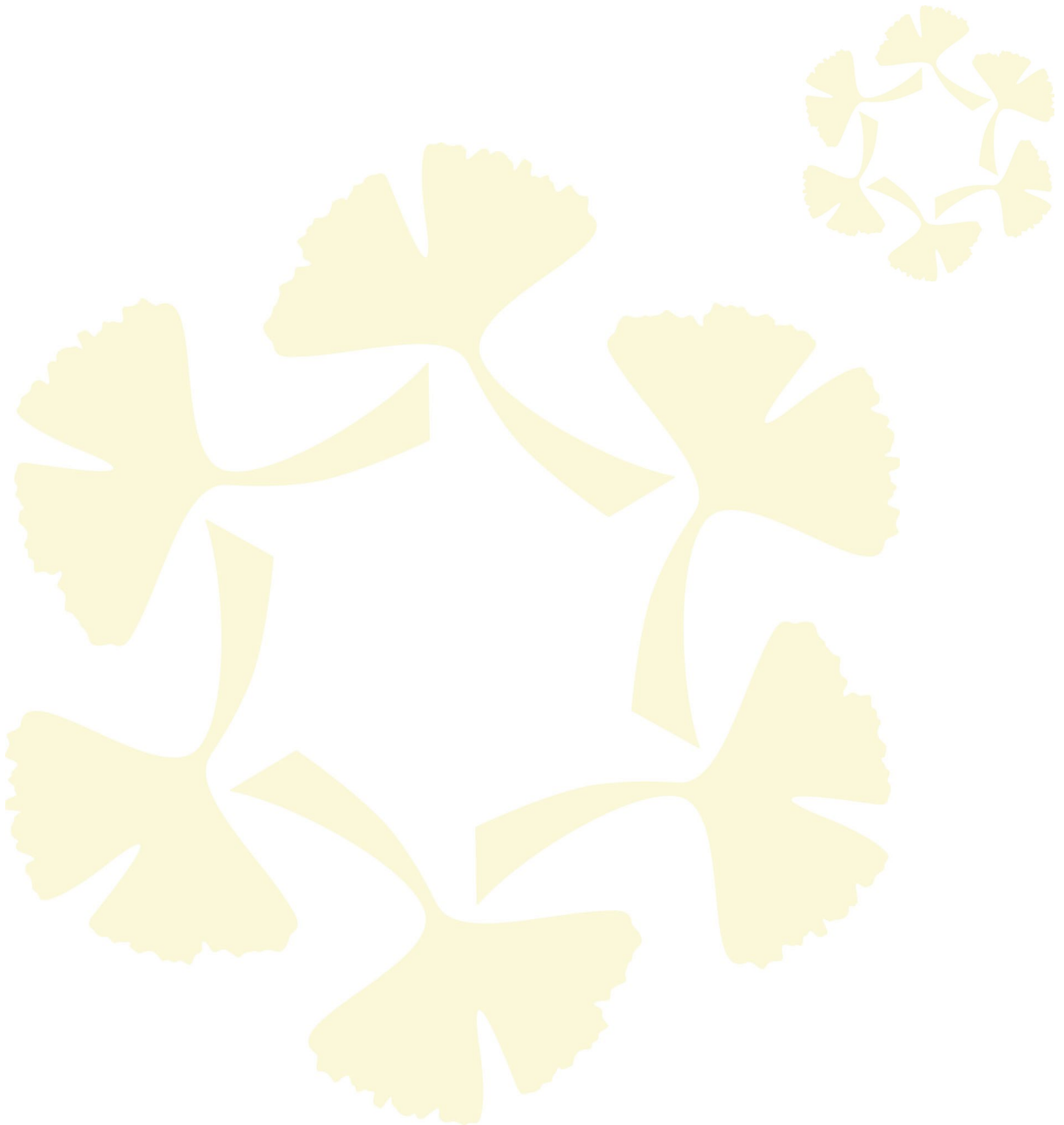




The College of Naturopaths of Ontario

# REFERENCE GUIDE

## ONTARIO CLINICAL SCIENCES EXAMINATION



March 2026

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## GENERAL INFORMATION

### About this guide

This Reference Guide has been created to help candidates seeking registration with the College of Naturopaths of Ontario (the College) to prepare to sit the Ontario Clinical Sciences Examination. The [Ontario Clinical Sciences Exam Handbook](#), which covers examination procedures, such as requesting accommodation, required and permitted items, registering for the exam and post-exam processes is available from the [ETP Exams Resources and Policies](#) section of the College website.

This Reference Guide includes:

- accepted acronyms and abbreviations.
- the exam blueprint outlining competencies – and weighting – to be tested in each content area (amended July 2021); and
- conditions and testable content.

The Reference Guide does not reflect the structure of the exam. However, individuals should be well-prepared to sit the exam by studying the processes, conditions, systems, and other information it contains.

### About the Ontario Clinical Sciences Exam

The goal of the Ontario Clinical Sciences Exam is to test entry-level competencies required of all naturopaths in Canada to practise safely, ethically and competently, regardless of jurisdiction. The exam is a mix of case-based and stand-alone questions which test for clinical readiness and emphasise a candidate's ability to apply their knowledge and critical thinking. The exam is **not** testing any one curriculum from a specific Council on Naturopathic Medical Education (CNME)-accredited program, as such, all candidates are advised to review the blueprint in full.

### About the College

The College of Naturopaths of Ontario is the regulatory authority governing naturopaths in Ontario. Its mandate is to serve the public interest by enhancing safety for patients using naturopaths. The College meets its mandate by ensuring that individuals wishing to be naturopaths in Ontario meet the entry-to-practise requirements, by ensuring practising naturopaths maintain their competency, by establishing and maintaining standards of practice in Ontario and by holding naturopaths accountable through the complaints and disciplinary processes.

### About the College's entry-to-practise exams

There are four mandatory entry-to-practise exams that a candidate must pass in order to be eligible to be registered to practise as a naturopath in Ontario:

1. Ontario Clinical Sciences Exam
2. Ontario Biomedical Exam
3. Ontario Clinical (Practical) Exams
4. Ontario Jurisprudence Online Learning Module

The Clinical Sciences exam:

- is computer-based,
- allows for three re-takes with feedback and remediation after the second failure so candidates know how and where to improve,
- can be completed in less than a day (exam run time is four hours, split into two, two-hour segments, with a 15-minute break in between),
- provides exam candidates with verifiable information about exam performance,
- reflects what is taught and being practised in Ontario and Canada today,
- can be completed in any order, post-graduation, within the roster of Ontario entry-to-practise exams, depending on candidate preference,
- meets federal and provincial legal requirements for people with disabilities and people who need accommodations, as well as requirements to offer entry-to-practise and substantial equivalency exams in English as well as in French.

## CONO LIST OF ACCEPTED ACRONYMS/ABBREVIATIONS\*

5-HTP: 5-hydroxytryptophan	CRP: C-reactive protein
AC: ante cibum (before meals)	CSF: cerebrospinal fluid
ACTH: adrenocorticotrophic hormone	CVA: costovertebral angle
ADH: antidiuretic hormone	CVAT: costovertebral angle tenderness
ADHD: attention deficit hyperactivity disorder	DHEA: dehydroepiandrosterone
AFP: alpha-fetoprotein	DPT: diphtheria-pertussis-tetanus
AIDS: acquired immune deficiency syndrome	DTR: deep tendon reflexes
ALT: alanine aminotransferase	DVT: deep vein thrombosis
AMP: adenosine monophosphate	DXA/DEXA: dual-energy x-ray absorptiometry
ANA: antinuclear antibody	EBV: Epstein-Barr virus
ANS: autonomic nervous system	ECG/EKG: electrocardiogram
AROM: active range of motion	EEG: electroencephalogram
ASA: acetylsalicylic acid	eGFR: estimated glomerular filtration rate
AST: aspartate aminotransferase	EMG: electromyogram
ATP: adenosine triphosphate	ESR: erythrocyte sedimentation rate
AV: atrioventricular	FEV: forced expiratory volume
BID: bid in die (twice a day)	FSH: follicle-stimulating hormone
BLS: basic life support	G6PD: glucose-6-phosphate dehydrogenase
BMI: body mass index	GABA: gamma-aminobutyric acid
BMR: basal metabolic rate	GFR: glomerular filtration rate
BP: blood pressure	GGT: gamma-glutamyl transferase
BPM: beats per minute	GHRH: growth hormone-releasing hormone
cAMP: cyclic adenosine monophosphate	GMP: guanosine 5'-monophosphate
CBC: complete blood count	GnRH: gonadotropin-releasing hormone
CDC: Centers for Disease Control	Hb: hemoglobin
cGMP: guanosine cyclic monophosphate	HbA1C: hemoglobin A1C
CH: centesimal dilution using Hahnemann's dilution method	hCG: human chorionic gonadotropin
CIN: cervical intraepithelial neoplasia	Hct: hematocrit
CMV: cytomegalovirus	HDL: high density lipoprotein
CN: cranial nerve	HIV: human immunodeficiency virus
CNS: central nervous system	HLA: human leukocyte antigen
CoQ10: coenzyme Q10 (ubiquinol)	HPV: human papillomavirus
CPR: cardiopulmonary resuscitation	HRT: hormone replacement therapy
	HS: hora somni (at bedtime or half strength)

IBD: inflammatory bowel disease	RBC: red blood cells
IL: interleukin	RDW: red cell distributions width
IM: intramuscular	RF: rheumatoid factor
IUD: intrauterine device	Rh: rhesus factor
IV: intravenous	RLQ: right lower quadrant
LDL: low density lipoprotein	RNA: ribonucleic acid
LH: luteinizing hormone	ROM: range of motion
LLQ: left lower quadrant	RR: respiratory rate
LOC: loss of consciousness	RSV: respiratory syncytial virus
LUQ: left upper quadrant	RUQ: right upper quadrant
MAO: monoamine oxidase	SA: sinoatrial
MCH: mean corpuscular hemoglobin	SG: specific gravity
MCHC: mean corpuscular hemoglobin concentration	SGOT: serum glutamic-oxaloacetic transaminase
MCV: mean corpuscular volume	SLE: systemic lupus erythematosus
MPV: mean platelet volume	SOD: superoxide dismutase
MRI: magnetic resonance imaging	Sub Q: Subcutaneous
MVA: motor vehicle accident	T: temperature
NAC: N-acetyl cysteine	T2DM: type 2 diabetes mellitus
NADH: nicotinamide adenine dinucleotide phosphate	TENS: transcutaneous electrical nerve stimulation
NK: natural killer (cells)	TIBC: total iron-binding capacity
NSAID: non-steroidal anti-inflammatory drug	TID: ter in die (three times a day)
OTC: over the counter	TNF: tumor necrosis factor
PABA: para-amino benzoic acid	TRH: thyroid-releasing hormone
PC: post cibum (after meals)	TSH: thyroid stimulating hormone
PG: progesterone	URI: upper respiratory infection
PMN: polymorphonuclear neutrophil	UTI: urinary tract infection
PNS: peripheral nervous system	VLDL: very low-density lipoprotein
PR: pulse rate	VMA: vanillylmandelic acid
PRN: pro re nata (as needed)	WBC: white blood cell
PT: prothrombin time	WHO: World Health Organization
PTH: parathyroid hormone	WNL: within normal limits
QID: quarter in die (4 times a day)	
QD: quaque die (once a day)	

*\*Terms with acronyms not appearing on this list will be spelt out in full on the exam form.*

## CLINICAL SCIENCES EXAMINATION BLUEPRINT

Competencies	% of Exam
<b>1. ASSESSMENT &amp; DIAGNOSIS</b>	<b>30-34%</b>
<i>1.01 Evaluate patients.</i>	
1.01.01 Apply ethical principles to doctor-patient interactions.	
1.01.02 Take a medical and psychosocial history.	
1.01.03 Perform a physical examination.	
1.01.04 Select lab tests*.	
1.01.05 Collect and prepare specimens for lab evaluation.	
1.01.06 Select imaging studies**.	
<i>1.02 Assess common conditions, both acute and chronic.</i>	
1.02.01 Identify risk factors.	
1.02.02 Recognize signs and symptoms.	
1.02.03 Identify comorbidities.	
1.02.04 Generate a differential diagnosis.	
1.02.05 Determine pathogenesis and etiologies.	
<i>1.03 Interpret findings.</i>	
1.03.01 Interpret findings of physical examination.	
1.03.02 Interpret results of lab tests.	
1.03.03 Identify factors that may interfere with lab results.	
1.03.04 Interpret results of imaging.	
1.03.05 Predict the complications and sequelae.	
1.03.06 Determine the prognosis.	
1.03.07 Monitor patient progress using lab tests and imaging studies.	
<i>1.04 Apply evidence informed practice to patient management.</i>	
1.04.01 Interpret and critique the results of research studies.	
1.04.02 Apply the results of research studies to patient management	

\*Refer to Ontario Clinical Sciences Examination Reference Guide, section Laboratory Tests

\*\*Refer to Ontario Clinical Sciences Examination Reference Guide, section Imaging Studies

Competencies	% of Exam
<b>2. MODALITIES</b>	<b>55-59%</b>
<i>2.01 Manage patient care by applying principles of botanical prescribing.</i>	
2.01.01 Evaluate the safety of botanical medicine prescriptions, including side effects, contraindications, interactions, and toxicity.	
2.01.02 Prescribe botanical medicines*, including the posology and prescribing abbreviations, based on pharmacognosy, therapeutic effects, indications, mechanisms of action, and route of administration.	
<i>2.02 Manage patient care by applying principles of homeopathic prescribing.</i>	
2.02.01 Demonstrate knowledge of the critical aspects of case taking (e.g., timing, sidedness, intensity, aggravating and ameliorating factors).	
2.02.02 Prescribe homeopathic preparations** for acute conditions based on keynotes, including the posology and prescribing abbreviations, using classical Hahnemannian homeopathy.	
<i>2.03 Manage patient care by applying principles of clinical nutrition, including nutraceuticals***.</i>	
2.03.01 Assess diet and nutritional status (intake, absorption, utilization, loss).	
2.03.02 Evaluate the safety of nutritional interventions, including side effects, contraindications, interactions, and toxicity.	
2.03.03 Prescribe nutritional interventions based on indications, bioavailability, food sources, route of administration, and requirements for macronutrients and micronutrients.	
2.03.04 Prescribe therapeutic diets**** based on indications and contraindications.	
2.03.05 Counsel patients about general nutrition and food sources of nutrients.	
<i>2.04 Manage patient care by applying principles of physical medicine.</i>	
2.04.01 Evaluate the safety of physical medicine interventions, including side effects, contraindications and interactions.	
2.04.02 Perform specialized orthopedic tests*****.	
2.04.03 Perform osseous manipulation.	
2.04.04 Perform soft tissue manipulation.	
2.04.05 Treat patients using therapeutic devices (diathermy, sine wave and TENS, interferential and micro-current, light therapy, and therapeutic ultrasound).	
2.04.06 Prescribe and administer hydrotherapy treatments.	
2.04.07 Prescribe therapeutic exercise.	
2.04.08 Counsel patients regarding prevention of musculoskeletal conditions.	

\*Refer to Ontario Clinical Sciences Examination Reference Guide, section Botanical Medicines

\*\*Refer to Ontario Clinical Sciences Examination Reference Guide, section Homeopathic Preparations

\*\*\*Refer to Ontario Clinical Sciences Examination Reference Guide, section Nutraceuticals

\*\*\*\*Refer to Ontario Clinical Sciences Examination Reference Guide, section Therapeutic Diets

\*\*\*\*\*Refer to Ontario Clinical Sciences Examination Reference Guide, section Orthopedic Tests

Competencies	% of Exam
<i>2.05 Manage patient care by applying principles of counseling and health psychology.</i>	
2.05.01 Apply basic counseling principles and use counseling techniques to provide patient care.	
2.05.02 Counsel patients regarding lifestyle choices, health promotion, and the prevention of chronic disease.	
2.05.03 Use and prescribe mind-body techniques.	
2.05.04 Identify and address lifespan/developmental issues.	
2.05.05 Use evidence-based psychological assessment tools*.	
<i>2.06 Manage patient care by applying principles of Traditional Chinese Medicine.</i>	
2.06.01 Demonstrate knowledge of the critical aspects of case taking (e.g., ten questions, pulse and tongue).	
2.06.02 Recognize signs and symptoms according to Traditional Chinese Medicine patterns (eight principles, vital substances, organs, meridians, five elements).	
2.06.03 Diagnose Zang-Fu pathologies**.	
2.06.04 Evaluate the safety of Chinese patent herbal formulas***, including side effects, contraindications, interactions, and toxicity.	
2.06.05 Prescribe Chinese patent herbal formulas based on Zang-Fu diagnosis.	
2.06.06 Determine acupuncture**** prescription.	
2.06.07 Administer acupuncture including point location, angulation, depth, and clean needling technique.	
2.06.08 Evaluate the safety of acupuncture including side effects, contraindications, interactions, and cautions.	
2.06.09 Prescribe adjunct therapies (moxibustion, cupping, electro-acupuncture, and laser).	
<i>2.07 Manage patient care by applying principles of pharmacotherapy.</i>	
2.07.01 Evaluate the safety of pharmaceuticals, including side effects, contraindications, interactions, and toxicity.	
2.07.02 Prescribe pharmaceuticals***** based on therapeutic effects, indications, mechanisms of action, and route of administration.	
2.07.03 Monitor and assess for therapeutic drug levels.	

\*Refer to Ontario Clinical Sciences Examination Reference Guide, section Psychological Assessment Tools

\*\*Refer to Ontario Clinical Sciences Examination Reference Guide, section Zang-Fu Pathologies

\*\*\*Refer to Ontario Clinical Sciences Examination Reference Guide, section Chinese Patent Herbal Formulas

\*\*\*\*Refer to Ontario Clinical Sciences Examination Reference Guide, section Acupuncture Point

\*\*\*\*\*Refer to Ontario Clinical Sciences Examination Reference Guide, section Pharmaceuticals

Competencies	% of Exam
<b>3. CRITICAL CARE AND PUBLIC HEALTH</b>	<b>9-13%</b>
<i>3.01 Manage high-risk patients and critical conditions.</i>	
3.01.01 Identify high-risk patients and critical conditions.	
3.01.02 Manage high-risk patients and critical conditions, including referral as appropriate.	
3.01.03 Perform Cardiopulmonary Resuscitation.	
3.01.04 Administer oxygen.	
<i>3.02 Implement occupational and public health policies.</i>	
3.02.01 Apply principles of sterilization, disinfection, and universal precautions.	
3.02.02 Manage bio-hazardous substances and materials.	
3.02.03 Counsel patients regarding communicable diseases.	
3.02.04 Report communicable diseases to local public health authorities.	
3.02.05 Report adverse reactions to therapeutic substances to Health Canada.	

### Other Blueprint Parameters

Condition	% of Exam
1. Vascular	9-11%
2. Infectious	9-11%
3. Neoplastic	4-6%
4. Degenerative	9-11%
5. Inflammatory/Immunologic	9-11%
6. Congenital/Developmental	6-8%
7. Autoimmune	8-10%
8. Toxic/Environmental	6-8%
9. Traumatic	4-6%
10. Endocrine	9-11%
11. Metabolic	6-8%
12. Psychosomatic/Psychiatric	9-11%

Patient Population	% of Exam
Pediatric (0-14)	15-25%
Adult (15-49)	25-35%
Older Adult (50-65)	25-35%
Geriatric (over 65)	15-25%

Item Type	% of Exam
Independent	28-32%
Case-Based	68-72%

Taxonomy (Cognitive Level)	% of Exam
Knowledge/Comprehension	15-25%
Application	45-55%
Critical Thinking	25-35%

## CONDITIONS TESTED ON THE CLINICAL SCIENCES EXAMINATION\*

### 1. VASCULAR

- A. Circulatory flow (lymphedema, central edema, peripheral edema, pulmonary edema, Raynaud's disease [primary Raynaud's phenomenon], chronic arterial insufficiency/chronic venous insufficiency, stasis dermatitis, peripheral vascular disease, hyperlipidemia, intermittent claudication, cluster headache, migraine headache).
- B. Blood vessels (varicose veins, esophageal varices, hemorrhoids, aortic aneurysm, cerebral aneurysm).
- C. Blood pressure (primary hypertension, secondary hypertension, hypertensive crisis, pulmonary hypertension, hypotension).
- D. Ischemic conditions (ischemic heart disease, myocardial infarction, cardiac arrest, cerebrovascular accident, transient ischemic attack, avascular necrosis of the femoral head, gangrene, embolism, pulmonary infarction, pulmonary embolism).
- E. Blood (anemias - aplastic, hemolytic, macrocytic, microcytic, normocytic, anemia of chronic disease; neutropenia, eosinophilia, basophilia, thrombocytopenia, Henoch-Schonlein purpura, disseminated intravascular coagulation, thrombosis).
- F. Cardiac arrhythmias (atrial fibrillation, atrial and ventricular premature beats, heart block, premature ventricular contractions/ventricular ectopic beats, sinus bradycardia, sinus tachycardia, supraventricular tachyarrhythmias, ventricular fibrillation, ventricular tachycardia).
- G. Conditions specific to pregnancy (gestational hypertension, antepartum anemia, placenta previa, abruptio placenta, pre-eclampsia).

### 2. INFECTIOUS

- A. Blood and lymph (malaria, septicemia).
- B. Generalized (Lyme disease, cytomegalovirus, Epstein–Barr virus, mononucleosis, herpes simplex, human immunodeficiency virus, systemic candidiasis, disseminated candidiasis, group A streptococcus, West Nile virus).
- C. Gastrointestinal and hepatobiliary (oral thrush, intestinal dysbiosis, cholera, amoebic dysentery, *E. Histolytica*, *Giardia*, helminths [flat worms, flukes], round worms [*Ascaris*, pinworms, schistosomiasis], bacterial gastroenteritis, bacterial dysentery, *Salmonella*, *Shigella*, *Campylobacter*, *Escherichia coli* [*E. coli*], foodborne illness, enterotoxigenic gastroenteritis, viral gastroenteritis, post-antibiotic *Clostridium* colitis, peritonitis, gastrointestinal abscess, hepatitis [A, B and C], bacterial enterocolitis, proctocolitis).
- D. Head and neck (pharyngitis, hordeolum, orbital cellulitis, otitis, vertigo caused by inner ear infections, dental abscess, gingivitis, stomatitis, laryngitis, tonsillitis, parotitis, peritonsillar abscess, retropharyngeal abscess, mastoiditis, viral thyroiditis [De Quervain's thyroiditis]).
- E. Musculoskeletal (septic arthritis, osteomyelitis, poliomyelitis).
- F. Neurological (tetanus, botulism, encephalitis, herpes zoster, meningitis, neuritis, rabies).
- G. Respiratory (blastomycosis, coccidioidomycosis, histoplasmosis, influenza, bronchiolitis, bronchitis, lung abscess, pleural empyema [pyothorax], pneumonia, tuberculosis).
- H. Skin and nails (mucocutaneous candidiasis, carbuncles, cellulitis, folliculitis, furuncles, impetigo, necrotizing fasciitis, onychomycosis, paronychia, pediculosis, scabies, tinea, staphylococcus aureus).
- I. Genitourinary (poststreptococcal glomerulonephritis, pelvic inflammatory disease, toxic shock syndrome, pyelonephritis, cystitis, urethritis, bacterial vaginitis, vaginal candidiasis, vaginosis, balanitis, epididymitis, orchitis, warts, human papillomavirus).
- J. Sexually transmitted infections (chancroid, chlamydia, gonorrhea, herpes genitalis, lymphogranuloma venereum, phthirus pubis, syphilis, trichomoniasis).
- K. Breast (mastitis).
- L. Conditions critical in pregnancy (rubella, group B streptococcus, toxoplasmosis, cytomegalovirus).
- M. Conditions generally pertaining to pediatrics (coxsackievirus, diphtheria, scarlet fever, encephalitis, erythema infectiosum, hand-foot-mouth disease, herpangina, meningitis, mumps, otitis media,

pertussis, roseola, measles, rubella, streptococcal pharyngitis, thrush, varicella, croup, molluscum contagiosum, epiglottitis, infant respiratory distress syndrome, respiratory syncytial virus, rotavirus).

### 3. **NEOPLASTIC**

- A. Blood and lymph neoplasms (leukemias, Hodgkin's and non-Hodgkin's [Burkitt] lymphoma, multiple myeloma, polycythemia vera, secondary polycythemia, myelodysplastic Syndrome).
- B. Endocrine neoplasms (adrenal, pancreatic, pituitary, parathyroid, pheochromocytoma and thyroid).
- C. Gastrointestinal neoplasm (colorectal, esophageal, gallbladder, gastric, hepatic, pancreatic, carcinoid, multiple endocrine neoplasia [MEN1/MEN2]).
- D. Head and neck neoplasms (gingival, laryngeal, tonsillar, oral).
- E. Musculoskeletal (chondromas, neuromas, osteochondromas, osteoid osteoma, osteomas, sarcomas).
- F. Neurological (astrocytoma, glioma, meningioma, neuroma).
- G. Respiratory (lung adenocarcinoma, mesothelioma, Pancoast tumor, small/oat cell carcinoma, squamous cell carcinoma).
- H. Skin and nails (actinic keratosis, basal cell carcinoma, Kaposi's sarcoma, melanoma, squamous cell carcinoma).
- I. Benign skin lesions (lichenification, lipoma, sebaceous cysts, seborrheic keratosis, acrochordon/skin tag, verrucae).
- J. Genitourinary (adenocarcinoma, adenomyosis, cervical polyps, cervical dysplasia, cervical cancer, endometrial cancer, leiomyoma, uterine polyps, ovarian cancer, benign prostatic hyperplasia, prostate cancer, renal cell carcinoma, sarcoma, teratoma, testicular tumor, urinary tract cancer, endometrial hyperplasia, endometriosis, uterine cancer, vulvar cancer, nabothian cysts, colon cancer).
- K. Breasts and axillae (breast cancer [DCIS, LCIS, inflammatory, invasive], fibroadenoma, fibrocystic breasts, Paget's disease of the breast).
- L. Conditions critical in pregnancy (gestational trophoblastic disease/hydatidiform mole).
- M. Conditions critical in pediatrics (leukemia, Ewing's sarcoma, neuroblastoma, Wilms' tumor, osteosarcoma, retinoblastoma, hemangioma).

### 4. **DEGENERATIVE**

- A. Cardiovascular (cardiomyopathy, right-sided and left-sided congestive heart failure, aortic valve stenosis, mitral, pulmonary, and tricuspid valves, insufficiency of aortic, mitral, pulmonic, and tricuspid valves, mitral valve prolapse, hepatojugular reflux).
- B. Gastrointestinal and hepatobiliary (GERD, hiatal hernia, hypochlorhydria, cirrhosis, diverticulosis, fistula, inguinal hernia, umbilical hernia, intestinal polyps, Meckel's diverticulum, rectal prolapse).
- C. Head and neck (cataract, glaucoma, hypertensive retinopathy, macular degeneration, otosclerosis).
- D. Respiratory (chronic bronchitis, emphysema, pulmonary fibrosis).
- E. Musculoskeletal (osteoarthritis, osteochondrosis, osteopenia, osteoporosis, ganglion cyst, discopathy [cervical, thoracic, lumbar], spondylosis, facet syndrome, kyphosis, scoliosis, lordosis, spondylolisthesis, hallux malleus/hammer toes, spinal stenosis polymyalgia rheumatica).
- F. Neurological (neuralgia, neuropathy, dementia [Alzheimer's, frontotemporal, lewy body, pre-senile, senile, vascular], Parkinson's disease/Parkinsonism, amyotrophic lateral sclerosis).
- G. Genitourinary (nephropathy, nephrosclerosis, renal failure, uterine prolapse, vaginal prolapse, urinary incontinence, vaginal atrophy).
- H. Other conditions commonly associated with aging (loss of balance and flexibility, vision impairment, hearing impairment, undernourishment and malnourishment, muscle and joint pain, pressure ulcers).

### 5. **INFLAMMATORY, IMMUNOLOGIC**

- A. Blood and lymph (lymphadenitis, lymphangitis, phlebitis, hemolytic uremic syndrome).
- B. Cardiovascular (endocarditis, myocarditis, pericarditis, temporal arteritis/giant cell arteritis, vasculitis, atherosclerosis, thrombophlebitis).
- C. Gastrointestinal and hepatobiliary (Barrett's esophagitis, eosinophilic esophagitis, esophageal strictures, gastric ulcer, gastritis, peptic ulcer disease, pancreatitis, cholecystitis, splenomegaly,

appendicitis, diverticulitis, duodenal ulcer, irritable bowel syndrome, anorectal strictures, cryptitis, fissures, proctitis).

- D. Head and neck (chalazion, conjunctivitis, dacryocystitis, pterygium, uveitis, labyrinthitis, vestibular neuronitis, vestibulitis, allergic rhinitis, sinusitis, nasal polyps, papilledema).
- E. Hypersensitivity disorders (allergies, anaphylaxis, urticaria, angioedema).
- F. Respiratory (asthma, bronchiectasis, pleural effusion).
- G. Musculoskeletal (bursitis, tendinitis, adhesive capsulitis, epicondylitis, de Quervain's tenosynovitis, trigger finger, costochondritis, chondromalacia patella, complex regional pain syndrome, chronic fatigue syndrome, fibromyalgia).
- H. Neurological (acute inflammatory demyelinating neuropathy, Guillain-Barre syndrome, radiculitis, sinus headache, Bell's palsy, trigeminal neuralgia, post-polio syndrome).
- I. Skin and nails (acne rosacea, acne vulgaris, pityriasis alba and rosea, seborrheic dermatitis, contact dermatitis, eczema, erythema multiforme, urticaria).
- J. Genitourinary (glomerulonephritis, nephritis, nephrosis, nephrotic syndrome, interstitial cystitis, endometritis, Bartholin's cyst, prostatitis, immunologic causes of infertility) .
- K. Conditions critical in pregnancy (pruritic urticarial papules and plaques of pregnancy).

## **6. CONGENITAL, DEVELOPMENTAL**

- A. Blood and lymph (alpha-thalassemia, beta-thalassemia, glucose-6-phosphate dehydrogenase deficiency, hemochromatosis, sickle cell disease, hemophilia, Von Willebrand disease, acute intermittent porphyria, erythropoietic protoporphyria, porphyria cutanea tarda, familial hypercholesterolemia, hereditary spherocytosis).
- B. Immunologic (IgA deficiency, hereditary angioedema, severe combined immunodeficiency, Wiskott-Aldrich syndrome, Chediak-Higashi Syndrome, chronic granulomatous disease, Bruton's agammaglobulinemia).
- C. Head and Neck (cleft lip/palate, Coat's disease, retinopathy of prematurity).
- D. Musculoskeletal (osteitis deformans, Paget's disease of bone, Dupuytren's contracture, muscular dystrophy, achondroplasia).
- E. Vascular (arterial malformations, congenital heart disorders, atrial septal defect, coarctation of the aorta, patent ductus arteriosus, Tetralogy of Fallot, ventricular septal defect).
- F. Neurologic (neurofibromatosis, tuberous sclerosis, Huntington's disease, neural tube defects, seizure disorders [epileptic, focal, generalized]).
- G. Genitourinary (polycystic kidney disease, renal glucosuria, Wilson's syndrome, 21-hydroxylase deficiency, Klinefelter's syndrome, hypospadias, epispadias, cryptorchidism, paraphimosis, phimosis).
- H. Conditions related to pregnancy (oligohydramnios, polyhydramnios, intrauterine growth restriction).
- I. Gastrointestinal disorders (anal stenosis, infantile colic, enuresis, encopresis, Hirschsprung's disease, intussusception, meconium ileus, pyloric stenosis, familial polyposis coli).
- J. Musculoskeletal disorders (congenital hip dislocation, internal tibial torsion, femoral anteversion, juvenile rheumatoid arthritis, Legg-Calve Perthes disease, Osgood-Schlatter disease, subluxation of radial head/nursemaid's elbow, osteochondrosis, rickets, scoliosis, Duchenne's Muscular dystrophy, Marfan's syndrome).
- K. Developmental disorders (failure to thrive congenital hypothyroidism, Fanconi's syndrome, glycogen storage diseases, galactosemia).
- L. Other clinically significant genetic variations (Down syndrome, Turner's syndrome, Methylene tetrahydrofolate reductase [MTHFR] gene variant, breast cancer tumour suppressor [BRCA1, BRCA2] gene defect, Phenylketonuria [PKU]).

## **7. AUTOIMMUNE**

- A. Blood and lymph (idiopathic thrombocytopenic purpura).
- B. Cardiovascular (rheumatic fever, rheumatic heart disease, necrotizing vasculitis, polyarteritis nodosa, temporal arteritis, vasculitis, granulomatosis with polyangiitis [GPA]).
- C. Gastrointestinal (celiac disease, non-celiac gluten sensitivity, pernicious anemia, inflammatory bowel disease [Crohn's disease and ulcerative colitis]).

- D. Skin (alopecia areata, lichen planus, lichen sclerosus, pemphigus vulgaris, bullous pemphigoid, psoriasis, vitiligo).
- E. Head and neck (Meniere's disease, Hashimoto's thyroiditis, Graves' disease).
- F. Gastrointestinal (autoimmune hepatitis, primary biliary sclerosis, type I [1] diabetes, latent autoimmune diabetes of adults [LADA]).
- G. Genitourinary (interstitial cystitis, IgA nephropathy).
- H. Musculoskeletal (ankylosing spondylitis, myasthenia gravis, dermatomyositis, Reiter's syndrome, rheumatoid arthritis, reactive arthritis, psoriatic arthritis, multiple sclerosis [MS], polymyositis).
- I. Generalized (systemic lupus erythematosus [SLE], scleroderma, Sjogren's syndrome, sarcoidosis).

## **8. TOXIC, ENVIRONMENTAL**

- A. Manifestations of vitamin toxicity (vitamins A, D, E, K, pyridoxine).
- B. Manifestations of mineral toxicity (iron, iodine, fluorine, copper, selenium, manganese, chromium, zinc, nickel, lithium, vanadium, aluminum, arsenic, lead, mercury, cadmium, thalium, tin, antimony, bismuth, palladium, platinum).
- C. Toxic chemicals (organophosphates, organochlorines, polychlorinated biphenyls [PCBs], chlorinated pesticides, dioxins, volatile solvent, drugs).
- D. Gastrointestinal (poisoning).
- E. Respiratory (pneumoconiosis, mold, pulmonary oxygen toxicity).
- F. Generalized (multiple chemical sensitivity).

## **9. TRAUMATIC**

- A. Blood and lymph (post-hemorrhagic anemia).
- B. Cardiovascular (hypovolemic shock, chest injuries with cardiovascular implications).
- C. Gastrointestinal (ileus, intestinal obstruction, injuries).
- D. Head and neck (retinal detachment, ruptured tympanic membrane, foreign bodies, injuries).
- E. Musculoskeletal (rotator cuff injury, tendinopathy, ulnar nerve entrapment, carpal tunnel syndrome, thoracic outlet syndrome, sciatica, iliotibial band syndrome, meniscal and ligament disorders, patellofemoral disorders, medial tibial syndrome, bunion, Baker's cyst, plantar fasciitis, disc herniation, post-calcaneal neuroma, disc rupture, dislocation, fracture, separations, sprains, strains, tears, tendon rupture, whiplash, nerve root entrapment).
- F. Neurological (tension headache, temporomandibular joint disorder, benign paroxysmal positional vertigo, upper motor neuron lesion, injuries, shock, nerve compression syndrome).
- G. Respiratory (acute respiratory distress syndrome, atelectasis, pneumothorax, pulmonary embolism, airway obstruction, thoracic injuries with pulmonary implications).
- H. Skin and nails (skin trauma [wounds, bites, bums, foreign bodies]).
- I. Genitourinary (dyspareunia, testicular torsion, trauma to genitourinary tract).
- J. Breasts and axillae (mastalgia).
- K. Obstetric emergencies (eclampsia, ectopic gestation, precipitous birth, placenta previa, post-partum hemorrhage, pre-term labor, prolapsed cord, Rh factor incompatibility, threatened and spontaneous abortion).
- L. Other conditions related to obstetrics (post-partum symphysis pubis dysfunction).
- M. Generalized (trauma [emotional, physical, and sexual abuse and assault]).
- N. Conditions generally pertaining to pediatrics (trauma [emotional, physical, and sexual abuse]).
- O. Conditions generally pertaining to geriatrics (trauma [elder abuse, fracture]).

## **10. ENDOCRINE**

- A. Hypothalamic and pituitary hormone disorders (hyposecretion, hypersecretion, diabetes insipidus, diabetes mellitus).
- B. Parathyroid disorders (hyperparathyroidism, hypoparathyroidism).
- C. Thyroid disorder (hyperthyroidism, hypothyroidism, toxic and non-toxic goiter, multinodular goiter).
- D. Adrenal disorders (Addison's disease, Cushing's disease, Conn's syndrome).
- E. Pancreatic disorders (type II [2] diabetes, insulin resistance, hypoglycemia).
- F. Genitourinary (anovulation, polycystic ovary syndrome, menstrual disorders of hormonal origin).

[Amenorrhea, Menorrhagia], menopause, endocrine causes of female and male infertility, endocrine causes of erectile dysfunction).

- G. Breast (gynecomastia, galactorrhea).
- H. Conditions related to pregnancy and lactation (gestational diabetes, hyperemesis gravidarum, lactation disorders).

## **11. METABOLIC**

- A. Deficiencies and excess in vitamins, minerals, amino acids and other nutrients (vitamins A, C, D, E, K, thiamin, riboflavin, niacin, pyridoxine, cobalamin [B12], folate).
- B. Manifestations of mineral deficiency (iron, iodine, fluorine, zinc, copper, selenium, manganese, chromium).
- C. Gastrointestinal (cholelithiasis, fatty liver disease [NASH], lactose intolerance).
- D. Head and neck (diabetic retinopathy, sialolithiasis).
- E. Musculoskeletal (gout, osteomalacia, osteopenia, osteoporosis).
- F. Genitourinary (nephrolithiasis, metabolic causes of infertility).
- G. Generalized (protein-energy malnutrition, kwashiorkor, marasmus, obesity, metabolic syndrome, sleep apnea).

## **12. PSYCHOSOMATIC/PSYCHIATRIC**

- A. Psychotic disorders (delusional disorder, brief reactive psychosis, schizophrenia and schizophrenoid disorders).
- B. Mood disorders (bipolar disorder, cyclothymia, depression, dysthymia, mania).
- C. Anxiety disorders (generalized anxiety disorder, obsessive-compulsive disorder, panic disorder, phobias, post-traumatic stress disorder, hyperventilation syndrome).
- D. Somatic symptom and factitious disorders (adjustment disorder with physical complaints, conversion disorder, hypochondriasis, malingering, Munchausen syndrome, Munchausen syndrome by proxy, somatization).
- E. Eating disorders (anorexia nervosa, orthorexia, bulimia nervosa, binge eating).
- F. Sexual disorders (erectile dysfunction, pedophilia, sadism/masochism, voyeurism).
- G. Personality disorders (paranoid, schizoid, schizotypal, antisocial, borderline, histrionic, narcissistic, avoidant, dependent, obsessive-compulsive).
- H. Substance abuse (tobacco, alcohol, prescription and street drugs).
- I. Trauma (domestic violence, incest, rape).
- J. Lifespan and mortality issues in pediatric, adolescent, adult, and geriatric populations
- K. Pregnancy / hormonally mediated (post-partum depression, post-partum anxiety).
- L. Pediatric disorders (global developmental disorders, autism spectrum disorder, learning disorders, attention deficit (hyperactivity) disorder, conduct disorder, oppositional defiant disorder, pervasive developmental disorders, separation anxiety disorder, somnambulism, Tourette's syndrome, enuresis, night terrors).
- M. Conditions commonly associated with aging (delirium, depression, immobility, social isolation, loss and grief).

*\* This condition classification system is by predominant function/pathophysiological process underlying the observable phenomenon. The level of manifestation of the dysfunction can be universal, limited to a few body systems, confined to one system or particular type of tissue. It is understood that many conditions can be classified under more than one category; a judgment is made as to which category fits with the predominant dysfunction.*

## LABORATORY TESTS\*

### BLOOD

17-OH-Progesterone  
 Adrenocorticotrophic Hormone; ACTH  
 Alanine transaminase (ALT; SGPT)  
 Albumin  
 Aldosterone  
 Alkaline Phosphatase (ALP)  
 Allergy testing (IgE specific; RAST)  
 Amino Acids  
 Ammonia  
 Amylase  
 Androstenedione  
 Antibody Screening (IgG, IgA, IgM, titres)  
 Anticholinesterase test  
 Anti cyclic citrullinated peptide (CCP)  
 Antidiuretic hormone (ADH); Vasopressin  
 Anti-dsDNA  
 Anti-Mullerian Hormone (AMH)  
 Antinuclear Antibody (ANA)  
 Antiparietal Cell Antibody  
 Antithyroid peroxidase (TPO) Antibodies  
 Antithyroglobulin (TG) Antibody  
 Apolipoproteins  
 Aspartate Aminotransferase (AST; SGOT)  
 Bicarbonate  
 Bilirubin  
 Blood Cultures  
 Blood Gases  
 Blood Group ABO and RhD  
 Blood Urea Nitrogen; BUN; Urea  
 BUN / Creatinine Ratio  
 C Reactive Protein (CRP, hsCRP)  
 Calcitonin  
 Calcium  
 Cancer markers (CA 125, CA 15-3, CA 19-9)  
 Carbon Dioxide (CO<sub>2</sub>)  
 Carcinoembryonic Antigen [CEA]  
 CD4/CD8  
 Ceruloplasmin  
 Complete Blood Count (CBC) - *RBC, hemoglobin, hematocrit, MCV, MCH, MCHC, platelets (thrombocytes), RDW, WBC, differential, blood smear*  
 Cortisol  
 Creatine kinase (CK, CK-MB)  
 Creatinine  
 Creatinine Clearance  
 D-Dimer  
 Dehydroepiandrosterone Sulphate (DHEAS)  
 Prothrombin Time (PT)  
 Public health tests (*e.g., STI screening, HIV,*  
*Digitalis purpurea (digoxin)*  
*Dihydrotestosterone (DHT)*  
*Drugs of Abuse Screen*  
*Electrolytes (chloride, sodium, potassium, anion gap)*  
*Erythrocyte Sedimentation Rate (ESR)*  
*Erythropoietin (EPO)*  
*Estrogens*  
*Fatty Acids*  
*Ferritin*  
*Fibrinogen*  
*Follicle Stimulating Hormone (FSH)*  
*Gamma-Glutamyl Transferase (GGT)*  
*Gliadin Antibodies*  
*Glomerular Filtration Rate (GFR/eGFR)*  
*Glucose*  
*Glucose Tolerance Test (GTT)*  
*Glucose-6-Phosphate Dehydrogenase (G-6-PD)*  
*Growth Hormone (GH)*  
*Heavy Metals (e.g., mercury)*  
*Helicobacter pylori Antibody*  
*Hemoglobin A1C (HbA1C)*  
*Hemoglobin Electrophoresis*  
*Homocysteine*  
*Human Chorionic Gonadotropin (HCG, βHCG)*  
*Human Leukocyte Antigen (HLA)*  
*Insulin*  
*Insulin-like Growth Factor -1 (IGF-1)*  
*International Normalized Ratio (INR)*  
*Intrinsic Factor (IF)*  
*Iron studies (TIBC, iron saturation, total iron, transferrin)*  
*Lactate (Lactic Acid)*  
*Lactate Dehydrogenase (LD)*  
*Leptin*  
*Lipase*  
*Lipid panel (cholesterol, HDL, LDL, triglycerides)*  
*Luteinizing Hormone (LH)*  
*Minerals (e.g., copper)*  
*Mononuclear Heterophile Antibodies (Monospot)*  
*Natriuretic Peptide (BNP)*  
*Parathyroid Hormone (PTH)*  
*Partial Thromboplastin Time (PTT)*  
*Progesterone*  
*Prolactin*  
*Prostate Specific Antigen (PSA, PSA ratio)*  
*Protein Electrophoresis*  
*Protein; Total (Albumin/Globulin Ratio)*  
  
*Thyroid Stimulating Immunoglobulins*  
*Thyroxine (T4)*

Hepatitis, HSV, EBV, Lyme, etc.)  
Red Cell Distribution Width (RDW)  
Reticulocyte Count  
Rheumatoid Factor (RF)  
Serology  
Sex Hormone Binding Globulin (SHBG)  
Testosterone  
Thyroglobulin  
Thyroid Stimulating Hormone (TSH)  
Thyroid Stimulating Immunoglobulin (TSI)

Total Iron Binding Capacity (TIBC)  
Transferrin  
Transglutaminase (IgA/IgG Antibodies)  
Triiodothyronine (T3)  
Uric Acid (Urate)  
Vitamins (e.g., B12, D, folate, B6, etc.)  
White Blood Cells

- Basophils
- Eosinophils
- Lymphocytes
- Monocytes
- Neutrophils

## **BREATH**

Hydrogen breath test  
Lactulose breath test

Pulmonary Function Test  
Urea breath test for H. pylori

## **STOOL**

Bacteria/Yeast (microbiology profile)  
Calprotectin  
Elastase  
Fecal Fat

Occult Blood  
Ova and parasites  
Secretory IgA

## **TISSUE/DISCHARGE/SPUTUM**

Cerebrospinal Fluid Culture  
Culture and Sensitivity  
Nail and Skin Scraping  
Pap smear

Pleural fluid aspiration & analysis  
Semen Analysis  
Western Blot

## **URINE**

Bilirubin  
Blood  
Creatinine Clearance  
Culture  
Drugs of Abuse Screen  
Glucose  
Heavy metals  
Human Chorionic Gonadotropin (HCG)  
Ketone

Leukocytes  
Minerals  
Nitrites  
Ph  
Porphyrins  
Protein  
Specific Gravity (SG)  
Uric Acid (urate)  
Urobilinogen

*\*Exam candidates are also responsible for knowing the requirements for collecting specimens, performing blood tests and ordering laboratory tests as authorized under the Laboratory Regulation made under the [Laboratory and Specimen Collection Centre Licensing Act, 1990](#) (LSCCLA), as well as the restrictions around labs and specimen collection as noted in the [General Regulation](#) (Ontario Regulation 168/15).*

## IMAGING STUDIES

### ELECTRODIAGNOSTIC TESTS

Angiogram  
Cardiac Stress testing  
Electrocardiography  
Electroencephalopathy  
Electromyography  
Electroneurography  
Holter monitor  
Nonstress

### ENDOSCOPIC STUDIES

Arthroscopy  
Bronchoscopy  
Colonoscopy  
Colposcopy  
Cystoscopy  
Endoscopy  
Sigmoidoscopy

### NUCLEAR SCANNING

Bone scan  
Radioactive iodine uptake  
Thyroid Scan (e.g., Scintiscan)

### ULTRASOUND STUDIES

Abdominal  
Breast  
Echocardiography  
Pelvic  
Scrotal  
Thyroid  
Vascular Doppler studies

### RADIOGRAPHIC STUDIES

Barium enema  
Barium swallow  
Bone Densitometry (e.g., DEXA)  
Bones/Skull/Spine/Chest/Bowel  
Computed Tomography (CT)  
Mammography  
Voiding Cystourethrogram

### OTHER IMAGING

Magnetic Resonance Imaging (MRI)

## BOTANICAL MEDICINES

*Achillea millefolium*  
*Aconitum napellus*  
*Actaea racemosa* (Cimicifuga)  
*Aesculus hippocastanum*  
*Agrimonia eupatoria*  
*Allium cepa*  
*Allium sativum*  
*Aloe vera*  
*Althaea officinalis*  
*Andrographis paniculate*  
*Angelica archangelica*  
*Angelica sinensis*  
*Apium graveolens*  
*Arctium lappa*  
*Arctostaphylos uva ursi*  
*Arnica montana*  
*Artemisia absinthium*  
*Artemisia annua*

*Cinnamomum verum*  
*Cinnamomum zeylanicum*  
*Codonopsis pilosula*  
*Colchicum autumnale*  
*Coleus forskohlii*  
*Collinsonia canadensis*  
*Commiphora molmol*  
*Commiphora mukul*  
*Commiphora myrrha*  
*Convallaria majalis*  
*Cordyceps sinensis*  
*Corydalis spp.*  
*Crataegus laevigata*  
*Crataegus oxyacantha*  
*Crataegus spp.*  
*Curcuma longa*  
*Cynara scolymus*  
*Datura stramonium*

Asclepius tuberosa	Digitalis purpurea
Aspidosperma quebracho	Dioscorea villosa
Astragalus membranaceus	Dipsacus sylvestris
Atropa belladonna	Drosera rotundifolia
Avena sativa	Echinacea angustifolia
Bacopa monnieri	Echinacea purpurea
Baptisia tinctorial	Eleutherococcus senticosus
Berberis aquifolium	Ephedra sinica
Berberis vulgaris	Equisetum arvense
Boswellia serrata	Eschscholzia californica
Bryonia alba	Eucalyptus globulus
Cactus grandiflorus (Selenicereus)	Eupatorium perfoliatum
Calendula officinalis	Eupatorium purpurea
Camellia sinensis	Euphrasia officinalis
Cannabis sativa	Filipendula ulmaria
Capsella bursa-pastoris	Foeniculum vulgare
Capsicum anuum	Fucus vesiculosus
Capsicum frutescens	Galium aparine
Cassia angustifolia (Senna)	Ganoderma lucidum
Cassia spp.	Gelsemium sempervirens
Caulophyllum thalictroides	Gentiana lutea
Ceanothus americanus	Geranium maculatum
Centella asiatica	Ginkgo biloba
Chamaelirium luteum	Glycyrrhiza glabra
Chelidonium majus	Grifola frondose
Chionanthus virginicus	Grindelia robusta
Cineraria maritima	Grindelia robusta
Cinnamaldehyde	Gymnema sylvestre
Hamamelis virginiana	Piper methysticum
Harpagophytum procumbens	Piscidia erythrina
Humulus lupulus	Plantago major
Hydrangea arborescens	Podophyllum peltatum
Hydrastis canadensis	Polygonum multiflorum
Hyoscyamus niger	Poria cocos
Hypericum perforatum	Prunus africana
Inonotus obliquus	Prunus serotina
Inula helenium	Pulsatilla vulgaris
Iris versicolor	Quercus rubra
Juglans nigra	Rauwolfia serpentine
Juniperus communis	Rehmannia glutinosa
Lactuca virosa	Rhamnus spp.
Larrea tridentate	Rheum palmatum
Lentinus edodes	Rhodiola rosea
Leonurus cardiaca	Ricinis communis
Leptandra virginica	Rosemarinus officinalis
Ligusticum porteri	Rubus idaeus
Ligustrum lucidum	Rumex crispus
Linum usitasissimum	Salix alba

Lobelia inflata  
 Lomatium dissectum  
 Lycopus virginicus  
 Mahonia aquifolium  
 Marrubium vulgare  
 Matricaria chamomilla  
 Matricaria recutita  
 Medicago sativa  
 Melaleuca alternifolia  
 Melissa officinalis  
 Mentha piperita  
 Menyanthes trifoliata  
 Mitchella repens  
 Momordica charantia  
 Nepeta cataria  
 Olea Europa  
 Paeonia alba  
 Panax ginseng  
 Panax spp.  
 Papaver somniferum  
 Passiflora incarnata  
 Pausinystalia yohimbe  
 Petasites hybridus  
 Phyllanthus amarus  
 Phytolacca americana  
 Pilocarpus microphyllus  
 Pimpinella anisum/ aniseed  
 Ulmus rubra  
 Urtica dioica  
 Usnea barbata  
 Vaccinium macrocarpum  
 Vaccinium myrtillus  
 Valeriana officinalis  
 Veratrum album  
 Verbascum thapsus  
 Verbena officinalis

Salvia officinalis  
 Sambucus nigra  
 Sanguinaria canadensis  
 Sassafras albidum  
 Schizandra chinensis  
 Scutellaria lateriflora  
 Scutellaria baicalensis  
 Selenicereus grandifloras  
 Serenoa repens  
 Silybum marianum  
 Smilax spp.  
 Solidago spp.  
 Symphytum officinale  
 Syzigium aromaticum  
 Tabebuia impetiginosa  
 Tanacetum parthenium  
 Tanacetum vulgare  
 Taraxacum officinale  
 Theobroma cacao  
 Thuja occidentalis  
 Thymus vulgaris  
 Tilia (cordata; europa)  
 Trametes versicolor  
 Tribulus terrestris  
 Trifolium pratense  
 Turnera diffusa  
 Tussilago farfara  
 Veronicastrum virginicum  
 Viburnum spp.  
 Vinca major/minor  
 Viscum album  
 Vitex agnus-castus  
 Withania somnifera  
 Zanthoxylum Americanum  
 Zea mays  
 Zingiber officinale

## **BOTANICAL CONSTITUENTS**

Allicin  
 Carvacrol  
 Cinnemaldehyde  
 Eugenol  
 Thymol

## HOMEOPATHIC PREPARATIONS

Aconitum napellus  
Aesculus hippocastanum  
Agaricus muscarius  
Allium cepa  
Allium sativum  
Antimonium tartaricum  
Apis mellifica  
Argentum nitricum  
Arnica montana  
Arsenicum album  
Atropa belladonna  
Aurum metallicum  
Baryta carbonica  
Bellis perennis  
Bryonia alba  
Calcarea carbonica  
Carbo vegetabilis  
Causticum  
Cephaelis ipecacuanha (Ipecac)  
Chamomilla  
Chelidonium majus  
Cina  
Colocynthis Cucumis  
Conium maculatum  
Drosera rotundifolia  
Equisetum arvense  
Eupatorium perfoliatum  
Ferrum phosphoricum  
Gelsemium  
Graphites  
Hepar sulphur  
Hypericum  
Ignatia  
Kali bichromicum  
Lachesis mutans  
Ledum palustre  
Lycopodium clavatum  
Magnesium phosphoricum  
Medorrhinum  
Mercurius corrosivus  
Mercurius solubilis  
Natrum muriaticum  
Natrum phosphoricum  
Natrum sulphuricum  
Nitricum acidum  
Nux vomica  
Phosphorus  
Phytolacca  
Podophyllum peltatum  
Pulsatilla  
Rhus toxicodendron  
Rumex crispus  
Ruta graveolens  
Sepia  
Silica dioxide (Silicea)  
Staphysagria  
Stramonium  
Sulphur  
Sulphuricum acidum  
Symphytum officinale  
Thuja occidentalis  
Tuberculinum  
Urtica urens  
Veratrum album

## NUTRACEUTICALS

### VITAMINS

Biotin (B7, vitamin H)

Cobalamin (B12) - 3 forms:

- cyano
- hydroxy
- methylcobalamin

Folate (B9) and Folic Acid

Inositol (B8)

Niacin (B3, nicotinic acid),

Niacinamide, Inositol hexanicotinate

Pantothenic Acid (B5)

Pyridoxine/Pyridoxal 5-Phosphate (B6)

Riboflavin (B2)

Thiamine (B1)

Vitamin A - 2 forms:

- Preformed - retinol, retinyl esters
- Provitamin A carotenoids - beta carotene

Vitamin C (ascorbic acid)

Vitamin D – 2 forms:

- (D2) ergocalciferol
- (D3) cholecalciferol

Vitamin E (tocopherols and d-tocotrienols) – dl-alpha vs. alpha

Vitamin K - 2 forms:

- K1-phyloquinone
- K2-menaquinones

### MINERALS

Boron

Calcium

Calcium ascorbate

Calcium bis-glycinate

Calcium carbonate

Calcium citrate

Chromium

Chromium picolinate

Copper

Ferrous bisglycinate

Ferrous fumarate

Ferrous gluconate

Ferrous sulphate

Fluoride

Iodine

Iron (ferrous and ferric)

Magnesium

Magnesium citrate

Magnesium (bis)glycinate

Magnesium sulphate

Manganese

Molybdenum Phosphorus

Potassium

Selenium

Silica

Sodium

Strontium

Sulphur

Vanadium

Zinc citrate

Zinc sulphate

Zinc picolinate

### AMINO ACIDS

Alanine

Arginine

Aspartate

Cysteine (N-Acetylcysteine)

Glutamic Acid

Glutamine

Glycine

Histidine

Isoleucine

Leucine

Lysine

Methionin

Phenylalanine

Proline

S-adenosyl-L-methionine

Selenomethionine

Serine

Taurine

Threonine

Tryptophan

Tyramine

Tyrosine

Valine

## ESSENTIAL/CONDITIONALLY ESSENTIAL POLYUNSATURATED FATTY ACIDS

Alpha Lipoic Acid  
 Alpha-Linolenic Acid (ALA)  
 Arachidonic acid (AA)  
 Butyric acid, Butyrate  
 Caprylic acid  
 Conjugated Linoleic acids  
 Dihomo-gamma-linolenic acid

Dihomo-gamma-linolenic acid (DGLA)  
 Gamma-linolenic acid (GLA)  
 Linoleic acid (LA)  
 Omega-9 (Oleic acid)  
 Omega-3 (EPA and DHA)  
 Omega-6  
 Plant Sterols

## OTHER

(Proteolytic, endopeptidase,  
 5-hydroxytryptophan (5HTP)  
 Astaxanthin)  
 Amino Acid derivatives  
 Azelaic Acid  
 Berberine  
 Betaine (trimethylglycine)  
 Betaine hydrochloride  
 Bile acids/salts  
 Black Current seed oil  
 Bonito Peptides  
 Carotenoids: (Beta-carotene)  
 Carnitine (Acetyl-L-Carnitine)  
 Chitosan  
 Chlorella  
 Choline  
 Choline Bitartrate  
 Chondroitin Sulphate  
 Chrysin  
 Cod liver oil  
 CoQ10/Ubiquinol  
 Curcumin  
 Deglycyrrhizinated licorice (DGL)  
 D-Glucarate  
 Dimethylglycine (DMG)  
 D-Mannose  
 D-Ribose

Enzymes – Bromelain  
 Enzymes – Multi  
 Enzymes – other  
 Enzymes – Pancreatic  
 Enzymes – Papain  
 Enzymes - Serratia peptidase  
 Enzymes – Nattokinase  
 Fibre – Insoluble  
 Fibre – Soluble  
 Flax seed oil/powder  
 Forskolin  
 GABA  
 Glucomannan  
 Glucosamine (Sulphate)  
 Glutathione  
 Hydrochloride  
 Indole-3-carbinol  
 Kelp  
 lactase  
 Lycopene  
 Melatonin  
 Myo-inositol  
 Quercetin  
 Rutin  
 Spirulina

## THERAPEUTIC DIETS

Anti-inflammatory  
Candida  
DASH

### Elimination Challenge:

Dairy, wheat, gluten, egg, night shades (Solanaceae foods), Asteraceae family, citrus fruits, pro-inflammatory foods (sugar, high-fructose corn syrup, trans fats, refined carbohydrates, excessive alcohol, processed meat, vegetable and seed oils), purine-containing foods (red meat, bacon, liver, sardines, anchovies, dried peas and beans, oatmeal).

Fructose intolerance (FODMAP)  
Ketogenic  
Low Glycemic  
Mediterranean  
Paleolithic  
Portfolio  
Vegan/Whole Food Plant-Based  
Vegetarian

## ORTHOPEDIC TESTS

### VERTEBRAL COLUMN

Adam's sign  
Adson's test  
Bechterew's test  
Braggard's test  
Brudzinski's test  
Cervical compression tests (Jackson's, Spurling's)  
Elevated Arm Stress Test (Roos test)  
Kemp's test  
Kernig's test

Lasegue's test (straight-leg raise)  
Minor's sign  
Romberg Test  
Shoulder depression test  
Soto Hall and Linder's test  
Valsalva test  
Vertebral artery test  
Wright's (hyperabduction) test

### SHOULDER

Apley's scratch test  
Cross-arm test (horizontal adduction test)  
Drop-arm test (Codman's)  
Empty Can test; Full Can test  
Glenohumeral apprehension test  
Hawkins-Kennedy Sign  
Lift off test  
Neer's test  
Speed's test  
Yergason's test

### WRIST/HAND/ELBOW

Cozen's test  
Finkelstein's test  
Mill's test  
Phalen's test  
Retinacular test  
Tinel's sign  
Valgus/varus stress test

## HIP/PELVIS

Ely's test  
Gaenslen's test  
Hibb's test  
Ober's test

Patrick's (FABER) test  
Pelvic rock test  
Thomas' test  
Trendelenberg test (Brodie- Trendelenburg)  
Yeoman's test

## KNEE

Anterior/posterior drawer test  
Apley's compression test  
Apley's distraction test  
Knee joint effusion tests (ballotable Patella grind test [major effusion]; bulge test [minor effusion])

Lachman's test  
McMurray's test (and reduction click)  
Patellar Apprehension test (for patellar dislocation)  
Patella femoral grinding test (including Clark's test)  
Valgus and varus stress test

## ANKLE/FOOT

Anterior/posterior drawer test  
Babinski's sign  
Dorsiflexion test  
Forefoot squeeze test (Morton's test)

Homan's sign  
Test for rigid or supple flat feet  
Thompson's (squeeze) test

## PSYCHOLOGICAL ASSESSMENT TOOLS

Beck Depression Inventory (BDI; BDI-1A; BDI-II)  
Generalized Anxiety Disorder Assessment - 7 (GAD-7)  
Hamilton Anxiety Rating Scale  
Hamilton Depression Rating Scale  
Mini-Cognitive Assessment Instrument (Mini-Cog)  
Mini-Mental State Examination (MMSE)  
Minnesota Multiphasic Personality Inventory (MMPI)  
Patient Health Questionnaire - 9 (PHQ-9)  
Symptom Checklist-90-R (SCL-90-R)  
The Sweet 16  
Verbal Fluency Test  
Wechsler Memory Scale (WMS)

## PSYCHOLOGICAL THERAPIES

Cognitive Behavioural Therapy  
Gestalt Therapy  
Hypnosis  
Mindfulness Meditation  
Psychodynamic (Psychoanalytic) Psychotherapy  
Relaxation Training

## ZANG-FU PATHOLOGIES

Full exterior: Invasion by Wind-Cold; Invasion by Wind-Heat

LUNG Full Interior: Heat; Damp-Phlegm; Cold-Phlegm; Phlegm-Heat; Dry-Phlegm;  
Phlegm Fluids Obstructing

LUNG Empty: Qi Deficiency; Yin Deficiency; Dryness

LARGE INTESTINE Full: Damp-Heat; Heat; Heat Obstructing; Cold Invasion

LARGE INTESTINE Empty: Dry; Cold; Collapse

STOMACH Full: Qi Stagnation; Fire (or Phlegm-Fire); Cold Invasion; Stomach Qi Rebellious Upward;  
Damp-Heat; Food Retention; Blood Stasis

STOMACH Empty: Qi Deficiency; Yin Deficiency

SPLEEN Full: Cold-Damp Invasion; Damp-Heat Invasion

SPLEEN Empty: Qi Deficiency; Yang Deficiency; Qi Sinking; Spleen not Controlling Blood

HEART Full: Fire Blazing; Phlegm-Fire Harassing Heart; Phlegm Misting the Mind; Qi Stagnation;  
Vessel Obstructed

HEART Empty: Qi Deficiency; Yang Deficiency; Yang Collapse; Blood Deficiency; Yin Deficiency

HEART Empty/Full: Blood Stasis

SMALL INTESTINE Full: Full-Heat; Qi Pain; Qi Tied (Qi Obstruction)

SMALL INTESTINE Empty: Deficient and Cold

BLADDER Full: Damp-Heat; Damp-Cold

KIDNEY Empty: Yang Deficiency; Yin Deficiency; Qi deficiency; Failure to Receive Qi; Essence  
Deficiency

KIDNEY Empty/Full: Yin Deficiency with Empty-Heat Blazing

PERICARDIUM Full: Blood Stasis

GALL BLADDER Full: Damp-Heat; Dampness

LIVER Full: Qi Stagnation; Rebellious Qi; Blood Stasis; Fire Blazing; Damp-Heat; Cold Stagnation

LIVER Empty: Blood Deficiency; Yin Deficiency

LIVER Full/Empty: Yang Rising; Wind Agitating

## CHINESE PATENT HERBAL FORMULAS

### RELEASE THE EXTERIOR

Ma Huang Tang

Gui Zhi Tang

Chuan Xiong Cha Tiao San

Sang Ju Yin

Yin Qiao San

### CLEAR HEAT

Long Dan Xie Gan Tang

**PURGE**

Ma Zi Ren Wan  
Da Huang Fu Zi Tang

**HARMONIZING**

Si Ni San  
Xiao Yao San  
Jia Wei Xiao Yao San

**EXPEL DAMPNESS**

Ba Zheng San

**TRANSFORM PHLEGM**

Er Chen Tang

**WARM THE INTERIOR**

Si Ni Tang  
Dang Gui Si Ni Tang

**TONIFY QI**

Bu Zhong Yi Qi Tang  
Si Jun Zi Tang

**TONIFY BLOOD**

Si Wu Tang

**TONIFY QI BLOOD**

Ba Zhen Tang  
Gui Pi Tang

**NOURISH AND TONIFY YIN**

Liu Wei Di Huang Tang  
Zuo Gui Yin  
Da Bu Yin Wan  
Zhi Bai Di Huang Tang

**TONIFY YANG**

You Gui Wan  
Jin Gui Shen Qi Wan

**REGULATE QI**

Ban Xia Hou Po Tang  
Ding Chuan Tang

## **WARM THE MENSES AND DISPEL BLOOD STAGNATION**

Sheng Hua Tang  
Gui Zhi Fu Ling Wan

## **NOURISH THE HEART AND CALM THE SPIRIT**

Suan Zao Ren Tang  
Tian Wan Bu Xin Dan  
Gan Mai Da Zao Tang

## **RELEASE THE WIND THE SKIN AND CHANNELS**

Xiao Feng San

## **EXTINGUISH INTERNAL WIND**

Tian Ma Gou Teng Yin

## **ACUPUNCTURE POINTS**

### **LUNG (LU)**

1, 2, 3, 4, 5, 7, 9, 10, 11

### **LARGE INTESTINE (LI)**

1, 4, 5, 10, 11, 14, 15, 17, 20

### **STOMACH (ST)**

1, 7, 8, 17, 25, 29, 30, 34, 35, 36, 37, 38, 40, 41, 42, 44, 45

### **SPLEEN (SP)**

1, 3, 4, 6, 8, 9, 10, 15, 21

### **HEART (HT)**

1, 2, 3, 5, 7, 8, 9

### **SMALL INTESTINE (SI)**

1, 3, 4, 8, 9, 10, 11, 12, 13, 15, 16, 17, 19

### **URINARY BLADDER (BL)**

1, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 40, 44, 52, 53, 57, 60, 62, 67

### **KIDNEY (KI)**

1, 2, 3, 6, 7, 10, 13, 14, 16, 27

### **PERICARDIUM (PC)**

1, 3, 6, 7, 9

### **TRIPLE WARMER/ENERGIZER/BURNER (TE)**

1, 3, 4, 5, 6, 10, 13, 14, 15, 16, 19, 21, 23

### **GALL BLADDER (GB)**

1, 2, 12, 14, 20, 21, 24, 25, 26, 28, 30, 33, 34, 37, 39, 40, 41, 43, 44

## LIVER (LR)

1, 2, 3, 5, 7, 8, 13, 14

## CONCEPTION VESSEL (CV)

1, 2, 3, 4, 5, 6, 8, 12, 13, 14, 15, 17, 21, 22, 24

## GOVERNING VESSEL (GV)

1, 2, 3, 4, 8, 10, 14, 20, 24, 28

## EXTRA

Head and Neck: Sishencong, Yintang, Taiyang, Bitong, Anmian, Dingchuan

Back: Huatuojiaili, Yaoyan

Arm and Hand: Baxie, Jianningling, Yaotongxue

Abdomen: Zigong Xue, Bafeng

Leg and Foot: Biochongwo, Heding, Xiyan

Laser acupuncture

Cupping

Moxibustion

Electro acupuncture

## PHARMACEUTICALS\*

3,4-methylenedioxyamphetamine (MDMA)

5-fluorouracil

Abatacept (Orencia)

Acetaminophen

Acetylcysteine

Acetylsalicylic acid (ASA)

Acyclovir

Adalimumab

Alendronate

Alprazolam

Amantadine

Amiodarone

Amitriptyline

Amlodipine

Amoxicillin

Aripiprazole

Atenolol

Atorvastatin

Azithromycin

Benzodiazepine

Bisacodyl

Bismuth subsalicylate

Bupirone

Caffeine

Cannabis

Captopril

Carbamazepine

Carvedilol

Celecoxib

Cephalexin

Ciprofloxacin

Citalopram

Dextromethorphan

DHEA

Diazepam

Diclofenac

Dicyclomine

Digoxin

Dihydroergotamine

Diphenhydramine

DMPS

DMSA

Docusate

Donepezil

Doxorubicin

Doxycycline

DTaP vaccine

EDTA

Epinephrine/Adrenalin

Escitalopram

Esomeprazole

Estrogen

Ethinyl estradiol

Fentanyl

Finasteride

Fluconazole

Fluoxetine

Clindamycin	Fluticasone
Clonazepam	Furosemide
Clonidine	Gabapentin
Clopidogrel	Gemfibrozil
Cocaine	Glyburide
Codeine	Guaifenesin
Colchicine	Haemophilus influenza type B vaccine (Hib)
Cyclobenzaprine	Hepatitis A vaccine
Cyclosporine	Hepatitis B vaccine
Desmopressin	Heroin
Dexamethasone	Herpes zoster vaccine
Dextroamphetamine	HPV vaccine
Hydrochlorothiazide	Penicillamine
Hydrocodone	Penicillin VK
Hydrocortisone	Pentoxifylline
Hydroxychloroquine	Permethrin
Hydroxyzine	Phenelzine
Ibuprofen	Phenobarbital
Influenza vaccine	Phentermine
Insulin	Phenylephrine
Interferon	Phenytoin
Ipratropium bromide	Pneumococcal vaccine
Isotretinoin	Polio vaccine
Ketamine	Pramipexole
Latanoprost	Prednisone
Levodopa-carbidopa	Pregnenolone
Levonorgestrel	Prochlorperazine
Levothyroxine /l-thyroxine	Progesterone /Progestins
Lisinopril	Propranolol
Lithium	Propylthiouracil
Loperamide	Pseudoephedrine
Loratadine	Raloxifene
Lorazepam	Ramipril
Mebendazole	Ranitidine
Meningococcal vaccine	Risperidone
Metformin	Rivastigmine
Methadone	Rosuvastatin
Methocarbamol	Rotavirus vaccine
Methotrexate	Salbutamol
Methyl salicylate	Sildenafil
Methylphenidate	Spirolactone
Metoclopramide	Sucralfate
Metoprolol	Sulfamethoxazole/Trimethoprim
Metronidazole	Sulfasalazine
Misoprostol	Sumatriptan
MMR vaccine	Tamoxifen
Mometasone	Tamsulosin
Montelukast	Terbinafine
Morphine	Testosterone
Mupirocin	Tetracycline
Naltrexone	Tiotropium bromide
Naproxen	Tolterodine
Nicotine	
Nitrofurantoin	
Nitroglycerin	
Norgestimate	
Nystatin	
Oseltamivir	
Oxycodone	
Oxytocin	

Paclitaxel  
Pantoprazole

Trandolapril  
Trazodone  
USP (desiccated) thyroid  
Valacyclovir  
Valsartan  
Varicella vaccine  
Warfarin  
Zidovudine  
Zolpidem  
Zopiclone

*\*Exam candidates are also responsible for knowing those substances which can be prescribed by Ontario naturopaths in accordance with Table 3 of the [General Regulation](#) (Ontario Regulation 168/15).*

## SAMPLE QUESTIONS (STAND-ALONE)

**1. A 35-year-old female presents with migraine headaches that localize behind her right eye. She describes the pain as excruciating, and as a pressure pushing outwards behind her eyes. Which information would indicate prescribing homeopathic *Sanguinaria canadensis* over *Atropa belladonna*?**

- A) Improves with fasting.
- B) Improves with vomiting.
- C) Worse during daylight hours.
- D) Worse with application of heat

**2. Which of the following patients has the highest risk for heart disease and stroke?**

- A) BP 120/80 mmHg, non-diabetic, smoker, total cholesterol of 6.7 mmol/L, ratio of total cholesterol to HDL is 12.5.
- B) BP 136/80 mmHg, diabetic, smoker, total cholesterol of 6.5 mmol/L, ratio of total cholesterol to HDL is 12.5.
- C) BP 136/80 mmHg, non-diabetic, non-smoker, total cholesterol of 5.0 mmol/L, ratio of total cholesterol to HDL is 8.0.

**3. A homeless patient has had a cough for 3 weeks, hemoptysis, chest pain, and dyspnea. Which of the following tests is most indicated?**

- A) Complete blood count.
- B) Chest x-ray.
- C) Spirometry.
- D) Pulmonary function test.

### **Answer Key**

1. C 2.B 3.B

## SAMPLE QUESTIONS (CASE-BASED)

Use the following information to answer questions 1 to 8:

**Patient:** 35-year-old female, 166 cm (5'5"), 89 kg (196 lbs), BMI: 32

**Presentation:** The patient presents with a 6-month history of amenorrhea. She reports acne and facial hair growth for the last 3 years. Her family physician has told her to lose weight, but she has never successfully done so and is hoping the Naturopathic Doctor will be able to offer new avenues of treatment. She has gained 22.5 kg (50 lbs) over last 7 years.

**Medical History:** Cervical dysplasia diagnosed at age 33, treated successfully with loop electrosurgical excision procedure (LEEP). Hypothyroid diagnosed at age 31. Appendectomy at age 24. Menarche at age 10.

**Psychosocial:** Works as an office manager for a real estate company. She lives alone. She is sexually active in a monogamous relationship.

**Health Habits:** Diet: Breakfast: 1 cup of coffee with sugar and cream. Lunch: Bagel with cream cheese, sandwich with tuna, or Chinese food, plus one can of diet soda. Dinner: Cooked at home; usually potatoes or pasta with chicken or beef with frozen vegetables. Likes to snack on donuts, muffins or chocolate bars throughout the day.  
Alcohol: 2 glasses of wine on the weekend.  
Tobacco: Smokes 1/2 pack per day since age 15.  
Exercise: Walks to and from bus stop daily; about 10 minutes each way.

**Supplements:** She is taking a daily hair, skin and nails supplement, purchased from a drug store.

**Medication:** L-thyroxine 0.112 mg qd for four years. Ethinyl estradiol 20 mcg; levonorgestrel 0.1 mg from age 20-33. Metformin: 1000 mg qd for 6 months.

**Allergies:** Seasonal allergies in the summer

**Family History:** Father: Type 2 diabetes mellitus  
Mother: Hypothyroid  
Grandfather: Died at age 73 from a cerebral vascular accident

**Vital Signs:** T: 36°C (96.8°F), BP: 130/80 mmHg, PR: 72 bpm, RR: 12 bpm

**Physical Exam:** Abdominal obesity noted. Cystic acne over jaw and chin. Dark, velvety skin noted around neck and under arms. Coarse, dark hair seen on lower abdomen and under chin.

**Preliminary Lab Results:** Fasting glucose: 6.3 mmol/L [3.6-6.0 mmol/L]  
HbA1c: 0.063 (6.3%) [0.045-0.060 (4.5-6.0%)]  
TSH: 3.2 mU/L [0.4 - 5 mU/L]

**Diagnostic Imaging:** Pelvic ultrasound showing ovarian enlargement with multiple small cysts bilaterally.

### Question 1

The Naturopathic Doctor suspects polycystic ovarian syndrome. What condition must be ruled out before making this diagnosis?

- A) Addison's disease.
- B) Diabetes mellitus.
- C) Metabolic syndrome.
- D) Androgen secreting tumour.

**Question 2**

The Naturopathic Doctor should recommend which of the following diets to this patient?

- A) A plant-based diet, with 8 – 10 servings of fruits and vegetables per day, plus beans, legumes, and nuts as the primary protein source.
- B) Plenty of whole-grain foods, vegetables, beans, legumes, nuts, seeds, olive oil, fish and seafood. Occasional lean red meat, and dairy.
- C) Unlimited amounts of beans, seeds, whole grains, vegetables, fish and meat, and limited amounts of refined sugar.
- D) Avoidance of gluten-containing grains, dairy products, corn, soy, beef, pork, citrus foods, nightshade vegetables, caffeine-containing beverages, refined sugars, food additives or preservatives, and alcohol.

**Question 3**

Which combination of botanicals would be most indicated for this patient?

- A) *Vitex agnus-castus*, *Serenoa repens*, and *Gymnema sylvestre*.
- B) *Achillea millefolium*, *Panax ginseng*, and *Thuja occidentalis*.
- C) *Chamaelirium luteum*, *Dioscorea villosa*, and *Withania somnifera*.
- D) *Fucus vesiculosus*, *Cinnamomum zeylanicum*, and *Ginkgo biloba*.

**Question 4**

Which group of pathologies is the patient most at risk for developing?

- A) Hypercholesterolemia, cervical cancer, candidiasis.
- B) Uterine fibroid leiomyoma, infertility, metabolic syndrome.
- C) Ovarian cancer, recurrent miscarriage, insulin resistance.
- D) Type 2 diabetes mellitus, hypertension, endometrial hyperplasia.

**Question 5**

The patient is concerned about the risk of developing cervical cancer and wants to know what she can do for prevention. What intervention should the Naturopathic Doctor advise as the priority?

- A) Reduce alcohol consumption.
- B) Follow a low glycemic-index diet.
- C) Use a barrier method during penetrative sex.
- D) Engage in cardiovascular exercise for 40 minutes at least three times per week.

**Question 6**

This patient should be educated on her increased risk of developing which condition?

- A) Lung cancer.
- B) Myocardial infarction.
- C) A thromboembolic event.
- D) Chronic obstructive pulmonary disease.

**Question 7**

Based on the patient's chief concern and goals of treatment, which nutrient should the Naturopathic Doctor recommend?

- A) Zinc citrate 15 mg qd.
- B) L-selenomethionine 200 mcg qd.
- C) Chromium picolinate 200 mcg qd.
- D) Pyridoxil-5'-phosphate 20 mg qd.

**Question 8**

The patient reports that she has begun taking 200,000 IU of vitamin A daily because she read that it might help with her acne. What is the most important concern that the Naturopathic Doctor must warn her of?

- A) Smoking.
- B) Pregnancy.
- C) Alcohol consumption.
- D) Prolonged sun exposure.

**Use the following information to answer questions 9 to 15:**

**Patient:** 38-year-old male, 177.8 cm (5'10"), 90.7 kg (200 lb)  
Fever of unknown origin persisting for 6 weeks.

**Presentation:** Six weeks ago, the patient presented to an urgent care clinic with a temperature of 38.9°C (102°F), chills, a severe headache at the temples and occiput that was worse lying down, sore throat, and a sinus infection with nasal congestion. He was prescribed amoxicillin clavulanate (Augmentin), which caused him to vomit. After four days of vomiting and feeling generally worse, he was instructed to stop the Augmentin and prescribed a second antibiotic, azithromycin (Zithromax). Two days later his condition worsened and his temperature climbed to 40°C (104°F) and was characterized by a strong sensation of shivering cold (rigors). The fevers were severe in the afternoon and would also wake him around 3 - 4 AM when his ibuprofen (Advil) wore off. He was sent to the E.R. where he was found to have elevated liver enzymes, normal CBC (including WBC), and slightly diminished breath sounds in the left lobes of the lungs. He was placed on I.V. antibiotics and fluids, admitted to C.C.U where he remained for eight days while a battery of tests were run and nothing conclusive was found. Although his fever had finally decreased, he had no diagnosis and within days of being discharged his fever began to return. After a couple of days of worsening symptoms, he presented to the Naturopathic Doctor.

**In the Naturopathic Doctor's office:** the patient reported severe fatigue and inability to work, fever and chills, no sensation of heaviness, no thirst, no dryness of the lips or mouth, and his stools had recently become drier. Previous to the last few days, he generally felt cold with the fever, but now he began to feel hot with the fever. He was taking "eight Advil's a day" (see exact dosage below) to control the fever (4 tablets every 12 hours). When the Ibuprofen would wear off, the fever would spike, and he would begin to perspire. His pulse was slippery, floating, and rapid. His Tongue had cracks, no coat, was slightly red with small purple spots on the underside of the tongue.

**Medical History:** Type 2 Diabetes and occasional gastro-esophageal acid reflux.

**Psychosocial:** Married with 3 children. Feels overworked. Reports generally poor sleep prior to onset of symptoms.

**Health Habits:** Standard American Diet. Sedentary lifestyle.

**Supplements:** No supplements or natural medicines taken.

**Medications:** Ibuprofen (Advil) 400 mg p.o. q 6 hr.; Metformin 700mg t.i.d.; Famotidine (Pepcid) prn.

**Allergies:** No known allergies

**Family History:** No relevant family history.

**Vital Signs:** T: 38.9°C (102°C), BP: 140/90 mmHg, PR: 120 bpm, RR: 30.

**Physical Examination:** Breath sounds clear and equal bilaterally.

**Question 9**

What is the most appropriate Traditional Chinese Medicine differential diagnosis?

- A) Yin Deficiency, Blood Stagnation, Lung Yin Deficiency.
- B) Blood Deficiency, Liver Qi Stagnation, Spleen Qi Deficiency.
- C) Wind Heat pathogen, Wandering Bi Syndrome, Kidney Yang Deficiency.
- D) Wind Cold pathogen transforming to heat, Fixed Bi Syndrome, Kidney Yin Deficiency.

**Question 10**

What is the most likely TCM Diagnosis?

- A) Fixed bi syndrome.
- B) Kidney yin deficiency.
- C) Wind heat pathogen.
- D) Wind cold pathogen transforming to heat.

**Question 11**

Many nutrients play crucial roles in the proper functioning and maintenance of the immune system. Which of the following statements, in regard to nutrient influences on immune function, is most accurate?

- A) Vitamin E deficiency leads to defects in the mucosal epithelia.
- B) Selenium deficiency is characterized by decreased serum thymuline.
- C) L-carnitine has been shown to neutralize lipid-induced immunosuppression.
- D) Zinc stimulates the production of interferon and increases chemotaxis and phagocytosis.

**Question 12**

Which of the following provides an adequate dietary source of zinc (at least 30 mg), for the purposes of immune support in an adult male?

- A) 120 ml (1/2 cup) pumpkin seeds.
- B) 150 gm (5 oz.) beef liver, cooked.
- C) 150 gm (5 oz.) anchovies, canned.
- D) 75 gm (2.5 oz.) oysters, eastern, cooked.

**Question 13**

The patient wishes to know whether he might be infectious. Given the duration of this fever (6 weeks), what is the Naturopathic Doctor's most accurate response?

- A) Statistically, he is most likely infectious (>90% chance).
- B) Statistically, there is a 70-75% chance that he is infectious.
- C) Statistically, there is a 25-30% chance that he is infectious.
- D) Statistically, it is unlikely that he is infectious at this point.

**Question 14**

As per the *Ontario Health Protection and Promotion Act*, which of the following communicable diseases, if the Naturopathic Doctor diagnosed the patient as having, must be reported to the local Medical Officer of Health?

- A) Influenza.
- B) Rotavirus.
- C) Fifth Disease.
- D) Norovirus Infection (Norwalk-like).

**Question 15**

The patient was initially prescribed amoxicillin clavulante (Augmentin). After four days of vomiting and generally feeling worse, he was instructed to stop taking it. What is the Naturopathic Doctor's responsibility regarding adverse reaction reporting?

- A) All health professionals should report confirmed adverse reactions to a pharmaceutical prescription.
- B) All health professionals should report any suspected adverse reactions to a pharmaceutical prescription.
- C) Only the prescribing doctor should report confirmed adverse reactions to a pharmaceutical prescription.
- D) Only the prescribing doctor should report any suspected adverse reactions to a pharmaceutical prescription.

**Answer Key**

1D, 2B, 3A, 4D, 5C, 6C, 7C, 8B, 9D, 10D, 11C, 12D, 13C 14A, 15B

## TIPS FOR ANSWERING MULTIPLE CHOICE QUESTIONS

### **Tip #1: Read Each Question Carefully**

- When you're reading a question, stop and make note of the most important details (e.g., patient symptoms, patient history, etc.). Re-read the question, if necessary, to ensure that you have all the relevant information before you select an answer.
- Make sure that you have access to all of the details. Some questions may be part of a longer "case". These case-based questions also include a passage with additional details. When you get one of these, the information you need could be in the case passage, in the question itself, or in both. So, make sure to read both parts before selecting an answer.
- Watch out for key words in the question like "**not**", or "**except**"; as well as nuances like "what is the **best** response?" or "what is the **priority** action?" These could change the meaning of the question (as well as the correct answer).
- If you're having trouble understanding the question, try rephrasing it in your own words. This is especially helpful when dealing with questions that include negative phrasing (for example "not"), or other tricky language.

### **Tip #2: Try to Answer Each Question before Looking at the Answer Options**

- Remember that a well-written multiple-choice question is something that you should be able to answer without seeing the options. In fact, many of the answer options are there to tempt and distract you. Try reading the entire question to see if you know the answer **before** you look at the answer options.
- One useful strategy is the 'hand cover' approach. To do this, cover the answer options and then read the question. Doing this can help you avoid getting confused by distractor options (remember that they're meant to tempt you); and will encourage you to focus on what the question is actually asking.

### **Tip #3: Focus on Answering One Question at a Time**

- The questions on the exam are designed to be independent of one another. This means knowing the answer to one question should not help you answer a different question (similarly, getting the answer wrong to one question won't force you to answer other questions incorrectly). Focus on one question at a time (and try not to let a difficult question make you anxious when you read the next one).
- The order of correct answers will be random. So don't try to look for patterns in your answers. For example, don't worry if you've answered "C" four times in a row. Just focus on answering each individual question without thinking about how you answered the other questions.
- Focus on one question at a time; but remember that you do have a limited time to finish the entire exam. Consider setting a time limit for answering each question; or skipping and then coming back to any questions you can't answer (remember that every question is independent of one another).

### **Tip #4: Don't Get Fooled by the Distractor Options**

- On the examination, each question will have four possible answers. Your task is to select the option that you think is the correct (or the best possible) answer out of the four alternatives that are provided.
- Remember that, of these four options, a question will only have **one** correct (or clearly best) option. However, the wrong answer options will be designed to look plausible. Therefore, it's important to select the best answer to the question being asked; not just an answer that *seems* correct (as often, many answers will seem correct).
- Beware of answer options that include unqualified absolutes such as "**never**", "**always**", and "**ensures**". These statements are very restrictive and are very difficult to defend. Therefore, they are rarely correct.

### **Tip #5: Remember What You're Being Tested On**

- Although the exam may ask you to apply your knowledge to situations that you have not experienced, you should be able to answer them if you apply the specialised knowledge and skills that you acquired in your education program. Remember that every question will relate to specific competencies (identified on the examination blueprint); and will test your knowledge, skills, and judgments related to these areas of naturopathic clinical practice specifically.

- There are several cognitive levels that multiple-choice questions can assess you on. Be prepared for questions that: (1) test your ability to recall information and facts; (2) test your ability to apply principles and procedures to patient situations; and (3) test your ability to apply your best critical judgment to naturopathic practice.
- Remember that some questions may refer to an image (e.g., an x-ray or photograph).

***Tip #6: When in Doubt...Guess (But Do So Strategically)***

- You don't lose points for incorrect answers (you just don't get the point for being correct). This means that if you guess and get a question wrong, your score will be the same as it would be if you didn't answer that question at all. Therefore, there's no harm in guessing if you really don't know the answer
- If and when you need to make a guess, try to do so methodically. For example, try to eliminate any answer options that you know are incorrect, so that you can narrow down your choices. Then, relate each remaining answer option back to the question to see if it fits. Compare these options and identify how they differ. Then, make an informed guess.

***Other Tips***

- Make sure to get a good night's rest before the exam.

## REFERENCE BOOK LIST

### Assessment and Diagnosis

- Bates' Guide to Physical Examination and History Taking (Bickley)
- Physical Examination and Health Assessment – Canadian (Jarvis)
- DeGowin's Diagnostic Examination (DeGowin)
- Mosby's Diagnostic and Laboratory Test Reference (Pagana and Pagana)
- Mosby's Manual of Diagnostic and Laboratory Tests (Pagana and Pagana)
- Mosby's Canadian Manual of Diagnostic and Laboratory Tests (Pagana)
- Standards of Practice (College of Naturopaths of Ontario)
- Advanced Health Assessment and Clinical Diagnosis in Primary Care 1998 (Scheibel)
- The Merck Manual of Diagnosis and Therapy 20<sup>th</sup> Ed (Porter)
- The Merck Manual of Children's Health 2006 (Various)
- The Merck Manual of Women's and Men's Health 2014 (Various)

### Modalities

#### Botanical Medicine

- Herb Contraindications and Drug Interactions: Plus Herbal Adjuncts with Medicines 4<sup>th</sup> Ed (Brinker)
- Medical Herbalism 2003 (Hoffman)
- Principles and Practice of Naturopathic Botanical Medicine 2012 (Godfrey and Saunders)
- Principles and Practice of Phytotherapy: Modern Herbal Medicine 2<sup>nd</sup> Ed (Mils and Bone)
- Natural Medicines Comprehensive Database 2015
- Advanced Botanical Prescribing (Pickrell and Saunders)

#### Homeopathy

- Desktop Guide to Keynotes and Confirmatory Symptoms (Morrison)
- Materia Medica with Repertory (Broerick)
- Organon of the Medical Art (Hahnemann)
- Synthesis 9.1 Homeopathic Repertory

#### Nutrition

- Textbook of Integrative Clinical Nutrition (Prousky and Hoffer)
- Textbook of Natural Medicine 4<sup>th</sup> Ed (Pizzorno and Murray)
- The Encyclopedia of Natural Medicine 3<sup>rd</sup> Ed (Murray and Pizzorno)
- Clinical Nutrition (The Nutrition Society Textbook) 2<sup>nd</sup> Ed (Elia et al)

#### Physical Medicine

- Orthopedic Physical Assessment (Magee)
- Evidence Based Guide to Therapeutic Physical Agents (Belanger)
- Massage for Orthopedic Conditions (Hendrickson)
- Lectures in Naturopathic Hydrotherapy (Boyle and Saine)
- Therapeutic Exercise for Musculoskeletal Injuries 3<sup>rd</sup> Ed. (Kisner and Colby)
- Braddom's Physical Medicine and Rehabilitation 5<sup>th</sup> Ed (Cifu)

#### Psychology

- Diagnostic and Statistical Manual of Mental Disorders 5<sup>th</sup> Ed. (American Psychiatric Association)
- Cognitive Behaviour Therapy: Basics and Beyond (Beck)

### Traditional Chinese Medicine and Acupuncture

- Acupuncture Point Combinations: The Key to Clinical Success 1995 (Ross and Livingstone)
- A Manual of Acupuncture (Deadman and Al-Khafaji)
- Clean Needle Technique Manual for Acupuncturists (Ellis, Wiseman, and Boss)
- Foundations of Chinese Medicine: A Comprehensive Text (Maciocia)
- Fundamentals of Chinese Acupuncture (Ellis, Wiseman and Boss)
- The Traditional Chinese Medicine Formula Study Guide 2000 (Yi)
- Fundamentals of Clinical Acupuncture (Kassam and Gowan) 2009
- Chinese Acupuncture and Moxibustion (Cheng Xinnong)
- Chinese Herbal Patent Medicines: A Clinical Desk Reference (Fratkin)
- Chinese Herbal Medicine: Formulas & Strategies (Scheid, Bensky, Ellis, Barolet)
- The Web That Has No Weaver (Kaptchuk)
- The Practice of Chinese Medicine (Maciocia)
- Traditional Chinese Medicine: Cupping Therapy (Chirali)
- The Treatment of Infertility with Chinese Medicine (Lyttleton)
- Clinical Handbook of Internal Medicine: The Treatment of Disease with Traditional Chinese Medicine (MacLean and Lyttleton)
- Obstetrics and Gynecology in Chinese Medicine (Maciocia)

### Pharmacology

- A-Z Guide to Drug-Herb-Vitamin Interactions 2<sup>nd</sup> Ed. (Gaby)
- Canadian Pharmaceuticals and Specialties (Canadian Pharmacists Association)
- Drug Facts and Comparisons 2017 (Lippincott)
- Herb Contraindications and Drug Interactions (Brinker)
- Compendium of Therapeutic Choices, 2017 Ed. or newer (Canadian Pharmacists Association)
- Katzung & Trevor's Pharmacology Examination and Board Review 12<sup>th</sup> Ed (Trevor and Katzung)

### Parenteral Therapy

- Professional IV Seminars; Principles of Basic Intravenous Therapy; Principles of Advanced Intravenous Therapy 2004 (Osborne; Raffety and Carter)

## **Critical Care and Public Health**

### Emergency Medicine

- Advanced First Aid, CPR, and AED (AAOS)
- Emergency Care 13<sup>th</sup> Ed (Limmer, et al)
- CURRENT Diagnosis and Treatment Emergency Medicine 8<sup>th</sup> Ed (Stone and Humphries)
- Tintinalli's Emergency Medicine: Just the Facts 3<sup>rd</sup> Ed (Cline and Ma)
- Rosen and Barkin's 5-Minute Emergency Medicine Consult 5<sup>th</sup> Ed (Schneider, et al)

### Occupational and Public Health

- Control of Communicable Diseases Manual 20<sup>th</sup> Ed (Heymann)
- Gordis Epidemiology 6<sup>th</sup> Ed (Gordis)
- Introduction to Public Health 5<sup>th</sup> Ed (Schneider)