

# Physiotherapy Competency Examination Blueprint 2009

## **The Analysis of Physiotherapy Practice**

The Analysis of Physiotherapy Practice outlines in detail the significant competencies – knowledge, skills and abilities – required for the safe and effective practice of physiotherapy in Canada.

The 1996 Analysis of Practice was prepared for the Canadian Alliance of Physiotherapy Regulators (ACT, 1996, 1995). The previous version was developed in 1988, as was the original Examination Blueprint. The Analysis of Practice was repeated in 2000 to determine if there were any significant changes to physiotherapy practice in Canada.

The Analysis of Practice 2008 began with a complete review of the activities performed by physiotherapists and the conditions treated by physiotherapists. A new survey was developed and sent to a sample of Canadian physiotherapists. The response rate for this survey was 79%. Respondents were asked to rate activity statements on two scales: a frequency scale, and a consequence scale. Knowledge and skills statements were similarly rated using an acquisition scale and a harm scale. Subject matter experts reviewed the results of the survey and revised the list of activities included in the examination. The revised blueprint will be used for examinations starting in 2009.

## **The Examination Blueprint**

The Examination Blueprint is drawn from the Analysis of Physiotherapy Practice. It outlines the essential elements to be covered by the PCE and specifies what proportion of an examination will cover each of them. These elements are organized under two dimensions: Areas of Practice and Functions. The Examination Blueprint in turn directs the construction of a bank of questions and stations for the PCE. Other Guidelines (Table 2) are also considered in exam question development as well as selection of questions for each examination. The questions for each exam are a representative sample of all the items found in Table 3 and Table 4.

The overall process ensures that an examination drawn from the question bank does, in fact, evaluate the knowledge, skills, and abilities relevant to physiotherapy practice.

The Examination Blueprint is reviewed and revised following each Analysis of Practice. Changes to the Examination Blueprint for 2009 include adjustment to the proportions of the examination, expansion of the areas of practice and realignment of conditions, and realignment of physiotherapy functions. There were also some changes to activities included in the blueprint and activities considered to be “advanced acquisition”.

The following tables are related to the Examination Blueprint document:

- Table 1: Examination Blueprint
- Table 2: Other Guidelines for the PCE
- Table 3: Sample List of Areas of Practice Evaluated by the PCE
- Table 4: Sample List of Functions Evaluated by the PCE
- Table 5: List of Functions NOT Evaluated by the PCE
- Table 6: List of Advanced Acquisition Functions

TABLE 1: EXAMINATION BLUEPRINT

<b>EXAMINATION BLUEPRINT</b> Required elements for the PCE	
<b>01. Areas of Practice</b> 01.01 Neuromusculoskeletal (50%±5%) 01.02 Neurological (20%±5%) 01.03 Cardiopulmonary-vascular (15%±5%) 01.04 Multisystem (15%±5%)	See Table 3: Sample List of Areas of Practice Evaluated by the PCE for details
<b>02. Functions</b> 02.01 Assessment and Evaluation (35%±5%) 02.02 Interpretation, Planning, Intervention and Re-Evaluation (50%±5%) 02.03 Professional Responsibilities (15%±5%)	See Table 4: Sample List of Functions Evaluated by the PCE for details

TABLE 2: OTHER GUIDELINES FOR THE PCE

<b>OTHER GUIDELINES FOR THE PCE</b> (This list is not necessarily exhaustive.)	
<b>Fields of Client Care</b> 1. Preventive 2. Maintenance	3. Restorative: acute/subacute/chronic
<b>Client Groups</b> 1. 0-18 years 2. 19-49 years	3. 50-65 years 4. Over 65 years
<b>Client Gender</b> 1. Female	2. Male
<b>Practice Settings</b> 1. Acute Care Facility 2. Private Practice 3. Rehabilitation Centre	4. Community Care 5. Extended Care Facility
<b>Associated Conditions</b> 1. Language/communication difficulties 2. Differences in cultural background 3. Functional disabilities	4. Demanding work factors 5. Socio-economic factors 6. Social factors

TABLE 3: SAMPLE AREAS OF PRACTICE EVALUATED BY THE PCE

<b>SAMPLE LIST OF AREAS OF PRACTICE EVALUATED BY THE PCE</b>	
<b>01.01. Neuromusculoskeletal (50%±5%)</b> (This list is not necessarily exhaustive.)	
01.01.01 Muscle contusions/strains/tears/weakness	01.01.11 Mechanical spinal abnormalities (e.g., low back pain, scoliosis, postural dysfunction)
01.01.02 Pelvic floor dysfunction	01.01.12 Inflammatory/infectious conditions of the neuromusculoskeletal system (e.g., osteomyelitis)
01.01.03 Ligament sprains/tears	01.01.13 Amputations
01.01.04 Tendonopathy, tendon ruptures/tears, tendonosis	01.01.14 Congenital malformations (e.g., talipes equinovarus, hip dysplasia)
01.01.05 Fasciitis, fascial tearing, myofascial restriction	01.01.15 Nerve compression (e.g., Carpal Tunnel Syndrome, radiculopathy, spinal stenosis)
01.01.06 Joint derangements/dysfunction (e.g., loose bodies, hypermobility, hypomobility)	01.01.16 Peripheral nerve injuries
01.01.07 Fractures, dislocations, subluxations	01.01.17 Neural tissue dysfunction/neuro-dynamic dysfunction
01.01.08 Osteoporosis/osteopenia	01.01.18 Scars
01.01.09 Tumour/pathological fractures	
01.01.10 Degenerative joint disease	
<b>01.02 Neurological (20%±5%)</b> (This list is not necessarily exhaustive.)	
01.02.01 Cerebral Vascular Accident/transient ischemic attack	01.02.08 Post-polio syndrome
01.02.02 Acquired brain injury	01.02.09 Cerebellar disorders
01.02.03 Spinal cord injury	01.02.10 Vestibular disorders
01.02.04 Tumour	01.02.11 Neuropathies (e.g., peripheral neuropathies, complex regional pain syndrome)
01.02.05 Degenerative neurological/neuromuscular disorders (e.g., muscular dystrophies, amyotrophic lateral sclerosis, Parkinson disease)	01.02.12 Developmental/birth injuries (e.g., cerebral palsy, myelomeningocele, Erb's palsy)
01.02.06 Demyelinating disorders (e.g., multiple sclerosis)	01.02.13 Dementia, affective and cognitive disorders
01.02.07 Inflammatory/infectious conditions of nervous system (e.g., meningitis, Lyme disease)	01.02.14 Altered level of consciousness (e.g., coma, seizures)

<b>SAMPLE LIST OF AREAS OF PRACTICE EVALUATED BY THE PCE (continued)</b>	
<b>01.03 Cardiopulmonary-vascular (15%±5%)</b> (This list is not necessarily exhaustive.)	
01.03.01 Heart disease/malformation/injury (e.g., arteriosclerosis, blunt trauma, tamponade, aortic aneurysm)	01.03.08 Asthma
01.03.02 Myocardial ischaemia and infarction (including surgical interventions)	01.03.09 Chronic obstructive pulmonary disease (e.g., emphysema, bronchitis, bronchiectasis)
01.03.03 Heart failure, cor pulmonale	01.03.10 Restrictive pulmonary disease (e.g., fibrosis)
01.03.04 Tumour	01.03.11 Tuberculosis
01.03.05 Pneumonia (primary or post-operative/preventive)	01.03.12 Pleural effusion
01.03.06 Atelectasis (primary or post-operative/preventive)	01.03.13 Pulmonary edema
01.03.07 Adult/infant respiratory distress syndrome (e.g., acute lung injury)	01.03.14 Cystic fibrosis
	01.03.15 Peripheral arterial disease
	01.03.16 Venous disorders
<b>01.04 Multisystem (15%±5%)</b> (This list is not necessarily exhaustive.)	
01.04.01 Episodic disease (e.g., oncology, HIV/AIDS, autoimmune disorders, rheumatic diseases, haemophilia)	01.04.06 Obesity
01.04.02 Metabolic disorders/conditions (e.g., diabetes)	01.04.07 Pregnancy and post partum conditions
01.04.03 Chronic pain/fibromyalgia	01.04.08 Burns
01.04.04 Lymphodema	01.04.09 Wounds/ulcers
01.04.05 Sepsis	01.04.10 Skin conditions (e.g., dermatitis, psoriasis)
	01.04.11 Tumours (not covered elsewhere)
	01.04.12 Competing diagnoses (management of 1° diagnosis is changed by 2° diagnosis)

TABLE 4: LIST OF FUNCTIONS EVALUATED BY THE PCE

<b>LIST OF FUNCTIONS EVALUATED BY THE PCE</b> (This list is not necessarily exhaustive.)	
<b>02.01 ASSESSMENT AND EVALUATION (35%±5%)</b>	
<b>Data Collection</b>	
<i>Obtain the following client information and interpret implications for intervention:</i>	
02.01.01.01	Past and current history (e.g., medical, surgical, developmental, psycho-social, current status/symptoms, concurrent and past treatments)
02.01.01.02	Results of tests and diagnostic procedures (e.g., imaging, laboratory tests, functional capacity evaluation, pulmonary function tests)
02.01.01.03	Medications (past and current)
02.01.01.04	Home/work/leisure/play environments, family and community support systems and resources
02.01.01.05	Client expectations and goals
<b>Tests/Measurements</b>	
02.01.02.01	Select and justify evaluation/assessment procedures based on client needs and expectations, responses, and best available evidence
02.01.02.02	Perform selected physiotherapy evaluations/assessments in a safe and accurate manner including handling all monitoring devices, equipment, or lines attached to or around client
02.01.02.03	Examine and evaluate neuromusculoskeletal, neurological, cardiopulmonary-vascular, integumentary and other systems using appropriate tests and measures
02.01.02.04	Examine and evaluate mental status (e.g., cognition, memory), hearing, and visual acuity as they relate to client's participation in physiotherapy programs and attainment of goals
02.01.02.05	Screen for contraindications and precautions for treatment planning (e.g., medical issues; psychosocial issues; safety issues; language comprehension; educational needs; risk factors and mediators)
02.01.02.06	Observe client's response to the physiotherapy evaluation/assessment and respond accordingly
02.01.02.07	Assess client need for assistive, adaptive, and protective devices (e.g., positional supports, mobility aids, orthotic or prosthetic devices)

## LIST OF FUNCTIONS EVALUATED BY THE PCE (continued)

(This list is not necessarily exhaustive.)

### 02.02 INTERPRETATION, PLANNING, INTERVENTION, AND RE-EVALUATION (50%±5%)

#### Data Interpretation

02.02.01.01 Develop a list of physiotherapy differential diagnoses and determine the most probably cause of client's problem

02.02.01.02 Identify indications, barriers, precautions, and contraindications to treatment, using the best available evidence

02.02.01.03 Determine need for physiotherapy treatment, collaboration, consultation, or referral

#### Prognosis

02.02.02.01 Determine the potential for recovery or decline with or without physiotherapy intervention

#### Goal Setting and Care Planning

*In consultation/collaboration with the client and family:*

02.02.03.01 Establish short-and long-term goals that are client-centred; and specific, measurable, attainable, relevant and time-based (SMART)

02.02.03.02 Identify which aspects of intervention involve consultation, collaboration, delegation, and/or referral

02.02.03.03 Prioritize client's problems and associated treatments within the context of available resources

02.02.03.04 Select and justify treatments and procedures, using the best available evidence and considering environmental factors, safety factors, family/cultural factors, and client's impairments, activities and participation levels

02.02.03.05 Identify appropriate outcome measures for use in determining efficacy of intervention

02.02.03.06 Identify aspects of treatment that can be performed by client independently or with caregiver/family assistance

02.02.03.07 Schedule treatments to optimize client's response (e.g., time of day, medication timing)

02.02.03.08 Facilitate procurement of client equipment and aids

02.02.03.09 Participate in interprofessional continuum of care planning and follow-up care with client, family and other care givers

#### Implementation

*Use the following interventions in a safe, effective, and ethical manner with individuals or groups:*

02.02.04.01.01 Exercise with or without equipment (e.g., passive, active assisted, active, resisted, neuromuscular, vestibular, muscle patterning, PNF)

02.02.04.01.02 Joint mobilization

02.02.04.01.03 Joint manipulation

02.02.04.01.04 Soft tissue techniques (e.g., massage, friction, stretching)

02.02.04.01.05 Fitness/conditioning/endurance exercise programs

02.02.04.01.06 Functional activity training

02.02.04.01.07 Posture training

02.02.04.01.08 Positioning

02.02.04.01.09 Gait/mobility education and training with or without equipment

02.02.04.01.10 Neurodynamic techniques (e.g., nerve gliding/flossing exercises)

**LIST OF FUNCTIONS EVALUATED BY THE PCE (continued)**

(This list is not necessarily exhaustive.)

- 02.02.04.01.11 Balance training/proprioceptive training
- 02.02.04.01.12 Sensory training (e.g., desensitization, protective education, sensory integration)
- 02.02.04.01.13 Techniques to optimize oxygen transport and facilitate airway clearance (e.g., positioning, suctioning, secretion clearance, forced expiratory techniques)
- 02.02.04.01.14 Mechanical agents (e.g., traction, continuous passive movement, compression garment and devices, vasopneumatic devices)
- 02.02.04.01.15 Conductive thermal agents (e.g., contrast baths, whirlpools, paraffin wax, hot packs, ice/cold)
- 02.02.04.01.16 Electrical agents (e.g., EMG biofeedback, iontophoresis, transcutaneous electrical nerve stimulation [TENS], neuromuscular electrical nerve stimulation [NMES], interferential current [IFC], high voltage pulsed current [HVPC])
- 02.02.04.01.17 Electromagnetic energy agents (e.g., shortwave diathermy, LASER, ultraviolet)
- 02.02.04.01.18 Acoustic agents (e.g., ultrasound)
- 02.02.04.01.19 Protective, adaptive, or assistive devices (e.g., tape, splints, orthotics, prostheses)
- 02.02.04.02 Recognize and respond to the adverse effects of intervention (e.g., pain, deterioration in client status) and/or non-adherence

**Education/Communication/Advocacy**

- 02.02.05.01 Communicate the purpose and results of physiotherapy evaluation/assessment, proposed treatment procedures, expected outcomes and progress to client, family, and healthcare and other service providers and verify their understanding of same
- 02.02.05.02 Use teaching and communication strategies with clients and family members that respect culture, learning, communication, language style, and abilities
- 02.02.05.03 Educate client, family, and healthcare and other service providers in safe and effective physiotherapy techniques and use and care of equipment as appropriate
- 02.02.05.04 Educate the client, family/significant others about the condition, self-management, coping and prevention strategies
- 02.02.05.05 Educate client regarding credibility of external educational materials/resources
- 02.02.05.06 Assist, and where necessary advocate on behalf of, client in obtaining access to necessary services, funding, equipment, and treatment within the continuum of care
- 02.02.05.07 Educate client, family, and healthcare and other service providers about transitions (e.g., change in level of care, care provider or care funder), other services, and discharge plans

**Intervention Progression**

- 02.02.06.01 Assess client satisfaction and response to treatment with appropriate outcome measures and benchmarks
- 02.02.06.02 Perform re-evaluations/re-assessments at appropriate intervals or based on changes in client status as appropriate
- 02.02.06.03 Adjust, revise, or discontinue treatment plan when goals are achieved, client's status changes, or treatment is no longer effective

**LIST OF FUNCTIONS EVALUATED BY THE PCE (continued)**

(This list is not necessarily exhaustive.)

**02.03 PROFESSIONAL RESPONSIBILITIES (15%±5%)**

**Professional Accountability**

- 02.03.01.01 Respect the knowledge, rights, confidentiality, and dignity of client and family
- 02.03.01.02 Adhere to professional and regulatory codes of ethics/conduct and standards of practice
- 02.03.01.03 Participate in processes that evaluate and improve quality and outcomes of services

**Communication and Collaboration**

- 02.03.02.01 Secure informed consent for evaluation/assessment and treatment
- 02.03.02.02 Participate in collaborative health care service delivery (e.g., rounds, specialty care clinics or meetings)
- 02.03.02.03 Consult and collaborate with healthcare and other service providers to ensure services to clients are coordinated and client's needs are met

**Professional Judgment and Reasoning**

- 02.03.03.01 Recognize and practice within the scope and limitations of self and profession
- 02.03.03.02 Demonstrate continuing competence (e.g., reflective practice, self-directed learning)

**Practice Management**

- 02.03.04.01 Document all relevant aspects of care including client evaluation/assessment, treatment plan, progress notes and discharge plan
- 02.03.04.02 Adhere to federal and provincial laws regarding storage, protection, disclosure of information, business practices, etc.
- 02.03.04.03 Assign tasks, guide, and supervise activities of support personnel as needed
- 02.03.04.04 Procure and maintain safe and effective equipment
- 02.03.04.05 Ensure client safety in all aspects of assessment/evaluation and intervention
- 02.03.04.06 Use routine precautions for infection control in all aspects of client interaction
- 02.03.04.07 Manage and administer physiotherapy practice using ethical business practices
- 02.03.04.08 Establish and manage a transparent prioritization process when demand exceeds ability to deliver services



TABLE 5: LIST OF FUNCTIONS NOT EVALUATED BY THE PCE

<b>LIST OF FUNCTIONS NOT EVALUATED BY THE PCE</b>
<p>The following table lists those activities that are included in the 2008 Analysis of Physiotherapy Practice but that will not be evaluated by the PCE, because they are better evaluated by the physiotherapy program and/or employer and/or provincial/territorial regulator.</p>
<ul style="list-style-type: none"> <li>▪ Administer cardiopulmonary resuscitation</li> <li>▪ Apply first aid</li> <li>▪ Participate in professional activities and organizations</li> <li>▪ Contribute to the professional development of colleagues</li> <li>▪ Participate in community service projects</li> <li>▪ Engage in ongoing professional self-development such as the pursuit of continuing education activities</li> <li>▪ Abide by regulatory requirements and the legal and ethical standards of the profession (Note that regulatory and legal requirements that are common to all jurisdictions are included in the blueprint in Professional Responsibilities)</li> </ul>

TABLE 6: LIST OF ADVANCED ACQUISITION FUNCTIONS

<b>LIST OF ADVANCED ACQUISITION FUNCTIONS</b>
<p>The following table lists activities that are considered to be ‘Advanced Acquisition’. These activities are not evaluated by the PCE.</p>
<ul style="list-style-type: none"> <li>▪ Act as a resource to general public regarding health promotion, screening and disease prevention</li> <li>▪ Apply muscle energy techniques</li> <li>▪ Fabricate and adjust orthoses</li> <li>▪ Fabricate and adjust positioning devices</li> <li>▪ Identify heart sounds and changes</li> <li>▪ Perform electrodiagnostic testing</li> <li>▪ Perform wound cleansing and debride wounds</li> <li>▪ Utilize phonophoresis</li> <li>▪ Utilize taping techniques</li> <li>▪ Examine and evaluate home/work/leisure/play environments of the client</li> <li>▪ Order diagnostic imaging</li> <li>▪ Needling techniques (e.g., acupuncture/dry needling/intramuscular stimulation)</li> <li>▪ Prescribe medications as appropriate</li> <li>▪ Participate in scholarly activities that promote best practice (e.g., teaching, research)</li> <li>▪ Act as a mentor to colleagues and physiotherapy students</li> <li>▪ Communicate with funders as required by any contractual obligations</li> </ul>