



CANADIAN CHIROPRACTIC EXAMINING BOARD

Exam Content

Candidate Information

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CANADIAN CHIROPRACTIC EXAMINING BOARD

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I. Introduction and Exam Content Basis

Every province and territory in Canada is responsible for ensuring that chiropractors applying to practice in Canada meet an acceptable level of competency. Typically competence is determined by education, that is, successful completion of both an accredited Doctor of Chiropractic program and an entry-to-practice high stakes exam. In Canada, the Canadian Chiropractic Examining Board (CCEB) is responsible for administering such exams and has been in existence since 1961. As part of its ongoing work to develop and maintain current, psychometrically valid and legally defensible exams, the CCEB conducted a “Blueprint Validation Study” in 2008-2009. This document describes the exam content for the three exams (Components A, B, and C) administered by the CCEB. The intent and purpose is to provide information to the candidates and to other stakeholders regarding the composition of the CCEB exams.

Exam Content Basis

The basis for the current exam specifications was developed using a Modified Delphi process in 1994 and was again changed in 2004 based on a job analysis of the profession. The current exam content is based on the Blueprint Validation Study (BVS) conducted in 2008-2009. This study included the following:

- Job Analysis Survey
- Rating of Conditions and Core Competency Survey
- Curriculum Study
- Blueprint Survey

The *Job Analysis* survey was completed by hundreds of chiropractors from across Canada. It provided information used for determining core competencies and provided the frequency of patient presentations and diagnoses seen by Chiropractors across Canada. Subject matter experts were used to further define how to address the testing of core competencies and to rate the importance of conditions. The Canadian Chiropractic Association's - Chiropractic Clinical Practice Guideline (Glenerin Guidelines)1993 were also used for helping to determine the chiropractic core competencies tested for entry-level practice by the CCEB. The *Curriculum Study* consisted of an analysis of curriculums from accredited chiropractic colleges from around the world. It was used to help define the names and types of content areas on the exams. To finalize the blueprint, the *Blueprint Survey* was conducted to assign values to the number of questions to be asked per component where values could not be extracted from the survey of the profession. The weighting of components was ultimately decided by the profession to represent what is used in active practice in Canada. The chiropractors surveyed were from across Canada and representative of different colleges of graduation and different years of practice experience. Guidance and final approval was provided by a psychometric consultant, CAVES CONSULTING SERVICES, INC.

The Exams

The first exam, Component A, consists of multiple-choice items each with four alternatives, and is based on the underlying causes of pain and diseases. The majority of the items are presented in a clinical context (that is, patient-centred). However, some items are presented in a factual context stripped of reference to a patient. The Component A exam consists of approximately 270 items written in two sections with three hours to complete each section.

The second exam, Component B tests the candidate's ability to make decisions and diagnoses in a clinical context. Component B mainly uses a multiple-choice format with four alternatives per item. The exam also contains radiographic images with three to four questions pertaining to each image. It may contain some radiographic theory questions that are presented in a factual context without reference to a patient. The Component B exam consists of two sections with a total of approximately 200 items and 3 hours for the completion of each section.

The third exam, Component C, is an Objective Structured Clinical Exam (OSCE) that tests a candidate's clinical skills in a clinic-like environment. The Component C exam consists of 10, 12-minute stations and up to 23 different patient presentations. It uses actors to portray the role of a patient and uses trained examiners to evaluate each station.

It is through the combination of these three exams that the CCEB is able to assess for the minimal competencies defined in the Chiropractic Core Competencies for Entry-Level Practice.

Refer to the Study Guides posted on the website for further procedural and exam specific instructions not related to exam content. The Study Guides also contain example items and station expectations.

II. Chiropractic Core Competencies Tested For Entry-Level Practice

These competencies may be tested by the Canadian Chiropractic Examining Board as indicated by the 'X' under the different components of the exams.

Competencies	Component A	Component B	Component C
Chiropractic Knowledge			
Ability to explain the underlying pathophysiological and anatomical basis associated with patient assessment and management	X	X	
Differentiate pathological from non-pathological conditions	X	X	X
Differentiate neurological from non-neurological conditions	X	X	X
Diagnosis of conditions based on the interpretation and integration of patient data and physical findings	X	X	X
Identify appropriate outcomes of treatments and physical exam procedures		X	X
Common research practices	X	X	
The course of diseases and public health risks	X		X
Radiology practices and interpretation		X	X
Gathering of Patient Data - Obtain the following Patient information and display the ability to interpret findings:			
Medical/Surgical history		X	X
Medications		X	X
Special tests or diagnostic procedures and their results		X	X
Establish source and history of pain		X	X
Psychosocial history and current status		X	X
Laboratory results	X	X	X
Recognize irrelevant data		X	X
Interpret History findings and provide diagnosis	X	X	X
Physical Exam Skills- Perform appropriate physical exams and interpret findings including the following:			
Evaluate/assess pain	X	X	X
Select and justify assessment procedures and applications that are appropriate to the patient's age, gender, functional needs, and/or other medical conditions		X	X
Perform re-evaluations/re-assessments based on changes to patient's status			X
Observe patient's response to Chiropractic assessments and respond accordingly			X
Measure range of motions of the patient			X
Conduct Gait analysis			X
Perform sensory testing			X
Perform physical exams that differentiate and confirm diagnoses			X
Perform postural evaluations			X
Conduct appropriate neurological exams			X
Conduct appropriate Soft Tissue exams			X
Conduct appropriate Orthopedic testing			X
Perform physical exams in an organized and meaningful manner			X
Interpret physical exam findings and provide diagnosis	X	X	X

Competencies	Component A	Component B	Component C
Treatments: Interpret and Implement appropriate treatments based on diagnoses			
Identify complications in implementing certain treatments and adjust treatment accordingly		X	X
Determine possible causes of patient's condition and educate as needed		X	X
Select and justify treatments and procedures		X	X
Provide rationale and clear explanation of treatments to the patient		X	X
Position, move and drape patient for effective, comfortable treatment and privacy			X
Identify measurable outcome goals of treatment and establish timelines		X	X
Participate in multi-disciplinary planning and follow up care		X	X
Make referrals to other health care professionals when appropriate			X
Recognize and respond to conditions requiring emergency care		X	X
Perform appropriate adjustment techniques			X
Revise or discontinue treatment plans based on achievement of patient goals			X
Facilitate procurement of patient aids		X	X
Present alternative forms of treatments along with the risks associated with them			X
Understand and explain the goals of chiropractic adjustment and other treatments		X	X
Interpersonal and Communication Skills			
Ask questions in an organized and concise manner			X
Convey actions and procedures in a meaningful way to the patient			X
Convey accurate and detailed information to the patient			X
Communicate information at an appropriate comprehension level for the patient			X
Appropriate use of and recognition of patient's non-verbal communication and eye-contact			X
Educate the patient regarding self-management and coping strategies			X
Communicate results of evaluations/assessments accurately to other health care professionals when co-managing or referring patients			X
Demonstrate counseling skills when appropriate			X
Respond and recognize feedback			X
Summarize findings and treatment plans			X
Draw a close to a consultation appropriately			X
Communicate all risks associated with treatments			X
Professionalism			
Document all relevant aspects of care including treatment plans, results of physical exams, progress notes, and diagnoses		X	X
Optimize patient comfort and physical privacy			X
Respect patient confidentiality, knowledge, rights and dignity of the patient and/or family		X	X
Be thorough to ensure accuracy of diagnoses		X	X
Be respectful of colleagues and other health care professionals			X
Conform to legal requirements		X	X
Conform to the following ethical requirements:			X
* demonstrate integrity in professional practice			X
* demonstrate empathy			X
* maintain objectivity			X
* work in the best interest of the patient			X
* observe conflict of interest guidelines			X
Manage time efficiently			X
Present fees in an open manner			X

III. Allocation of Items

1. General Overview

The allocation of the number of items to content and competencies/behaviors is typically displayed in the form of a two-dimensional matrix with content defining one axis (usually the Y-axis) and competencies/behaviors defining the other axis. Other factors, referred to as contextual variables, and which impact on the representativeness of an exam are also considered but do not constitute a dimension. For purposes of the CCEB exams, the contextual variables are age, gender, patient presentation, and conditions.

All three CCEB exams share gender, age and frequency/type of patient presentation for the purposes of exam item selection. They also share the same blueprint for frequency of conditions (see Appendix I).

Age

Age of Patients Seen	0-17	18 to 64	65+
Frequency of patients	18% +/- 5%	50% +/- 5%	32% +/- 5%

Gender

Gender	Frequency of patients
Female	57% +/- 7%
Male	43% +/- 7%

Patient Presentations

Presentation	Frequency of patients
Lowback	22% +/- 3%
Neck	16% +/- 3%
Midback/Thoracic	12% +/- 3%
Dizziness/Headache/Head Trauma	10% +/- 3%
Hip/Pelvis	8% +/- 2%
Shoulder	8% +/- 2%
Knee/Leg	5% +/- 2%
Foot	4% +/- 2%
Arm/Elbow	4% +/- 2%
Chest/Abdomen	3% +/- 2%
Hand	3% +/- 2%
Face/Jaw	3% +/- 2%
Other	2% +/- 2%

Definitions of Patient Presentations

Patient presentations refer to the presenting complaint of pain, dysfunction, discomfort, or injury from a patient case or scenario. For items where no patient scenario is present, items are categorized by the underlying condition and the direct area of anatomy affected by the given condition. All the examples below are based on the patient presentation of 'pain' but actual items may include dysfunction, discomfort, numbness, injury, or none of the above.

Presentation Examples:

- **Lowback** presentations are specific to complaints of pain in the lowback region including the coccyx.
- **Neck** presentations are specific to patient presentations of neck pain related to the muscles and vertebrae.
- **Midback/Thoracic** pain presentations are specific to pain related to the spine, ribs and/or general muscle pain in the mid-back area.
- **Dizziness/Headache/Head trauma** presentations may include presentations of headache, brain lesions, brain tumors, stroke, inner ear dysfunction, dizziness, and/or visual disturbances.
- **Hip/Pelvis** includes presentations of pain in the hip, pelvis and/or genitals.
- **Shoulder** presentations are specific to the presentation of shoulder joint and muscle pain.
- **Knee/Leg** are patient complaints in the area of the leg and knee.
- **Foot** presentations include the ankle, foot and toes.
- **Arm/Elbow** presentations are specific to the arm and elbow only.
- **Chest/Abdomen** includes all presentations of abdominal and chest pain. This category may include presentations related to liver, kidney, pancreas, lungs, heart, intestines, stomach, or appendix conditions (the exception is where any of these conditions present as a different area of pain such as lowback, thoracic or shoulder pain)
- **Hand** presentations include the wrist, hand and fingers.
- **Face/Jaw** presentations include patient complaints of pain or numbness in the face, jaw, throat, mouth, eyes, ears, and/or nose.
- **Other** presentations may include the following: fever, bone/skeletal presentations, skin conditions, generalized cancer, rheumatological conditions or any other presentation that is non-specific to any other category.

2. Component A Exam

Content Area	Total Percentage of Items	Knowledge of Fact (for each category +/- 1%)	Understanding (for each category +/- 1%)	Application (for each category +/- 1%)
Anatomy	22% +/- 2%	8 %	7 %	7 %
Biochemistry	4% +/- 1%	2 %	1 %	1 %
Biomechanics	12% +/- 2%	4 %	4 %	4 %
Embryology	2% +/- 1%	1 %	1 %	0 %
Histology	2% +/- 1%	1 %	1 %	0 %
Immunology	3% +/- 1%	1 %	1 %	1 %
Microbiology	3% +/- 1%	1 %	1 %	1 %
Neurology	12% +/- 2%	4 %	4 %	4 %
Nutrition	6% +/- 2%	1 %	2 %	3 %
Pathology	8% +/- 2%	2 %	3 %	3 %
Physiology	10% +/- 2%	3 %	3 %	4 %
Psychology	4% +/- 1%	1 %	1 %	2 %
Public Health & Health Promotion	5% +/- 1%	1 %	2 %	2 %
Research Methods	3% +/- 1%	1 %	1 %	1 %
Toxicology & Pharmacology	4% +/- 1%	2 %	1 %	1 %
TOTAL	100%	33% +/- 5%	33% +/- 5%	34% +/- 5%

The contextual variables as presented in Section II, Part 1 apply to this exam, however the contextual variables do not apply to those items that are not patient centered.

Definitions of Behavioural Axis

- **Knowledge of Facts** - refers to those behaviours that emphasize remembering, recognizing, or recalling of the facts and information that comprise the designated topic. Specific examples include the knowledge of terminology, specific facts, procedures, trends, sequences, methodology, principles, and theories.
- **Understanding of the Topic (or Comprehension)** - refers to understanding data and information. Comprehension usually includes such behaviors as the ability to translate a patient's problem into one's own words, or to translate symbolic information contained in reports and charts to a verbal form, or to explain, for example, some aspect of research findings to a patient. Comprehension also includes the ability to interpret information in terms of differentiating essential information from non-essential information, or to distinguish contradicted conclusions drawn from a body of data. Comprehension also deals with the ability to draw conclusions and to make predictions.
- **Application of Knowledge** – refers to the ability to use basic learned material in new and concrete situations. Application overlaps with Comprehension in that it builds on it. That is, to be able to apply implies that one comprehends or understands.

Definitions of Content Areas

- **Anatomy** – The study of the structures of the human body. Chiropractors must demonstrate knowledge of the anatomy of the body in order to conduct patient assessments and treatments. They must be able to determine which structures may have injury or dysfunction.
- **Biochemistry** – The study of chemical processes that occur in the human body. Chiropractors must demonstrate an understanding of these normal processes as well as the clinical implications of dysfunction of those processes.
- **Biomechanics** – The study of mechanical processes in the human body, particularly as it pertains to movement of the body. Chiropractors must demonstrate an understanding of the movements of the human body and the structures that produce those motions and what dysfunction or injury to those structures or dysfunctional movements imply.
- **Embryology** – The study of the process by which humans develop in utero. Chiropractors must demonstrate knowledge of the origin of different tissues and structures of the body.
- **Histology** – The study of the cells and tissues of the human body. Chiropractors must demonstrate knowledge of human tissues and their components and how they can be affected by injury.
- **Immunology** – The study of the immune system of the human body. Chiropractors must demonstrate knowledge of the processes of inflammation and healing and the way that the human body responds to injury and infection.
- **Microbiology** – The study of microscopic organisms including bacteria, viruses, fungi, and parasites. Chiropractors must demonstrate an understanding of the implications of infection by these organisms from a pathological perspective.
- **Neurology** – The study of dysfunction of the human nervous system. Chiropractors must demonstrate knowledge of the different neurological structures that are affected by neurological conditions and understand the clinical presentations, diagnosis and management of those conditions.
- **Nutrition** – The study of the components of healthy dietary intake. Chiropractors must demonstrate knowledge of normal nutrition as well as the clinical implications of inadequate nutrition and nutritional disorders.
- **Pathology** – The study of disease in the human body. Chiropractors must demonstrate knowledge of disease causing processes as well as the diagnosis and management of pathological conditions.
- **Physiology** – The study of the functioning of the organs and systems of the human body. Chiropractors must demonstrate an understanding of all body organs and systems as they relate to human health and disease processes.
- **Psychology** – The study of human mental function and behavior. Chiropractors must demonstrate an understanding of mental health and mental health disorders and how they can impact their patients clinically.

- **Public Health and Health Promotion** – Chiropractors must demonstrate knowledge of public health principles, including knowledge of sexually transmitted infections, preventive care and effective public health interventions. Must also understand approaches that chiropractors can take to prevent injury, disease, and infection among their patients while promoting public and personal health among their patients.
- **Research Methods** - Chiropractors must demonstrate knowledge of different methods of researching health conditions and the ways to treat and assess them, as well as significant studies in the chiropractic literature.
- **Toxicology & Pharmacology** – The study of adverse effects of chemicals on the human body and the study of the mechanisms of actions of drugs and other chemical compounds. Chiropractors must demonstrate an understanding of how pharmaceutical products and nutritional supplements work in the body and the symptoms and mechanisms of adverse effects of these products.

3. Component B Exam

Content Area*	Total Percentage of Items	Administration, Ethics & Documentation (each category +/- 1%)	Clinical and Differential Diagnosis (each category +/- 1%)	Diagnostic Imaging– Image Interpretation (each category +/- 1%)	Diagnostic Imaging– Radiographic Theory (each category +/- 1%)	Patient Assessment– Physical Exams and History Taking (each category +/- 1%)	Treatment, Technique & Rehabilitation (each category +/- 1%)	
Lowback	22% +/- 3%	2%	6%	3%	2%	6%	4%	
Neck	16% +/- 3%	1%	4%	2%	1%	4%	3%	
Midback/Thoracic	12% +/- 3%	1%	3%	2%	1%	3%	2%	
Dizziness/Headache/ Head Trauma	10% +/- 3%	1%	3%	1%	1%	3%	2%	
Hip/Pelvis	8% +/- 2%	1%	2%	1%	1%	2%	2%	
Shoulder	8% +/- 2%	1%	2%	1%	1%	2%	2%	
Knee/Leg	5% +/- 2%	1%	1%	1%	1%	1%	1%	
Foot	4% +/- 2%		1%	1%		1%		
Arm/Elbow	4% +/- 2%		1%	1%		1%		
Chest/Abdomen	3% +/- 2%		1%	1%		1%		
Hand	3% +/- 2%		1%			1%		
Face/Jaw	3% +/- 2%		1%			1%		
Other	2% +/- 2%		1%	1%		1%	1%	1%
TOTAL	100%		8% +/- 5%	27% +/- 5%		13% +/- 5%	7% +/- 3%	25% +/- 5%

*The contextual variables and definitions as presented in Section II, Part 1 also apply to this exam.

Definitions of Behavioural Axis

- **Administration, Ethics & Documentation** – Chiropractors must understand and apply the idea of appropriately detailed and well-maintained paperwork including the concepts of informed consent, outcome measurement, and daily note taking. They must also demonstrate an understanding of professional conduct and ethics in dealing with patients.
- **Clinical and Differential Diagnosis** – Chiropractors must demonstrate an ability to generate differential diagnoses for patients with different clinical presentations as well as an ability to integrate clinical information in formulating a diagnosis for patients.
- **Diagnostic Imaging – Image Interpretation** – Chiropractors must be able to read x-ray images and recognize pathological, traumatic, and degenerative signs from normal radiographic anatomy and variants. The *image interpretation* items include a radiographic image with three or four questions related to the image.
- **Diagnostic Imaging – Radiographic Theory** – Chiropractors must demonstrate an understanding and ability to apply the principles of radiography, including radiography physics and determination of when different forms of imaging are indicated. *Radiographic Theory* items may be in patient presentation format or may be in a basic knowledge format with a simple lead-in.
- **Patient Assessment – Physical Exams and History Taking** – Chiropractors must demonstrate an understanding and proper application of the key components of a comprehensive patient history and physical exam. They must be able to interpret the meaning and importance of positive and negative findings of different exam maneuvers and patient interview findings.
- **Treatment, Technique & Rehabilitation** – Chiropractors must understand how to apply different treatment and rehabilitation modalities as well as the rationale for such treatments and when to apply them. They must also understand the contraindications of such interventions and when to apply alternative treatments or refer to another health professional.

4. Component C Exam

	Station Behavioral Components	History Taking	Physical Exams	Technique	Diagnosis	Plans of Management / Treatment	Rationale (Explanation of Processes)	Consideration of Legal Ethical and Organizational aspects of practice	Communication	Professionalism
Content Area	Total % of Exam	14% +/- 2%	21% +/- 2%	8% +/- 2%	9% +/- 2%	16% +/- 2%	5% +/- 2%	7% +/- 2%	14% +/- 2%	5% +/- 2%
Lowback	22% +/- 3%	3.1%	4.6%	1.8%	2.0%	3.3%	1.3%	1.5%	3.1%	1.1%
Neck	16% +/- 3%	2.2%	3.4%	1.3%	1.4%	2.4%	1.0%	1.1%	2.2%	0.8%
Midback/Thoracic	12% +/- 3%	1.7%	2.5%	1.0%	1.1%	1.8%	0.7%	0.8%	1.7%	0.6%
Dizziness/Headache/Head Trauma	10% +/- 3%	1.4%	2.1%	0.8%	0.9%	1.5%	0.6%	0.7%	1.4%	0.5%
Hip/Pelvis	8% +/- 2%	1.1%	1.7%	0.6%	0.7%	1.2%	0.5%	0.6%	1.1%	0.4%
Shoulder	8% +/- 2%	1.1%	1.7%	0.6%	0.7%	1.2%	0.5%	0.6%	1.1%	0.4%
Knee/Leg	5% +/- 2%	0.7%	1.1%	0.4%	0.5%	0.8%	0.3%	0.4%	0.7%	0.3%
Foot	4% +/- 2%	0.6%	0.8%	0.3%	0.4%	0.6%	0.2%	0.3%	0.6%	0.2%
Arm/Elbow	4% +/- 2%	0.6%	0.8%	0.3%	0.4%	0.6%	0.2%	0.3%	0.6%	0.2%
Chest/Abdomen	3% +/- 2%	0.4%	0.6%	0.2%	0.3%	0.5%	0.2%	0.2%	0.4%	0.2%
Hand	3% +/- 2%	0.4%	0.6%	0.2%	0.3%	0.5%	0.2%	0.2%	0.4%	0.2%
Face/Jaw	3% +/- 2%	0.4%	0.6%	0.2%	0.3%	0.5%	0.2%	0.2%	0.4%	0.2%
Other	2% +/- 2%	0.3%	0.4%	0.2%	0.2%	0.3%	0.1%	0.1%	0.3%	0.1%

Note that a candidate's success or failure on the Component C exam may be subject to examiner observations and is left to the discretion of the CCEB. Candidates who injure a patient in the course of the exam or who thrust and complete adjustments may be awarded an overall 'zero' on a station or may face failure on the entire exam.

Behavioral components are evaluated across multiple stations on the exam. For example, aspects of communication and professionalism are found on every station of the exam. Components such as history taking and physical exams have specific stations designed to test these competencies. Read the Component C study guide for station specific instructions.

Definitions of Station Behavioural Components

- **History taking** - Ability to ask relevant history questions given a patient presentation. History taking should be organized and pertinent to the case.
- **Physical Exams** - Chiropractors are expected to perform relevant physical exams given a patient presentation. Physical exams are expected to be performed in their entirety and without harm to the patient. They may include, but are not limited to taking vitals, performing orthopedic tests, neurological exams, soft tissue exams, active and passive ranges of motion, reflexes, gait/posture analysis, and/or temperature.
- **Chiropractic technique** - Chiropractors are expected to demonstrate manual adjustment set-ups on a patient. Adjustments must be brought to the point of tension and should be in the appropriate contact position where if completed, the adjustment would result in cavitation. Candidates are not to thrust on the patients, doing so may result in failure of the station. Chiropractors should be able to demonstrate multiple adjustments on the spine, neck, and extremities. They must also be able to recognize when it is inappropriate to adjust a patient and when to refer to other medical professionals.
- **Diagnosis** - Chiropractors must be able to interpret history and/or physical exam findings and provide an accurate diagnosis to the patient.
- **Plans of Management/Treatment** - Ability to create and communicate an appropriate plan of management to a patient based on a diagnosis. Plans of management may include chiropractic treatments, referrals, alternative/complimentary care, emergency referral and/or co-management with another health care professional.
- **Rationale (Explanation of Processes)** - Chiropractors must be able to explain to the patient what they are performing and why they are performing it when it comes to physical exams and chiropractic adjustments. They must also be able to explain their diagnoses to the patient and why they came to the conclusions that they did. When recommending a treatment to the patient, chiropractors must be able to explain why the patient needs such a treatment or why the patient needs to be referred. If referring a patient, chiropractors are expected to be able to explain to the other medical professional why they are sending their patient.
- **Consideration of Legal Ethical and Organizational aspects of practice** - Chiropractors must conform to ethical and legal aspects of practice and are expected to answer questions from the patient regarding such matters. This includes providing informed consent and asking for consent to perform treatment options and physical exams.
- **Communication** - Chiropractors are expected to communicate detailed and accurate information to patients in terms that the patient can understand. They must also use appropriate tone and body language when speaking. Case histories should be communicated in an organized matter and physical exams should be explained as the chiropractor performs them.
- **Professionalism** - Chiropractors must demonstrate professionalism and integrity by treating the patient with care and compassion. This includes but is not limited to using proper draping techniques, listening and responding to patient concerns, adjusting techniques and movements according to patient discomfort, and showing respect for patient privacy and questions.

V. Acknowledgements

The blueprint revision team consisted of Ms. Kimberley Wittner BSc. (Exams Manager), Dr. Kent Stuber D.C., M.Sc (Chiropractic Resource Officer) and Dr. Ernest Skakun Ph.D.(Psychometric Consultant, CAVES CONSULTING SERVICES, INC.). The Board of Governors and Ms. Pat Frank, CAE (Chief Executive Officer) are also acknowledged for their support and contributions to the completion of this project. We also thank all the volunteers who participated in the multiple committees and surveys conducted.

APPENDIX I. Conditions Tested by the CCEB

The following is a list of 267 possible conditions that may be tested by the CCEB. This list is not exhaustive of conditions that may be tested but contains the most common conditions seen by practicing chiropractors from across Canada.

The conditions were ranked according to the frequency of presentation over a period of six months to chiropractors across Canada. Conditions that were seen by 80% to 100% of chiropractors were given a ranking of 1, conditions seen by 50% to 79% were given a ranking of 2 and conditions seen by less than 50% of chiropractors were given a ranking of 3. Note that no condition was seen by less than three chiropractors in Canada, and thus it is deemed necessary that chiropractors have some knowledge of all of the below conditions and know the underlying pathophysiological and anatomical implications of them.

Since rarely seen conditions may still be important for chiropractors to recognize, diagnose, treat and or refer, the CCEB surveyed a chiropractic committee from across Canada to determine the importance of each condition. The results of this survey were used in conjunction with the results of the Blueprint Validation Study to develop the framework below.

The CCEB cannot test for all of the conditions at every sitting, rather a percentage range from each ranking of conditions is selected for each exam. The proportion is as follows:

Rank		Highly Important (HI)	Important (I)	Total
1	Very frequent	35% +/- 5%	25% +/- 5%	60% +/- 5%
2	Frequent	25% +/- 5%	5% +/- 5%	30% +/- 5%
3	Less frequent	5% +/- 5%	5% +/- 5%	10% +/- 5%
Total		65% +/- 10%	35% +/- 10%	100%

Table of Conditions that may be Tested by the CCEB

Condition's Grouping	Conditions	Frequency	Importance
Lumbar/Sacral Conditions	lumbar facet syndrome/joint dysfunction	1	HI
	lumbar sprain/strain injury	1	HI
	sacroiliac joint disfunction/sprain	1	HI
	lumbar disc herniation/lesion/derangement	1	HI
	myofascial trigger point of the quadratus lumborum	1	I
	segmental radiculopathy	1	HI
	Spondylolisthesis	1	HI
	spinal stenosis	2	HI
	coccyx subluxation/fixation	2	I
	lateral recess stenosis	2	HI
	Fracture	3	HI
	vascular claudication	3	HI
	cauda equina syndrome	3	HI
	Cervical Spine/ Neck Conditions	cervical facet syndrome/joint dysfunction	1
cervical sprain/strain injury		1	HI
myofascial trigger point of the suboccipital muscles		1	HI
whiplash associated disorders		1	HI
myofascial trigger point of the scalene muscles		1	I
segment radiculopathy		1	HI
cervical disc herniation/lesion/derangement		1	HI
Torticollis		2	HI
spinal stenosis		2	HI
cervical rib		2	I
brachial plexus trauma		2	I
Fracture		3	HI
Aneurysm		3	HI
vertebrobasilar accident		3	HI
Thoracic Spinal/ Midback Conditions	costovertebral joint fixation	1	HI
	postural strain	1	HI
	thoracic spinal sprain/strain injury	1	HI
	thoracic facet syndrome/joint dysfunction	1	HI
	scoliosis – functional	1	I
	scoliosis – structural	1	HI
	Fracture	2	HI
	T4 syndrome	3	I
	thoracic disc herniation/lesion/derangement	3	HI
	Scheuermann's disease	3	I
Headache/Jaw Conditions	Cervicogenic headache	1	HI
	tension headache	1	HI
	common migraine	1	HI
	classic migraine	1	HI
	temporomandibular joint dysfunction	1	HI
	sinusitis	1	I
	otitis media	2	I
	hypertension headache	2	HI
	cluster headache	2	I
	trigeminal neuralgia	3	I
	glaucoma	3	HI
	temporal arteritis	3	HI

Condition's Grouping	Conditions	Frequency	Importance
Dizziness/ Inner Ear Conditions	cervicogenic vertigo	1	HI
	benign paroxysmal positional vertigo	2	HI
	concussion/post-concussive syndrome	2	HI
	Meniere's disease	3	HI
	labyrinthitis	3	I
	obstructed external auditory canal	3	I
	vestibular neuritis	3	I
	acoustic neuroma	3	I
	myringitis	3	I
Hip Conditions	iliopsoas strain	1	HI
	myofascial trigger point of the piriformis/piriformis syndrome	1	HI
	iliotibial band contracture	1	I
	hamstring strain	1	I
	hip joint fixation	1	HI
	quadriceps strain	1	I
	bursitis	1	I
	adductor strain	1	I
	snapping hip syndrome	2	I
	inguinal hernia	3	HI
	meralgia paresthetica	3	I
	osteitis pubis	3	I
	congenital hip dysplasia	3	HI
	myositis ossificans	3	I
	avascular necrosis	3	HI
	avulsion fracture	3	HI
	Legg-Calves-Perthes disease	3	HI
	femoral neck fracture	3	HI
slipped capital femoral epiphysis	3	HI	
Shoulder Conditions	rotator cuff strain	1	HI
	myofascial trigger point of the supraspinatus	1	I
	myofascial trigger point of the infraspinatus	1	I
	bursitis	1	HI
	bicipital tendonitis	1	I
	myofascial trigger point of the pectoralis muscle	1	I
	myofascial trigger point of the subscapularis	1	I
	impingement syndrome	1	HI
	acromioclavicular joint sprain/separation	1	HI
	adhesive capsulitis	1	HI
	shoulder joint fixation	1	I
	thoracic outlet syndrome	2	HI
	myofascial trigger point of the serratus anterior muscle	2	I
	rotator cuff tear	2	HI
	latissimus dorsi strain	2	I
	glenohumeral subluxation	2	HI
	fracture	3	HI
	glenohumeral dislocation	3	HI
osteolysis of the distal clavicle	3	I	

Condition's Grouping	Conditions	Frequency	Importance
Knee Conditions	iliotibial band friction syndrome	1	I
	patellofemoral syndrome	1	HI
	knee joint fixation	1	I
	patellar tendinitis	1	I
	meniscal tear	2	HI
	bursitis	2	I
	Baker's cyst	2	I
	medial collateral ligament tear	2	HI
	popliteus tendinitis	2	I
	anterior cruciate ligament tear	2	HI
	Osgood-Schlatter disease	2	I
	lateral collateral ligament tear	3	HI
	plica syndrome	3	I
	posterior cruciate ligament tear	3	I
fracture	3	HI	
Foot / Ankle Conditions	plantar fasciitis/heel spur	1	HI
	ankle sprain	1	HI
	foot/ankle joint fixation	1	I
	pes planus	1	I
	Achilles tendinitis	1	I
	shin splints	1	I
	hallux valgus	2	I
	metatarsalgia/ Morton's neuroma	2	I
	hallux limitus	3	I
	compartment syndrome	3	HI
	fracture	3	HI
	tarsal tunnel syndrome	3	I
	fat pad syndrome	3	I
deep vein thrombosis	3	HI	
Elbow Conditions	lateral epicondylitis	1	HI
	medial epicondylitis	1	HI
	elbow joint fixation	2	I
	radio-ulnar fixation	2	I
	pronator teres syndrome	2	I
	triceps tendinitis	2	I
	olecranon bursitis	3	I
	median nerve palsy	3	HI
	Guyon's canal compression	3	I
	ulnar nerve palsy	3	HI
	radial nerve palsy	3	HI
fracture	3	HI	

Condition's Grouping	Conditions	Frequency	Importance
Chest Conditions	intercostal muscle strain/myofascial trigger point	1	I
	asthma	1	HI
	bronchitis	1	I
	costochondritis	2	I
	intercostal neuritis	2	I
	pneumonia	2	HI
	rib fracture	2	HI
	chronic obstructive dysfunction	2	I
	angina pectoris	3	HI
	congestive heart failure	3	HI
	emphysema	3	I
	myocardial infarction	3	HI
	pericarditis	3	HI
	pneumothorax	3	HI
	pulmonary embolism	3	HI
subacute endocarditis	3	I	
Wrist/Hand Conditions	wrist/carpal joint fixation	1	HI
	carpal tunnel syndrome	1	HI
	de Quervain's tenosynovitis	2	I
	cubital tunnel syndrome	3	I
	radial tunnel syndrome	3	I
	fracture	3	HI
	anterior interosseous nerve syndrome	3	I
	dislocation	3	HI
Abdominal / Visceral / Endocrine Conditions	diabetes mellitus	1	HI
	irritable bowel syndrome	1	I
	gastroesophageal reflux	1	I
	dysmenorrhea	2	I
	hypothyroid	2	I
	Crohn's disease	2	I
	urinary tract infection	2	I
	colitis	2	I
	hiatal hernia	2	I
	prostatitis/benign prostatic hypertrophy	2	I
	gastric/peptic/duodenal ulcer	2	I
	hemorrhoids	2	I
	kidney/ureteral stones	2	HI
	diverticulitis	2	I
	hyperthyroid	2	I
	incontinence	3	I
	enuresis	3	I
	cholecystitis	3	HI
abdominal aortic aneurism	3	HI	
pancreatitis	3	HI	
appendicitis	3	HI	

Condition's Grouping	Conditions	Frequency	Importance
Rheumatologic / Degenerative / Skeletal Conditions	degenerative disc disease	1	HI
	degenerative joint disease/osteoarthritis	1	HI
	osteoporosis	1	HI
	fibromyalgia	1	I
	rheumatoid arthritis	1	HI
	chronic fatigue syndrome	2	I
	congenital anomaly	2	HI
	gout	2	I
	Raynaud's phenomenon	2	I
	ankylosing spondylitis	2	HI
	spina bifida	3	HI
	polymyalgia rheumatica	3	I
	psoriatic spondyloarthropathy	3	HI
	systemic lupus erythematosus	3	HI
	diffuse idiopathic skeletal hyperostosis	3	HI
	juvenile rheumatoid arthritis	3	HI
	osteochondritis dissecans	3	I
	osteomalacia	3	HI
	Reiter's syndrome	3	I
	Marfan's syndrome	3	HI
osteogenesis imperfecta	3	HI	
Malignant/ Cancerous Conditions	breast cancer	2	HI
	skin cancer	2	HI
	prostate cancer	3	HI
	colon cancer	3	HI
	benign bone tumor	3	HI
	lung cancer	3	HI
	cervical/uterine cancer	3	HI
	lymphoma	3	HI
	brain tumor	3	HI
	leukemia	3	HI
	metastatic bone tumor	3	HI
	thyroid cancer	3	I
	ovarian cancer	3	HI
	primary malignant bone tumor (non-metastatic)	3	HI
	muscle tumor	3	HI
Neurological Conditions	multiple sclerosis	2	HI
	Alzheimer's disease	3	I
	Parkinson's disease	3	I
	stroke	3	HI
	Bell's palsy	3	I
	epilepsy	3	I
	autism	3	I
	cerebral palsy	3	I
	muscular dystrophy	3	I
	Down's syndrome	3	I
	amyotrophic lateral sclerosis	3	I
	myasthenia gravis	3	I
	syringomyelia	3	I
	encephalitis	3	HI

Condition's Grouping	Conditions	Frequency	Importance
Infectious Disease	shingles	2	HI
	candidiasis/yeast infections	3	I
	hepatitis (any kind)	3	I
	herpes	3	I
	childhood infections such as chicken pox, measles, mumps	3	I
	mononucleosis	3	I
	HIV/AIDS	3	I
	Lyme disease	3	I
	infectious arthritis/spondylitis	3	HI
	osteomyelitis	3	HI
	meningitis	3	HI
	tuberculosis	3	I
	rheumatic fever	3	I
Public Health	pregnancy	1	HI
	allergies	1	I
	depression	1	HI
	anxiety	1	HI
	normal presentation (ie. a well patient)	1	HI
	obesity	1	I
	hypertension	1	HI
	psoriasis	2	I
	sleep apnea	2	I
	restless legs syndrome	2	I
	medication reactions (including rebound headaches)	2	HI
	anemia	2	I
	bipolar disorder	2	I
	alcoholism	2	I
	dermatitis	2	I
	colic	2	I
	infertility	2	I
	severe acne	2	I
	drug abuse	3	I
	reflex sympathetic dystrophy/complex regional pain syndromes	3	HI
anorexia nervosa/bulimia/other eating disorders	3	I	
schizophrenia	3	I	

