

Physical Assessment for Healthcare Professionals

Pharmacists in their role of medication managers within the care team are required to monitor drug usage, effectiveness, side effects and other related issues. Within this role, pharmacists need to perform a physical examination, follow up signs and symptoms related to the condition being treated in their patients, and suggest adjustments or modifications to the drug therapy. Communicating with the medical personnel requires understanding the terminology as well as the physio-pathological foundations of the normal and abnormal clinical findings obtained from the body of the patient.

It is not within the scope of the pharmacist to diagnose based on the clinical findings from the physical examination. The pharmacist-performed physical examination enhances patient care by the collaborative effort this requires.

Some highlights about the course:

- A 30-hour course intended for practicing pharmacists in both hospital and community settings.
- Consists of five (5) sessions of 6 hours each. One session per alternating weekend or as scheduling permits. Session 4 will be specific to the pharmacist-performed physical assessment. The last session is the final exam.
- The sessions are led by three instructors including two Medical Doctors and one Registered Nurse in a ratio of one instructor per 6-8 students.
- Taught in the Nursing Simulation Lab located in the T building on Langara campus, making use of all the available simulators and semiprivate stations for practicing the examination skills.
- Students should acquire their own stethoscope, penlight and textbooks
- The textbook is complemented with Practical Guides for each of the body systems all developed for the course. In addition, the powerpoint presentation slides are provided to the students prior to each session.
- Students are expected to prepare themselves before coming to class to allow more time for hands-on practicing of the examination skills, which are systematically evaluated.
- The students complete two in-class quizzes and a final integrative practical exam (IPE).
- Quizzes are multiple-choice questions about previously discussed practical skills and contents.
- The IPE consists of part 1: demonstration of examination skills on a classmate and part 2: recognition of breath and heart sounds from the simulators.
- The overall passing grade is 70%.

THE LEARNING OUTCOMES:

1. Demonstrate a non-specialized physical examination using the tetrad of techniques: inspection, palpation, percussion, and auscultation.
2. Demonstrate taking the vital signs: temperature, blood pressure, heart rate, and respiratory rate.
3. Describe the basic anatomy and physiology related to the following systems and regions of the body:
 1. HEENT
 2. Respiratory
 3. Abdomen and Gastrointestinal
 4. Nervous
 5. Cardiovascular and Peripheral vascular
 6. Musculoskeletal
4. Apply basic physical examination skills, equipment, and the tetrad of techniques in the assessment of the following systems and regions of the body:
 1. HEENT: including PERRLA, paranasal sinuses, oropharynx, thyroid gland, lymph nodes, tympanic membrane, etc.
 2. Respiratory: including normal and adventitious breath sounds.
 3. Abdomen and Gastrointestinal: general examination and specific organs such as the liver, gall bladder, spleen, sigmoid colon, appendix, etc.
 4. Nervous: including LOC, muscle tone and power, coordination, deep tendon reflexes, cutaneous reflexes, etc.
 5. Cardiovascular and Peripheral Vascular: normal heart sounds, added sounds, murmurs, JVP, edema
 6. Musculoskeletal: ROM, muscle groups function and power, peripheral nerves, etc.

THE SYLLABUS AND CONTENTS IN BRIEF:

Day	Physical Assessment Topics
1	Introduction to physical examination HEENT & lymph nodes
2	Respiratory system Abdomen & GI
3	Cardiovascular system Peripheral vascular system Nervous system
4	Application in pharmacy practice
5	Musculoskeletal system Final exam

a. The non-specialized physical examination:

- Review the general approach to PE (preparation, clinical setting, etiquette)
- Review the basic equipment that will be used in this course, handling and cleaning techniques. Describe the general survey.
- Describe the 4 assessment techniques: inspection, palpation, percussion, auscultation
- Taking vital signs: temperature, pulse, respiratory rate, and blood pressure. Examine HEENT. Examine the neck
- Palpate the axillary lymph nodes

1. b. The respiratory physical examination:

- Perform a posterior and anterior chest exam using inspection, palpation, percussion, auscultation
- Review percussion notes
- Review normal breath sounds, adventitious sounds, transmitted voice sounds
- Review respiratory patterns

1. c. The GI system and abdominal examination:

- Perform an initial survey (skin, umbilicus, contours, peristaltic waves, pulsations)
- Perform an abdomen exam using inspection, palpation, percussion, auscultation
- Discuss findings in constipation, obstruction, diarrhea
- Percuss liver span
- Palpate the liver and gallbladder
- Percuss and palpate the spleen
- Palpate the sigmoid colon

1. d. The examination of the cardiovascular and peripheral vascular systems:

- Auscultate the heart sounds (discuss S1, S2, S3, S4)
- Inspect and palpate the apical impulse
- Listen to murmurs (note timing – systole, diastole; loudness – Grade; pitch; pattern – plateau, crescendo, decrescendo; quality; location; radiation; posture)
- Observe, landmark, and assess JVP
- Palpate radial, brachial, axillary pulses (note rate, rhythm, amplitude)
- Palpate femoral, popliteal, posterior tibial and pedal pulses
- Inspect and palpate the legs (note color, hair distribution, venous pattern, size, and swelling).
- Discuss assessment of edema (1+ to 4+ pitting edema) or any skin lesions/ulcers

1. e. **Examination of the nervous system:**

- Assess level of consciousness (A&O, GCS, MOCA, MMSE)
- Inspect and palpate the motor system (muscle – size, strength; cerebellar function – gait and balance, ataxia (tandem walking, Romberg test), extremity tone)
- Test the reflexes (DTRs biceps, triceps, patellar, Achilles, clonus, hyperreflexia, hyporeflexia, Babinski's)
- Check for meningeal signs: Brudzinski's, Kernig's
- Review involuntary movements (resting or intentional tremor, fasciculation, chorea, athetosis, oral-facial dyskinesias, tics, dystonia)
- Discuss findings in Parkinson's, anti-psychotic induced tardive dyskinesia (AIMS test), EPS (lead-pipe rigidity, cogwheel rigidity, Parkinson's)

1. f. **Examination of the musculoskeletal system and extremities:**

- Review the following movements: flexion, extension, abduction, adduction, pronation, supination, circumduction, inversion, eversion, rotation, protraction, retraction, elevation, depression
- Discuss ROM, crepitus, grading muscle strength
- Inspect, palpate and test ROM of shoulders, elbows and hands
- Inspect, palpate and test ROM of hip, knees and feet
- Discuss findings in rheumatoid arthritis, osteoarthritis, gout

1. g. **Application of physical assessment skills in pharmacy practice:**

- Discuss application of physical examination to the pharmaceutical care process
- Review heart failure cases with a focus on application of physical examination to assessing and monitoring the efficacy and toxicity of drug therapy.
- Practical exercises in pairs to demonstrate good technique in taking vital signs, performing respiratory exam, cardiovascular exam, abdominal exam and skin/extremities exam.

EVALUATION OF THE COURSE:

Evaluation Method	Weight %
Quizzes 2 @ 20% each	40
Attendance and in-class participation (3 marks per class)	27
Integrative Practical Exam (IPE): Part 1 (25) Part 2 (8)	
SUBTOTAL	33
Grand Total	100%

The minimum Grade requirement for successful completion of the PAFP course is B- or 70%.

THE TWO IN-CLASS WRITTEN QUIZZES:

- Will be applied in the morning session, at the beginning of activity 3 (second day) and activity 5 (third day)
- Consist of 15 to 20 multiple choice questions about previously discussed topics that shall be answered in 15-20 minutes maximum.

THE INTEGRATIVE PRACTICAL EXAMINATION (IPE)

Part 1:

- The student pairs with a classmate and alternates in the role of the examiner and the patient.
- The student/examiner randomly picks one exam card, prepares and completes the skills listed in the card on the student/patient in a maximum of 15 minutes and is marked using the following criteria:

SHAPING OF SPACE 7%	CONFIDENCE, BODY LANGUAGE 6%	COMM. SKILLS 7%	LAND-MARKING 10%	PREPS EXAM SKILL 10%	EXECUTION OF SKILLS 50%	TIME MGMNT 10%	TOTAL MARKS 100%
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A sample exam card for Part 1:

QUESTION:
Assessment of the pupillary reaction, conjunctiva, and mouth and throat. Palpate the cervical lymph nodes, thyroid gland and carotid artery. Auscultate the heart and the lungs. Take the BP.

Part 2:

- The students individually recognize two breath sounds and two heart sounds auscultating from the simulators in a maximum total of 7 minutes

*price is subject to change

Background information:

This course was originally commissioned by the Canadian Society of Hospital Pharmacists - BC Branch (CSHP-BC), an accredited provider of continuing pharmacy education by the Canadian Council on Continuing Education in Pharmacy. The CSHP-BC working with a panel of pharmacists with experience and training in performing the physical examination developed the curriculum and David Li Lam led the efforts in developing the related content and materials of the course. The content in this course has now been reformatted to attract multiple healthcare professions. Please inquire with kramsdn@langara.ca if you have a healthcare group of 15 or more for details on how this course may assist your training needs.