☐ Old with new problem ☐ Old, Follow-Up

Competencies	**Type of Document:** ☐ IPD ☐Cysto/Urodyn ☐ OPD ☐ EDx report ☐ Medical certificate ☐ for disabled ☐ for insurance ☐ for high-cost assistive device	**EPAs** ☐ 1-MSK, pain ☐ 2-Brain/stroke ☐ 3-SCI ☐ 4-Pediatrics ☐ 5-Cardiopulmo ☐ 6-Spasticity ☐ 7-EDx, NMD ☐ 8-Prostheses ☐ 9-Orthosis ☐ 10-Foot/footwear ☐ 11-Disability ☐ 12-Team leading ☐ Other……..	**Level of performance**				
			Not applicable	Not done	Unsatisfactory	Satisfactory	Superior
ICS1	**1. Contents**						
PC1	1.1 History of illness: chief complaint, present illness, past medical history etc.						
PC1	1.2 Physical and/or neurological examination						
PC2	1.3 Functional and environmental assessments: previous and present self-care, mobility, modified Barthel ADL index etc.						
PC4	1.4 Investigations: previous/current laboratory, imagining, EDx, urodynamic etc.						
PC1	1.5 Diagnosis, disability and problem list including impairment, activity limitation, participation restriction, barriers						
PC5	1.6 Plan for treatment investigation, rehabilitation with goals setting						
PC5	1.7 Treatment/rehabilitation management and outcomes						
PC6	1.8 Progress note: first 3 days of admission, then weekly; S-O-A-P						
PC3	1.9 Consultation request/report						
SBP2	1.10 Discharge planning: M-E-T-H-O-D						
SBP1	1.11 Discharge summary: principal diagnosis, co-morbidity, complication, external cause of injury, procedure; date of admission/discharge; discharge condition & referral						
ICS1	**2. Quality of data/information**						
	2.1 Relevant, correct, appropriate, adequate, complete						
	2.2 Clear, concise, readable, understandable						
	2.3 Name, date, time, signature						

Staff's evaluation summary		**Overall actual performance**
Milestone evaluated: ☐ M1 ☐ M2 ☐ M3	**Suitability for milestone** ☐Appropriate ☐ Too easy ☐ Too difficult	☐ Good, Above standard ☐ Pass, Satisfied, Standard ☐ Borderline ☐ Poor, Failed
Staff's feedback		**Staff/Assessor's Name & signature** Date of review**:** ……..……

Leading Team / Meeting *By the Royal College of Physiatrists of Thailand*		**Resident ID**
Points for Observation: Leadership skills and professional manner		**Institute** ☐ CU ☐ Rama ☐ PSU ☐ Siriraj ☐ PMK ☐ Korat ☐ CMU ☐ Rajavithi ☐ KKU ☐ Sirindhorn ☐ Affiliation
Patient ID..... ☐ NA	Sex: ☐ M ☐ F ☐ NA Age: ……. years ☐ NA	
Diagnosis ☐ NA		

Competencies	**EPA12: Leading team** **Setting** ☐ Rehab ward round ☐ Rehab team meeting/conference ☐ Patient and family meeting ☐ Journal club (research) ☐ Academic activities ☐ Business meeting (HA/PCT; QA) ☐ Other……	**Level of performance** Not applicable	Not done	Unsatisfactory	Satisfactory	Superior
PC5 ICS5	1. Organizing the meeting/mission by adequately preparing and informing issues to relevant stakeholders					
	2. Conducting the meeting/mission efficiently with friendly atmosphere					
PF2	3. Listening *with attention to opinions from other* e.g. patient and family members, the PCT, colleagues, committee members					
	4. Accepting *difference and perspectives of others*					
	5. Tolerating *consistent review and challenge of ideas*					
PLI1 ICS2-5 PF5 SBP1,3	6. Providing *relevant and adequate information/opinions* based on facts, EBM, critical appraisal, healthcare system/policy, laws, etc.					
MKS2 ICS5	7. Making decision based on principles of ethical decision making					
PC6 ICS4,5 PF1	8. Making the (team's) mission seem important, possible to accomplish, exciting, and making them feel capable of performing their roles					
PF2-4	**9.** Showing *courage, persistence and commitment*					
	10. Possessing *personal identity and integrity*					
	11. Being *trusted and believed* by others (e.g. PCT, colleagues, patients and family members, committee members)					
	12. Accepting *team's core values and being a role model*					
	13. Forming *new values, attitude and perspectives* of others					

Resident's reflection on his/her performance

Staff's evaluation summary and comment			**Overall actual performance**
Milestone evaluated ☐ M1 ☐ M2 ☐ M3	**Suitability for milestone** ☐ Appropriate ☐ Too easy ☐ Too difficult	**Time used** …… min. ☐ Appropriate ☐ Not Appropriate	☐ Good, Above standard ☐ Pass, Satisfied, Standard ☐ Borderline ☐ Poor, Failed
Staff's feedback			**Staff/Assessor's Name & Signature** Date of evaluation**:** …….……

Summary of WPBA in 13 EPAs

No.	EPA	Mile stone	Direct observation		Clinical reasoning and review	
			mini-CEX	DOPs	CbD	Chart review
1	MSK pain	1	Common pain	Needling/ TP inj.		
		2		Joint/soft tissue inj.		
		3	Complex pain			
2	Brain	1	Simple stroke			Stroke x5
		2	complicated stroke			
		3			Brain Degen. / PD	
3	Spinal cord	1	T-SCI			SCI x5
		2			complicated T-SCI	
		3		UDT x1 & cysto. x1		
4	Pediatrics	1			Common CP	
		2	Hx and PE			
		3	Counseling		Complicated case	
5	Cardio. / Pulmonary	1	COPD		COPD	
		2	Simple CAD			
		3			CAD rehab Mx	
6	Spasticity	1			Common case	
		2		Common case		
		3		Uncommon case		
7	EDx, NMDs	1		Entrapment x2		
		2		Radiculopathy x2		
		3		Polyneuropathy /myopathy x2		
8	Prostheses	1			Partial foot amputee	
		2			Transtibial amputee	
		3			Transfemoral amputee	
9	Orthosis	1	Prefabricated			
		2			Custom-made LE/UE	
		3			Scoliosis	
10	Foot / Shoes	1	Simple foot pain			
		2	Simple DM foot /deformed foot			
		3			Complicated foot	
11	Disability	1				Certificate x2
		2			Certificate X2	
		3			Home visit	

No.	EPA	Milestone	Multi-source feedback	Team conference
12	Leading team	1	Year1 x2	Admission x2
		2	Year2 x2	Follow up x2
		3	Year3 x2	Discharge x2

No.	EPA	Milestone	Appraisal	Project	Attending
13	Research	1	Simple study x1	Protocol	8 sessions
		2	RCT x2	IRB	8 sessions
		3	Meta A. x2	Full report	8 sessions

Entrusted Performance Levels

Level 1 Observation but no practice
Level 2 Practice with direct, proactive supervision
Level 3 Practice with reactive supervision (i.e., on request)
Level 4 Supervision at a distance
Level 5 Supervision provided by the trainee to more junior colleagues

Modified from: Nuts and bolts of entrustable professional activities. JGME 2013

Competency Codes (รหัสสมรรถนะ)

PC	Patient Care	การดูแลรักษาฟื้นฟูผู้ป่วย
PC1	Having diagnostic and differential diagnostic skills.	มีทักษะการซักประวัติ ตรวจร่างกาย วินิจฉัย วินิจฉัยแยกโรคได้อย่างถูกต้องเหมาะสม
PC2	Being able to assess impairment and disability including handicap accurately and appropriately.	มีความสามารถประเมินความบกพร่อง ความสูญเสียสมรรถภาพ และความพิการและหรือความเสียเปรียบทางสังคม ได้ อย่างถูกต้องเหมาะสม
PC3	Having skills and critical thinking in requesting appropriately special investigations and interpreting laboratory tests correctly.	มีทักษะและวิจารณญาณในการพิจารณาส่งตรวจอย่างเหมาะสม และแปลผลการตรวจทางห้องปฏิบัติการได้อย่างถูกต้อง
PC4	Having skills in performing special investigations in rehabilitation medicine and providing appropriate interpretation.	มีทักษะและความสามารถวางแผนตรวจพิเศษทางเวชศาสตร์ฟื้นฟู และแปลผลได้อย่างถูกต้อง
PC5	Being able to provide rehabilitation services efficiently based on safety of patients including persons with disability as well as rehabilitation personnel.	ให้การบำบัดรักษาฟื้นฟูสมรรถภาพได้อย่างมีประสิทธิภาพ โดยคำนึงถึงความปลอดภัยของผู้ป่วยผู้พิการและบุคลากรทางการแพทย์ที่เกี่ยวข้อง
PC6	Having skills in planning and setting goals for comprehensive rehabilitation and interdisciplinary approach.	มีทักษะในการทำงานดูแลรักษาฟื้นฟูผู้ป่วยผู้พิการแบบสหวิทยาการที่กำหนดเป้าหมายในการบำบัดรักษาฟื้นฟูร่วมกันได้
MSK	**Medical Knowledge and Skill**	**ความรู้ ความเชี่ยวชาญ และความสามารถในการนำไปใช้แก้ปัญหา**
MKS1	Having medical knowledge and skills in rehabilitation medicine.	มีความรู้ความสามารถในวิชาชีพ และเชี่ยวชาญในสาขาเวชศาสตร์ฟื้นฟู
MKS2	Being able to apply medical science, social science and psychology in order to provide appropriate rehabilitation for patients and persons with disability.	ประยุกต์ใช้วิทยาศาสตร์การแพทย์ สังคมวิทยา และจิตวิทยาเพื่อการฟื้นฟูสมรรถภาพผู้ป่วยผู้พิการได้อย่างเหมาะสม
PLI	**Practice-based Leaning and Self-improvement**	**การเรียนรู้จากการปฏิบัติและพัฒนาตนเองอย่างต่อเนื่อง**
PLI1	Being able to learn and increase experience by one's own practice.	สามารถเรียนรู้และเพิ่มประสบการณ์ได้ด้วยตนเองจากการปฏิบัติ
PLI2	Being able to provide appropriate treatment and rehabilitation therapy based on evidence-based medicine and health related research.	สามารถพิจารณาวิธีการรักษาฟื้นฟูโดยอิงหลักฐานทางวิชาการ หรืองานวิจัยทางการแพทย์และสาธารณสุขได้อย่างเหมาะสม
PLI3	Being able to conduct a medical and health research, and critically appraise medical research studies.	สามารถดำเนินการวิจัยทางการแพทย์และสาธารณสุขรวมทั้งสามารถวิพากษ์บทความและงานวิจัยทางการแพทย์ได้

Competency Codes (รหัสสมรรถนะ)

ICS	Interpersonal and Communication Skills	ทักษะปฏิสัมพันธ์และการสื่อสาร
ICS1	Completing medical records according to standards.	บันทึกเวชระเบียนได้ตามมาตรฐาน
ICS2	Presenting patients' data and discussing patients' problems efficiently.	นำเสนอข้อมูลผู้ป่วย และอภิปรายปัญหาอย่างมีประสิทธิภาพ
ICS3	Transferring knowledge and skills to other physicians, students and other related medical personnel.	ถ่ายทอดความรู้และทักษะ ให้แพทย์ นักศึกษา และบุคลากรทางการแพทย์ในสาขาที่เกี่ยวข้อง
ICS4	Communicating with patients and families correctly and efficiently with kindness and respecting others' decision and esteem.	สื่อสารให้ข้อมูลแก่ผู้ป่วยและครอบครัวได้อย่างถูกต้องและมีประสิทธิภาพโดยมีเมตตา เคารพการตัดสินใจและศักดิ์ศรีของความเป็นมนุษย์
ICS5	Having leadership, good relationship with others, and ability to work efficiently with co-workers at all levels.	มีมนุษยสัมพันธ์ที่ดี มีภาวะผู้นำ ทำงานกับผู้ร่วมงานทุกระดับอย่างมีประสิทธิภาพ
ICS6	Being a consultant and a counselor for physicians and related rehabilitation professionals.	เป็นที่ปรึกษาและให้คำแนะนำแก่แพทย์และบุคลากรอื่นที่เกี่ยวข้องโดยเฉพาะทางด้านเวชศาสตร์ฟื้นฟู
PF	**Professionalism**	**ความเป็นมืออาชีพ**
PF1	Being able to make patients and persons with disability realize of their capacity to achieve their quality of life.	สามารถกระตุ้นให้ผู้ป่วยตระหนักในสมรรถนะของตนเองเพื่อนำไปสู่การพัฒนาคุณภาพชีวิตของผู้ป่วยผู้พิการ
PF2	Having moral, ethical and good attitude towards patients, persons with disability, their families, colleagues, and community.	มีคุณธรรม จริยธรรม และเจตคติอันดีต่อผู้ป่วยผู้พิการ ครอบครัว ผู้ร่วมงานเพื่อนร่วมวิชาชีพและชุมชน
PF3	Having an interest in continuous professional development to maintain professional standards.	มีความสนใจใฝ่รู้และสามารถพัฒนาไปสู่ความเป็นผู้เรียนรู้ต่อเนื่องตลอดชีวิตเพื่อคงไว้ซึ่งมาตรฐานวิชาชีพ
PF4	Having responsibility to work.	มีความรับผิดชอบต่องานที่ได้รับมอบหมาย
PF5	Concerns with social benefits in response of the country's needs.	คำนึงถึงผลประโยชน์ส่วนรวม เพื่อตอบสนองความต้องการของประเทศชาติ
SBP	**System-based Practice**	**การปฏิบัติงานให้เข้ากับระบบ**
SBP1	Being able to practice according to health system relating with medical rehabilitation and appropriately with the situation.	สามารถปฏิบัติงานให้สอดคล้องกับระบบสาธารณสุขของประเทศในส่วนที่เกี่ยวข้องกับงานเวชกรรมฟื้นฟู และประยุกต์ใช้ให้เหมาะสมตามสถานการณ์
SBP2	Being able to develop quality improvement of rehabilitation services for patients and persons with disability.	สามารถร่วมพัฒนาคุณภาพการดูแลรักษาฟื้นฟูสมรรถภาพผู้ป่วยและคนพิการ
SBP3	Being able to work based on patients' safety, cost-consciousness and efficiency.	สามารถปฏิบัติงานโดยคำนึงถึงความปลอดภัยของผู้ป่วยและใช้ทรัพยากรได้อย่างเหมาะสมและมีประสิทธิภาพ