Physical therapists (also known as physiotherapists) are regulated health professionals. The Canadian Physiotherapy Association (CPA) (Canadian Physiotherapy Association, 2012) defines physiotherapy as a “primary care, autonomous, client-focused health profession” whose unique contribution to health care is to promote, restore and prolong physical independence by enhancing a client’s functional capacity. Physiotherapists encourage clients to assume responsibility for their health and participate in team approaches to health service delivery. The physical therapist is dedicated to improving quality of life by:

- Promoting optimal mobility, physical activity and overall health and wellness;
- Preventing disease, injury, and disability;
- Managing acute and chronic conditions, activity limitations, and participation restrictions;
- Improving and maintaining optimal functional independence and physical performance;
- Rehabilitating injury and the effects of disease or disability with therapeutic exercise programs and other interventions; and
- Educating and planning maintenance and support programs to prevent re-occurrence, re-injury or functional decline.” (Canadian Physiotherapy Association, 2012)

The MPT program includes opportunities for graduate students to become competent in the primary functions of the profession. These functions include:

- using diagnostic and assessment procedures and tools;
- analyzing the impact of disease, disorders, injury or lifestyle on movement/function;
- developing and implementing preventative therapeutic courses of intervention;
- evaluating health status and advocating for the client;
- educating, consulting and researching;
• applying a collaborative and reasoned approach to help clients achieve their health goals, in particular focusing on the musculoskeletal, neurological, cardiorespiratory and multi-systems; and
• lifelong learning (Canadian Physiotherapy Association, 2012).

The physical therapist practice areas include paediatrics, geriatrics, oncology, women’s health pain, critical care, wound care, occupational health and sports medicine. The practice settings include working in private and public facilities, more specifically including “child-development centres, community health centres, government/health planning agencies, health clubs/fitness centres, hospices, hospitals, individual homes/home care, insurance companies, nursing homes/long term care facilities, occupational health centres, outpatient/ambulatory care clinics, physiotherapy clinics/practices/private offices, prisons, public settings of health promotion, rehabilitation centres, research facilities, seniors centres/residences, schools/universities/colleges, sporting events/field settings, sports medicine clinics, worksites/companies” (Canadian Physiotherapy Association, 2012).

**Conceptual Framework for Clinical Practice**

The purpose of the Conceptual Framework for Clinical Practice is to integrate various aspects of the curriculum involved in making clinical decisions about client (patient) interventions. The complexity of establishing the physiotherapy diagnosis, prognosis, treatment plan and successful conclusion of the interaction requires knowledge, skills and attitudes from a variety of sources. There are six components which work together in the framework with a background principle of interprofessional collaboration. The components include:

1. Client centered physiotherapy practice;
2. The International Classification of Functioning, Disability and Health;
3. Hypothesis-oriented approach;
4. Principles of motor control and motor learning;
5. Evidence-informed practice
6. Clinical decision making process, and
7. Principles of ethical decision making
Figure 1: Conceptual Framework for Clinical Practice

These clinical practice components will be continually used over the course of the academic program in order to reinforce the value and place each has in ensuring comprehensive and quality physiotherapy care in the primary, secondary and preventative areas of health care.

Terminology:

Client: The client refers to an individual or group receiving physiotherapy services. Client may be used in several contexts but especially where the individual receiving physiotherapy services is directly paying for these services. The term “patient” is often used interchangeably with the term “client”. (Reynolds, 2005) Often, the word “patient” is used in the context of hospital care or where patient safety is the topic (World Health Organization, 2010) (Canadian Patient Safety Institute, 2011).

Informed consent: “Informed Consent is the voluntary agreement to a course of action, based on a process of clear communication between the client and the physiotherapist. Informed consent is both a legal requirement as well as a vital component of physiotherapy treatment”. (College of Physiotherapy of Manitoba(CPM), 2009)
The physiotherapist is obligated to obtain informed consent for all assessment and treatment procedures. In order for consent to be informed, certain requirements must be met. Consent must be made voluntarily, without fear or duress, by the client. The client must be properly informed and the client must have the capacity to consent. The physiotherapist must understand that the client has the right to refuse treatment or withdraw consent for treatment at any time (College of Physiotherapy of Manitoba(CPM), 2009).

CPM guidelines state that, “(a) physiotherapist demonstrates the practice standard by:

1. Adequately informing the client. The physiotherapist is obligated to provide certain information and allow the client to ask questions. The information provided must allow the client to reach an informed decision.

2. Obtaining ongoing consent from their client. Consent may be obtained orally, in writing or may be implied from the client’s words, writing or actions.

3. The physiotherapist must ensure that the client has the competence to consent to treatment. This implies that the client has the ability to understand the information provided and to make an informed decision about the proposed course of action time (College of Physiotherapy of Manitoba(CPM), 2009).

Referral: This is the method by which the client was introduced to the physical therapist (which includes self-referral) or the method by which the client is referred for additional intervention or assessment.

INTERPROFESSIONAL COLLABORATIVE PRACTICE

Working in an interprofessional collaborative practice team enhances health care as the needs of a patient and family maybe multi-faceted and complex and require the expertise of the different health care professionals. (Uhlig et al., 2018)

CLIENT CENTRED PRACTICE APPROACH

The rehabilitation process includes the client being actively involved with health providers and the health providers understanding and respecting the needs of each client (Cott, 2006). The concepts of client centered rehabilitation include: client participation in decision–making and goal-setting, client-
centered education, evaluation of outcomes from client’s perspective, family (peer, support group) involvement, emotional support, co-ordination / continuity of care, and physical comfort (Cott et al., 2006). These concepts can be applied across all aspects of physiotherapy practice.

INTERNATIONAL CLASSIFICATION OF FUNCTIONING, DISABILITY AND HEALTH

The biopsychosocial approach to the International Classification of Functioning, Disability (ICF) (World Health Organization, 2001) facilitates understanding and measurement of health impact on functional outcomes. Applicable to the individual, group or population level, the ICF is designed to complement the ICD-10 (The International Classification of Diseases and Related Health Problems) (World Health Organization, 2002) (World Health Organization, 2003). Standardized outcome measures can be chosen to assess levels of impairment (body structure and function), activity / activity limitations, or participation / participation restrictions. The client and the outcome of the client assessment can be described in terms of personal and environmental contextual factors, health condition, impairment level findings, and activity and participation level findings. The results can then be used to design interventional strategies for the levels of impairment, activity limitations or participation restrictions. Client goals can also be described in each of these levels. The ICF works for prevention and treatment approaches.

ICF identifies functioning as “encompassing all body functions, activities and participations” and disability as “an umbrella term for impairments, limitations and restrictions” (World Health Organization, 2001). In the clinical setting, ICF is used to identify a client’s functional status, assist in goal setting and treatment planning and monitor a client’s progress (World Health Organization, 2009).
ICF has two parts (World Health Organization, 2001):

1. **Functioning and Disability**:
   a. Body functions and structures:
      i. Body functions are physiological functions of body systems as well as psychological functions.
      ii. Body structures are anatomical parts of the body, e.g. organs, limbs and their components.
      iii. Impairments are problems with body functions or structures.
   b. Activity and participation:
      i. Activity is the execution of a task or action by an individual. It represents the individual perspective of functioning. Activity limitations are difficulties an individual may have in executing activities.
      ii. Participation is involvement in a life situation. It represents the societal perspective of functioning. Participation restrictions are problems an individual may experience in his involvement in live situations.
2. **Contextual Factors:**
   
a. Environmental factors make up the physical, social and attitudinal environment in which people live and conduct their lives. Environmental factors are external to individuals and can have positive (facilitator) or negative (barrier) influence on the individual.

b. Personal factors are the particular background of an individual’s life and living situation and comprise features that are not part of the health condition, e.g. gender, age, race, fitness, lifestyle, habits, social background, other health conditions …” (World Health Organization, 2001)

The following table is a sample template for students to use when documenting ICF issues (World Health Organization, 2002):

<table>
<thead>
<tr>
<th>Body Function and Structure</th>
<th>Activity Limitations</th>
<th>Participation Restrictions</th>
<th>Personal or Environment Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impairments including Risk* Assessment</td>
<td>Learning &amp; applying knowledge</td>
<td>Domestic Life</td>
<td>Products and Technology</td>
</tr>
<tr>
<td>Functions:</td>
<td>General tasks &amp; demands</td>
<td>Community, Social and Civic Life</td>
<td>Natural Environment and human made changes</td>
</tr>
<tr>
<td>Mental</td>
<td>Communication</td>
<td></td>
<td>Support and relationships</td>
</tr>
<tr>
<td>Sensory and pain</td>
<td>Mobility</td>
<td></td>
<td>Attitudes</td>
</tr>
<tr>
<td>Voice and speech</td>
<td>Self-care</td>
<td></td>
<td>Services, systems and policies</td>
</tr>
<tr>
<td>Cardiovascular, haematological, immunological and respiratory</td>
<td></td>
<td></td>
<td>Other</td>
</tr>
<tr>
<td>Digestive metabolic and endocrine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Genitourinary and reproductive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neuromusculoskeletal &amp; movement related</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin and related structures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structures:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nervous system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eye, ear and related structures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structures involved in voice &amp; speech</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
- Cardiovascular, immunological and respiratory
- Digestive metabolism and endocrine
- Genitourinary and reproductive
- Structures related to movement
- Skin and related structures
- Other

<table>
<thead>
<tr>
<th>PHYSICAL THERAPY CLINICAL EXAMPLES</th>
<th>Body Function and Structure Impairments including Risk* Assessment</th>
<th>Activity Limitations</th>
<th>Participation Restrictions</th>
<th>Personal or Environment Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory system:</td>
<td>• Shortness of breath with walking</td>
<td>• Distance walking limited</td>
<td>• Reduced ability to: house/yard work, grocery shop, attend church, Grand parent</td>
<td>• Winter exacerbates shortness of breath</td>
</tr>
</tbody>
</table>
| Neuromusculoskeletal system:    | • Decreased length of upper (L) trapezius muscle with a trigger point.  
  • Weak deep neck flexors  
  • Head forward posture | • Flex/rotating neck is painful when working at computer and doing shoulder checks when driving | • Client can spend only 20 minutes at computer | • Client uses computer 5 hours/day, 5 times/week |
| Neurological system:            | • Left upper limb reduced tone post cerebral vascular accident(CVA) or stroke | • Client unable to actively move L arm | • Reduced ability to look after self (activity)/house/cook meals | • Client is a homemaker; her spouse works outside of home |
**HYPOTHESIS-ORIENTED APPROACH**

As part of decision making, clinicians need to establish working hypotheses of what is causing the patient’s problem. This critical step is essential in determining what the assessment strategy will be (Kaplan, 2007). A hypothesis often represents the identification of a level of impairment thought to be causing a problem. Sometimes hypotheses may be the identification of pathological processes causing impairments, functional limitations or disabilities. All hypotheses must be verifiable through obtainable measurement (Kaplan, 2007). The hypothesis will either be supported or rejected and form the basis for the physical assessment. While taking a health history, it is useful to group the interview questions into categories to keep the information organized. Gathering and evaluating data simultaneously makes it easier to recognize and identify patterns or clusters of signs and symptoms and even being to formulate the “working” hypothesis. Experienced therapists tend to develop the hypothesis early in the assessment process, even while reviewing the chart before the initial contact is made with the patient (Kisner & Colby, 2013).

For example: A client’s gait pattern shows a drop foot. The therapist will immediately consider a number of hypotheses:

- Is this foot drop due to muscle weakness,
- Is this foot drop due to a congenital abnormality, or
- Is this foot drop due to impaired nerve conduction?

The therapist would proceed to ask the patient questions and perform physical tests to determine which hypothesis is correct, in order to determine a physiotherapy diagnosis.
PRINCIPLES OF MOTOR CONTROL AND MOTOR LEARNING

A substantial portion of a physiotherapist’s clinical role is to observe and assess how a client is able to move and relate these movements to functional activities. How a client is able to control movement or achieve motor control is especially important to understand. Motor control is “the ability to regulate or direct the mechanisms essential to movement” (Shumway-Cook and Woollacott, 2011, p. 3). Over the course of the MPT program, students will learn about these essential mechanisms which are:

- The manner in which the central nervous system (CNS) organizes muscles and joints into coordinated functional movements
- The manner in which sensory information external and internal from the body is used to select and control movement
- The influences of self-perceptions, the tasks we perform, and the environment have on our movement behavior” (Shumway-Cook & Woollacott, 2011)

The physical therapist will critically appraise the best way to study the client’s movement, and how movement problems may be quantified (Shumway-Cook and Woollacott, 2011). Once a physical therapist understands how the client is able or not able to control motor responses, the therapist endeavours to help the client learn or relearn moments to improve the client’s activity and participation. A therapist will engage the client in motor learning in order to acquire or reacquire movement skills lost through injury or disease.

EVIDENCE-INFORMED PRACTICE

Assessment methods and interventional approaches will be based upon evidence and best practices (or standards of care). Evidence-informed practice is the combination of best research evidence with clinical expertise and client values (Sackett et al., 2000) (Miles & Loughlin, 2011). Explicit consideration of the local context and environment has been added to the elements considered as part of evidence-informed practice (Rycroft-Malone et al., 2004)
CLINICAL DECISION MAKING PROCESS

The Clinical Decision Making Process (CDMP) is a physical therapy model of practice, developed by Physiotherapy faculty at University of Manitoba, is designed to be used at the individual or community/group level and to be applicable in primary and secondary disease prevention and interventions. The CDMP is one component of the Conceptual Framework for Clinical Practice.
Clinical Decision Making Process

A. Assessment: History

✓ Client interview, chart review and/or community health assessment, including impairments, activity limitations, participation restrictions, and contextual factors
✓ Initial set of “working” hypotheses and/or differential diagnoses
✓ Planning of assessment

Assessment: Physical Assessment

✓ Timing and selection of components of assessment including impairments, activity limitations, participation restrictions, and contextual factors
✓ Testing and re-consideration of hypotheses
✓ Identification of contraindications
✓ Applying appropriate outcome measures

B. Identification

✓ Identifying physical therapy diagnoses, and ‘physical therapy problems’, including impairments, activity limitations, participation restrictions, and contextual factors such as “Client is unable to walk to store”
✓ Refining hypotheses
✓ Collaboration with other health professionals re: further investigation

C. Goals*

✓ Development of SMART goals based upon client goals, expected outcomes and prognosis such as “Client will be able to walk 100 m independently in 2 weeks” AND Collaboration with other health professionals re: further intervention

D. Strategy for Intervention

✓ General “Plan of Care”; location and frequency; type of intervention
  o such as “will be seen 2-3x/week for education and strengthening exercises ”
  o includes prioritization of issues to be addressed
  o collaboration with other health professionals re: further intervention

E. Intervention**

✓ Application of specific treatment methods and dosage such as “10 reps of partial squats with a 5 sec hold, 3 x /day”

F. Re-assessment

✓ Occurs within each session as well as on a pre-determined basis
✓ Re-assessment of client’s impairments, activity limitations, participation restrictions, and contextual factors to identify change that has occurred

G. Client Autonomy - Establish follow-up, maintenance, and client sustainable programs
**C. Goals:** SMART Goals: Specific, Measurable, Achievable, Realistic, Timed (Monaghan et al., 2005). Goals need to be established in consideration of the terms derived from the SMART acronym. These goals are a reflection of the physical therapy diagnosis and prognosis. The physical therapy diagnosis culminates from the physical therapy assessment and evaluation (American Physical Therapy Association, 2001), where the assessment is the process of obtaining data from the client, and the evaluation requires the therapist to make judgments based on the data (Boissonnault, 2005). Whereas the medical diagnosis may be based on pathological origins, the physical therapy diagnosis is based on impairments and functional limitations as assessed by the physical therapist (Boissonnault, 2005).

Examples of client SMART goals are (modified from the Canadian Stroke Network, 2009):

**S - Specific** – A general goal would be “get in shape”, and a specific goal would say “Client will walk for 20 minutes”

**M - Measurable** – To determine if a client goal is measureable, ask yourself: How will I know when it is accomplished?

**A - Attainable** – A client can reach a goal if you set a treatment plan considering the client’s personal and environmental factors and establishing a time frame that allows the PT to carry out the intervention.

**R - Realistic** – The goal is realistic if the patient and PT believe that it can be accomplished given the resources available.

**T - Timely** – A goal should have a time frame however time frames may be somewhat variable in length given the health care setting. In the acute care hospital setting, a short term goal may be achieved in 1-3 days: in an outpatient setting a short term goal may be accomplished in 1-2 weeks. Likewise, the duration of long term goals may vary in length given the care setting: e.g. in the acute care hospital setting a long term goals may be accomplished in 1-2 weeks, but in an outpatient setting, a long term goal could be accomplished in a number of weeks or months.

Goal setting needs to be revisited with each patient visit. This allows the therapist to progress the patient at an appropriate pace; there is a danger of being too aggressive or too conservative (Huber 2006). This reassessment is based on signs and symptoms, patient reports and the physiology of active pathology. For example, does the patient complain of pain with a particular
exercise? The exercise may have been initiated too early, or the patient is performing the exercise incorrectly. Either way the therapist needs to observe and evaluate the effects of the exercise.

The therapist should “actively listen to the patient report on the effect(s) of the intervention both in the clinical setting and with the home or work environment” (Huber, 2006, P19). The relationship with the client can facilitate the development of the home program to be one that will be adhered to by the patient and meet his / her goals. The home program should be revisited intermittently and adjusted as the patient’s status changes.

**E. Intervention:** The description of the intervention is specific (dosages of exercise prescription or electrical modality dosages, timing of intervention if appropriate, etc). The intervention is documented in adequate detail for another PT to be able to read the record and repeat the exact treatment. Also refers to the application of the intervention.

The following table is a sample template for students to use when progressing in their clinical decision making:

**STEPS C, D, and E in CDMP**

<table>
<thead>
<tr>
<th>Physical Therapy Problems: (impairments, activity limitations, participation restrictions)</th>
<th>PT Treatment or Care Plan (including the strategy and intervention)</th>
<th>Short Term Goal</th>
<th>Long Term Goal</th>
</tr>
</thead>
</table>
| Shortness of breath with walking | **Strategy:** Client attends outpatient program 2x/wk  
**Intervention:** Assess SpO₂ on room air and perhaps do blinded walking test with O₂  
Educate client regarding pacing activities, recovery | 1 week:  
6MWT monitoring SpO₂;  
Sub-maximal treadmill test monitoring SpO₂;  
Client walks for 2-5 minute intervals, 3 | 1 month:  
Client’s oxygenation remains above 90% during aerobic activity (with/without oxygen);  
Client walks for 4-5 minute intervals 5 times a |
<table>
<thead>
<tr>
<th>Physical Therapy Problems: (impairments, activity limitations, participation restrictions)</th>
<th>PT Treatment or Care Plan (including the strategy and intervention)</th>
<th>Short Term Goal</th>
<th>Long Term Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Decreased length of upper (L) trapezius muscle with a trigger point.</strong>  Weak deep neck flexors  Head forward posture</td>
<td><strong>Strategy:</strong> Client attends clinic 3x/wk  <strong>Intervention:</strong> Massage soft tissue in neck with attention to trigger points, education re: ROM and posture, passive and home stretch for Left upper trapezius activation of deep neck flexors in supine, ice post tx x15 mins.</td>
<td>1 week: Reduced NVPS from 5/10 to 3/10, Client can achieve and recognize correct posture, Client able to contract 10 reps x 10 sec. hold in supine.</td>
<td>1 month: No neck pain NVPS 0/10 C-spine, stabilization with limb loading and functional activity, Muscle length restored to normal and equal to the opposite side (shoulders are level). Posture maintained during functional activity.</td>
</tr>
<tr>
<td><strong>Right Hemiplegia, partially selective movements of the hip and knee, synergistic</strong></td>
<td><strong>Strategy:</strong> Client attends inpatient rehabilitation program 5x/wk  <strong>Intervention:</strong></td>
<td>1 week: Client will be able to walk from his room to the dining room for all meals (30</td>
<td>1 month: Client will be able to walk independently a minimum of 50 m over all indoor</td>
</tr>
</tbody>
</table>

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Master of Physical Therapy, revised 2019
Physical Therapy Problems: (impairments, activity limitations, participation restrictions)

<table>
<thead>
<tr>
<th></th>
<th>PT Treatment or Care Plan (including the strategy and intervention)</th>
<th>Short Term Goal</th>
<th>Long Term Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>movements of the ankle</td>
<td>Daily stretching, functional strengthening, mobility training (bed mobility, transfer training), gait activities. Initiate cardiovascular training. Teach client/ family an exercise program to be done in the evening and week-ends.</td>
<td>meters) using a quad cane and one person minimum assist.</td>
<td>surfaces (including carpet) using a straight cane.</td>
</tr>
<tr>
<td>Increased extensor tone of the hip, knee and ankle</td>
<td>Needs moderate to maximum assist for all transfers. Lisited opportunities to participate in social activities on the unit due to mobility limitations.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PRINCIPLES OF ETHICAL DECISION MAKING

Essential throughout the Clinical Decision Making Process (CDMP) is the adherence to ethical decision-making. Individual physical therapists are responsible for ensuring that client-centered care is always foremost in their assessment and interventions, while upholding the ethical principles of client autonomy, justice, beneficence, non-maleficence (MB-PHEN, 2016). As student registrants with the College of Physiotherapists of Manitoba, it is the expectation that all physical therapy students follow the profession’s Code of Ethics (College of Physiotherapists of Manitoba, 2018) (Canadian Physiotherapy Association, 2016), using it as guide, education and reflection tool, in all encounters with the public, clients, and their colleagues.
REFERENCES


