

***The TCC Graduate:
an Educational Blueprint
for the 21st Century***

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INTRODUCTION

In January, 2006, a task force of Texas Chiropractic College (TCC) faculty and administrators initiated the TCC Graduate Project in response to a charge by the TCC Curriculum Committee to identify the essential abilities of graduates to practice effectively in a changing health care environment.

An environmental scan and literature review was undertaken to identify important trends and drivers for change.

Outcomes-Based Education

An important educational trend is the emergence of outcomes-based education which is characterized by a focus on the product (competencies) and learning outcomes. A key driver is the accountability movement in education.

Evidence-Based Care

Another trend is evidence-based care. This approach to practice integrates clinical judgment and proficiency with the best available external clinical evidence from relevant research in the context of individual patient preferences, values, and predicaments. Drivers for evidence-based care includes the business community, government agencies, consumer groups, third party payers, and the academic community.

Patient-Centered Care

An additional trend is the focus on patient-centered care which emphasizes patients' needs and feelings and provides for better understanding of the impact of health care decisions on patients' lives. Drivers for patient-centered care include patient advocacy groups and health professions educators.

Health Care Informatics

A rapidly developing trend is health care informatics. This field deals with resources, devices and methods for optimizing the storage, retrieval and management of health information for problem solving and decision making. Drivers include technology advances, third party payers, the Federal Government, the academic community and consumer groups.

Integrative Health Care

There is an emerging trend toward integrative health care which fosters interprofessional collaboration, communication and respect between and among health professionals. Drivers for integrative health care include consumer demand, the military and Veteran's Administration, and Complementary and Alternative Medicine (CAM) clinics.

Special Populations Care

Changing trends in population demographics have identified the need for special populations care for such groups as the elderly and the underserved.

Professionalism

Professionalism refers to the ability to carry out professional responsibilities, adhere to ethical principles and be sensitive to a diverse patient population. The topic of professionalism is generating a lot of discussion among regulatory boards and in the academic community.

Quality Improvement

The environmental scan and literature review identified the importance of quality improvement in health care. Drivers for quality improvement includes consumer groups, government agencies, the business community, and the academic community.

Professional Development and Practice-Based Learning

Finally, professional development and practice-based learning are increasingly being discussed by regulatory boards and the academic community as an important issue. This includes the ability to assess one's own patient care to identify learning needs and to develop a learning plan for improvement.

Several key reports and papers have influenced trends in chiropractic education. The Institute of Medicine Report in 2003, titled "Health Professions Education: A Bridge to Quality", identified core areas of practitioner proficiency and suggested strategies for restructuring clinical education to be consistent with the principles of 21st century health care. The report from the Institute for Alternative Futures in 2005 titled "The Future of Chiropractic Revisited: 2005-2015" made a series of recommendations regarding research, standards of practice, integration with main stream health care, patient-centered care, professional unity, public health, wellness and geriatrics. The World Federation of Chiropractic Report in 2005 on chiropractic identity provided a series of attributes that Doctors of Chiropractic should possess to be considered spinal care experts. An article in the Journal Chiropractic and Osteopathy in 2005 suggested criteria for a defensible model for the profession. The 2005 "Job Analysis of Chiropractic" by the National Board of Chiropractic Examiners, summarized the practice of chiropractic based upon a national survey.

The first phase of the task force work included:

- ◆ Identifying and defining new clinical competencies with associated objectives;
- ◆ Integrating the new TCC competencies with existing CCE competencies;
- ◆ Identifying priority health problems that need to be included in the curriculum;
- ◆ Establishing programmatic level learning outcomes; and
- ◆ Identifying appropriate methods to measure the fulfillment of programmatic learning outcomes.

There are 11 new competencies which the task force developed and faculty approved. They are: Complementary and Alternative Medicine, Communication, Evidence-Based Practice / Research, Health Care Informatics, Nutritional Counseling, Business Aspects of Practice, Public Health, Quality Improvement, Collaborative Care / Referral, Special Populations Care, and Physical Therapeutic Procedures. The development of a competency is the process of translating the care abilities involved in effective practice into educationally useful elements.

Learning outcomes define the level of knowledge, skills, and attitudes that students are expected to achieve. Using the Scottish Doctor (Simpson 2002) outcomes-based education model, clinical domains were derived and programmatic learning outcomes developed and linked to the clinical competencies. In total, 93 curriculum level learning outcomes have been developed.

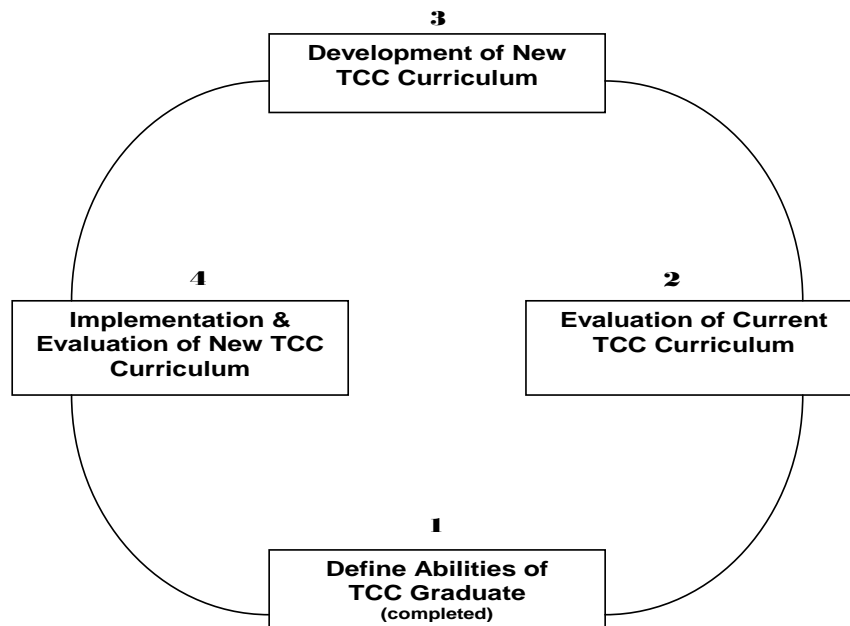
A list of priority health problems were identified and reviewed by faculty. In order to provide direction for curriculum content, 42 clinical presentations and related conditions were listed as essential topics for learning.

A key element in the success of the TCC Graduate Project is to ensure that the programmatic outcomes are met. This is accomplished by identifying and utilizing appropriate assessment methods that best measure the various learning outcomes and competencies developed. The health professions education field has yielded an ever increasing body of knowledge related to competency assessment over the last 20 years. Multiple methods of assessment related to the TCC Graduate Project have been identified as necessary to effectively monitor the success of educational initiatives. These include:

- ◆ Objective Structured Clinical Examinations (OSCE)
- ◆ Global Rating Assessments
- ◆ Standardized Patient Encounters
- ◆ Technology Based Assessments
- ◆ Written Examinations
 - Multiple Choice Questions
 - Extended Matching Questions
 - Key Features Examinations
 - Script Concordance Tests
- ◆ Direct Observation
- ◆ Multi-Source Feedback Evaluations
- ◆ Checklist Evaluations
- ◆ Learning Inventory and Survey Tools

Future phases of the project are outlined below:

Project Overview



1. **Define Abilities of TCC Graduate**

- a. Environmental scan.
- b. Competency delineation with knowledge, skills and attitudes (KSA's).
- c. Identification of priority health problems.
- d. Development of programmatic level learning outcomes.
- e. Alignment of learning outcomes with competencies where appropriate.
- f. Identification of assessment procedures for learning outcomes and competencies.

2. **Evaluation of Current TCC Curriculum**

- a. Identify and purchase curriculum management software.
- b. Enter current TCC curriculum into software.
- c. Collect and review course content, instructional techniques and assessment procedures from course syllabi, instructional materials, and exams for curricular needs.
- d. Identify gaps in current curriculum when compared to competencies, learning outcomes, and priority health problems in the TCC graduate document.
- e. Review existing benchmarks (national boards, clinic entrance, exit exams and intern global assessment) to identify possible curricular weaknesses.
- f. Review the sequencing and integration of current TCC curriculum.
- g. Survey faculty for other curricular needs.
- h. Summarize identified curricular needs.

3. **Development / Design of New TCC Curriculum**

- a. Develop statement of overall purpose of the curriculum.
- b. Specify intended competencies and outcomes.
- c. Identify curriculum organization (integration around selected framework, i.e., competency based and outcomes oriented).
- d. Specify educational experiences (learning and teaching methods, learning resources, assessment and feedback methods, faculty support and development).
- e. Develop curriculum evaluation plan.

4. **Implementation and Evaluation of New TCC Curriculum**

- a. Develop implementation plan including resource needs.
- b. Identify benchmarks and feedback system to monitor implementation.
- c. Carry out implementation plan.
- d. Evaluation of implementation.

SECTION ONE: CLINICAL COMPETENCIES

Clinical competence, as linked to professional competence, is the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served (Epstein, 2002). Clinical competence is not an achievement but rather a habit of lifelong learning. It is also contextual, reflecting the relationship between a person's abilities and the tasks he or she is required to perform in a particular situation in the real world (Epstein, 2007).

Section One includes the Council on Chiropractic Education (CCE) competencies and 11 additional competencies developed by the TCC Graduate Task Force, the result of an internal environmental scan. These competencies help assure that the TCC Graduate Doctor of Chiropractic is capable of navigating the changing health care environment.

CCE Clinical Competencies

History Taking

The history is that element of patient evaluation in which information regarding the individual's clinical status is obtained and an initial clinical impression is developed. It is generally the first contact the patient has with the doctor and, consequently, initiates the doctor-patient relationship.

The process employed in history taking and the depth to which the doctor of chiropractic elicits a health history, is a critical factor in building the patient's confidence in the doctor's ability to professionally and effectively provide health care. Eliciting a competent history requires that the clinician have an understanding of pathophysiology and adequate knowledge of the basic and clinical sciences.

1. Attitudes
 - a. attend to patient comfort and the environment in which the history is elicited;
 - b. appreciate the need for empathy, respect and an awareness of the patient's right for privacy and confidentiality;
 - c. recognize patient apprehension, and avoid exclamatory, misleading or inappropriate verbal or physical responses; and
 - d. recognize the professional and ethical boundaries expected of the doctor/patient relationship.

2. Knowledge
 - a. recognize the importance of obtaining: patient demographic data, chief complaint, history of present illness, family history, past health history, current health status, psychosocial history, and review of systems;

- b. recognize changes in patient presentations or health status during the course of care and apply the appropriate depth and breadth of questioning;
 - c. formulate and employ an organized and effective methodology of inquiry when taking the history;
 - d. understand and recognize non-verbal diagnostic clues observed during the history; and
 - e. select and organize pertinent information leading to the development of a problem and differential diagnosis list.
3. Skills
- a. develop a patient's comprehensive case history to include all elements appropriate to the patient's entering complaint and health status and to the chiropractic analyses;
 - b. conduct the history in a clear, concise and organized manner, actively listening and communicating with the patient at an understandable level;
 - c. modify and apply history taking skills appropriate to challenging situations and difficult patient interactions;
 - d. question the patient with appropriate depth and pursue all relevant health concerns and symptoms; and
 - e. accurately record elicited information in an organized fashion and develop an initial problem list.

Physical Examination

The physical examination is an element of the evaluation in which information regarding the clinical status is elicited by selecting and applying appropriate examination procedures, including essential instruments and equipment.

1. Attitudes
- a. recognize patient apprehension, and avoid exclamatory statements and physical responses that may exacerbate patient concern;
 - b. understand the importance of maintaining a clean and safe environment, and follow accepted hygienic procedures; and
 - c. recognize the professional and ethical boundaries expected of the doctor/patient relationship.
2. Knowledge
- a. understand and conduct the appropriate examination distinguishing between comprehensive, focused, or screening procedures;
 - b. select appropriate procedures, instruments and equipment for use in the examination;
 - c. correlate information obtained in the examination with the history;
 - d. recognize normal, variant and abnormal findings; and

- e. interpret and assess the clinical importance of significant physical examination findings.
3. Skills
- a. develop objective data from the physical examination appropriate to the health status and the chiropractic care of the patient;
 - b. obtain and record vital signs and examination findings in an organized manner;
 - c. conduct an examination using inspection, palpation, percussion and auscultation in a correct, safe and hygienic manner;
 - d. use examination instruments, equipment and procedures in an accurate, safe, appropriate and hygienic manner;
 - e. recognize and record significant non-verbal signs and behaviors exhibited by the patient;
 - f. conduct an examination which provides for efficient patient positioning and comfort; and
 - g. provide appropriate and understandable explanations and instructions to the patient relative to the use of procedures and instruments.

Neuromusculoskeletal Examination

The neuromusculoskeletal examination is the foundation of the chiropractic approach toward evaluating the patient. Doctors of chiropractic commonly provide care to patients with complaints or health problems associated with the spine and extremities. The spine and its relationship to nervous system function is also viewed as an important factor in the patient's general health.

Because the traditional model of chiropractic care involves spinal adjustment, evaluating the spine and nervous system is a crucial component of the patient examination.

1. Attitudes
- a. appreciate the effect that a patient's pain and discomfort may have on the doctor's ability to conduct a neuromusculoskeletal examination;
 - b. appreciate and adapt to patient apprehension in the performance of neuromusculoskeletal examination procedures; and
 - c. consider the possibility that the origin of the patient's symptoms may be from a source other than the neuromusculoskeletal system.
2. Knowledge
- a. identify and select appropriate neuromusculoskeletal examination tests and procedures consistent with the patient's complaint or presentation;
 - b. understand and select methods for evaluating posture, biomechanical function, and the presence of spinal or other articular subluxation or dysfunction;

- c. correlate information obtained in the neuromusculoskeletal examination with the information obtained from patient's history and physical examination;
 - d. understand the mechanisms of neuromusculoskeletal tests and demonstrate an ability to recognize normal, variant and abnormal findings;
 - e. interpret and assess the clinical importance of significant normal and abnormal neuromusculoskeletal examination findings; and
 - f. assess the reliability of data elicited in the neuromusculoskeletal examination through repetition and/or selection of confirmatory procedures.
3. Skills
- a. conduct a neuromusculoskeletal examination using inspection, palpation, percussion, range of motion, and appropriate orthopedic and neurologic procedures in a correct, orderly, safe and hygienic manner;
 - b. use instruments and equipment during the neuromusculoskeletal examination in an appropriate, safe and hygienic manner;
 - c. observe and record verbal and non-verbal diagnostic clues elicited and observed during the neuromusculoskeletal examination;
 - d. conduct a neuromusculoskeletal examination in a manner that provides for efficient patient positioning and comfort; and
 - e. provide appropriate and understandable explanations and instructions to the patient prior to the use of procedures and instruments.

Psychosocial Assessment

It is important to develop the knowledge and skills necessary to evaluate the psychosocial status of patients. As a component of the patient evaluation, doctors of chiropractic must be able to recognize the interrelationships among the biological, psychological and social factors in patients. Psychosocial factors may influence the health of patients or explain the nature of their complaint. This aspect of evaluation is also important in the context of establishing the doctor-patient relationship. For these reasons, doctors of chiropractic must have a basic understanding of common health behaviors and mental health disorders, and be prepared to conduct general patient assessments.

1. Attitudes
- a. recognize and be willing to explore the patient's psychosocial environment; and
 - b. understand and appreciate the role and influence of psychosocial factors in the overall health of the patient.

2. Knowledge

- a. appreciate how lifestyle, health status, behavior and psychological factors contribute to, or affect, patient presentations;
- b. understand how pain and disability can affect patient behavior and well-being;
- c. recognize psychological and social factors that may affect or distort the patient's ability to report symptoms, comply with, or respond to chiropractic care;
- d. recognize verbal and non-verbal clues indicating the need for further psychological and psychosocial assessment;
- e. recognize the clinical indications for referral to or collaborative care with appropriate mental health professionals, agencies or programs;
- f. identify appropriate services, agencies and programs available to assist the patient with psychosocial problems; and
- g. recognize circumstances that legally require doctors to report patient information to appropriate authorities.

3. Skills

- a. identify and administer screening tools for evaluating the patient's psychological and psychosocial status;
- b. modify history taking, examination, and management procedures when caring for patients demonstrating and affected by psychosocial factors;
- c. obtain psychosocial information effectively and legally from family members, or others, when clinically indicated and appropriate;
- d. record psychosocial information in a manner that is accurate, complete and complies with legal standards;
- e. discuss sensitive psychosocial and health behavior issues;
- f. deal effectively with aberrant behavior from a patient in an office setting; and
- g. assess attitudes that negatively impact health and intervene appropriately to educate and motivate the patient to modify behaviors.

Diagnostic Studies

Diagnostic studies are those elements of patient evaluation in which objective data regarding the patient's clinical status are elicited, and which include the use of diagnostic imaging, clinical laboratory, and specialized testing procedures.

Doctors of chiropractic must be knowledgeable and skilled in the use of those specialized testing procedures commonly employed in the evaluation of patients with neuromusculoskeletal presentations. They must also have an understanding of diagnostic studies used in the screening of patients with other complaints or health problems in the primary care setting.

1. Attitudes
 - a. recognize the importance and necessity of diagnostic studies as they relate to the development of an accurate patient profile; and
 - b. recognize the importance of considering benefits, costs and risks in assessing the need for conducting or ordering diagnostic studies.

2. Knowledge
 - a. understand the clinical indications for and the relative value of diagnostic studies;
 - b. understand the principles, applications, technical and procedural elements of equipment employed in diagnostic imaging, clinical laboratory and other diagnostic studies;
 - c. understand the significance of findings, values, and ranges of values adequate to differentiate normal from abnormal findings obtained from laboratory and other diagnostic studies;
 - d. integrate findings obtained from diagnostic studies with information obtained from other components of the examination in forming or assessing the diagnosis; and
 - e. understand federal and state regulatory guidelines governing procedures and the use of equipment employed in diagnostic studies.

3. Skills
 - a. perform and/or order and interpret appropriate imaging examinations;
 - b. take, process and interpret plain film radiographs with appropriate attention given to quality and safety;
 - c. perform and/or order and interpret appropriate clinical laboratory examinations;
 - d. obtain and process laboratory samples with appropriate attention given to patient comfort, hygiene, safety and specimen integrity;
 - e. perform and/or order and interpret other relevant procedures indicated by the clinical status of the patient;
 - f. order, or conduct, diagnostic studies with attention to following professional protocol, and providing appropriate patient instructions and follow-up; and
 - g. record accurately data obtained from diagnostic studies, whether personally conducted or ordered.

Diagnosis

Diagnosis is the process which attempts to identify the nature and cause of a patient's complaint and/or abnormal finding, and is essential to the ongoing process of reasoning used by the doctor of chiropractic to direct patient management. The diagnosis may be modified during the course of care as the result of further testing, patient care and changes in the patient's signs and symptoms.

1. Attitudes
 - a. understand the importance of collecting sufficient clinical information in order to avoid reaching a premature diagnosis; and
 - b. recognize the importance of generating a diagnosis consistent with history and examination findings, prior to initiating care or ordering special studies.

2. Knowledge
 - a. exhibit reasoning and understanding in using sources (such as the available literature and clinical experience) to support the diagnosis;
 - b. develop the diagnosis by recognizing and correlating significant information; and
 - c. identify the pathophysiologic process responsible for the patient's clinical presentation, and understand the natural history of the disorder.

3. Skills
 - a. integrate data in a manner that facilitates the formulation of a diagnosis;
 - b. develop and prioritize a problem list;
 - c. record and convey a diagnosis consistent with history and examination findings; and
 - d. recognize when routine diagnostic procedures are insufficient and obtain appropriate advanced studies when indicated.

Case Management

Case management includes developing and recording a patient care plan, case follow-up, and the referral and/or collaborative care as necessary in the management of a patient. Doctors of chiropractic must be able to identify a care plan that is consistent with findings obtained from the history, examination and diagnostic studies, and the needs of the patient and must also consider the cost implications of care and choose methods of care that are cost-effective. Doctors of chiropractic must also be able to provide wellness care and to promote health maintenance.

1. Attitudes
 - a. recognize the need to develop, record, and communicate a plan for care, and to assess and modify elements of the plan as clinical circumstances dictate;
 - b. appreciate the need to obtain the patient's informed consent, cooperation and compliance with care and/or referral recommendations;
 - c. consider the patient's physical and psychosocial factors when developing and communicating a plan for care;
 - d. identify personal and/or professional care limitations and recognize the need for referral or collaborative care;

- e. be aware of the need to ensure that all records relevant to the patient's management contain adequate, accurate and current information;
- f. be aware of the confidential nature of the doctor-patient relationship, and ensure that appropriate information is properly released only to agencies or individuals authorized for its review;
- g. comply with requests for patient records and reports in an adequate, accurate and timely manner; and
- h. recognize the importance of preventative care and health promotion practices.

2. Knowledge

- a. develop and record an appropriate care plan and prognosis consistent with the diagnosis, and the pathophysiology and/or natural history of the disorder;
- b. evaluate and integrate the patient's health and psychosocial needs in the development of the care plan;
- c. select and employ outcome measures that can aid the doctor in assessing the validity of the initial diagnosis and prognosis, and the effectiveness of the care plan;
- d. understand professionally and legally acceptable methods of recording and organizing patient records including information about the patient history and examination findings, diagnosis and patient care plan, progress notes, correspondence, services provided and care rendered, and financial transactions; and
- e. select appropriate assessments for health maintenance and wellness care.

3. Skills

- a. communicate effectively to the patient the diagnosis, recommended chiropractic care, and alternatives to chiropractic care that may be indicated;
- b. provide patient education on health care needs;
- c. use appropriate forms of communication to ensure that the patient has an adequate understanding of their health status and health care needs;
- d. identify and initiate the appropriate drugless (with the exception of nutritional supplements or supplementation) health care regimen;
- e. perform appropriate chiropractic adjustments and/or manipulations;
- f. refer the patient, when clinically indicated, for consultation, continued study or other care;
- g. initiate referral or collaborative care when appropriate to the needs of the patient;
- h. keep appropriate records of the patient's evaluation and case management;
- i. appropriately respond to changes in patient status, or failure of the patient to respond to care;
- j. construct reports and professional correspondence;
- k. establish clear outcomes for care that can be used to evaluate clinical progress, and recognize when the patient has achieved resolution or maximum therapeutic benefit;

- l. recognize when routine clinical procedures are insufficient and incorporate other procedures when indicated;
- m. perform common screening procedures and wellness assessments in different age groups; and
- n. effectively utilize technology to gather and manage information relative to patient care and practice management.

Chiropractic Adjustment or Manipulation

The chiropractic adjustment is a precise procedure that uses controlled force, leverage, direction, amplitude, and velocity directed at specific articulations. Doctors of chiropractic employ adjustive and/or manipulative procedures to influence joint and neurophysiologic function. Other manual procedures may be used in the care of patients.

1. Attitudes
 - a. appreciate the need to explain what will be done when administering the chiropractic adjustment or manipulation, discuss risks, and recognize the potential for patient apprehension and concern;
 - b. be aware of the need to accommodate patient privacy and modesty in the course of administering chiropractic adjustments or manipulations; and
 - c. be aware of the need to reassess and modify chiropractic adjustment or manipulation appropriate to the needs of the patient.
2. Knowledge
 - a. appreciate the normal and abnormal structural and functional articular relationships;
 - b. be aware of the pathophysiology and methods of evaluating articular biomechanics;
 - c. understand the principles and methods of various chiropractic adjustments and manipulations common to the practice of chiropractic;
 - d. recognize the clinical indications and rationale for selecting a particular chiropractic adjustment or manipulation;
 - e. select and appropriately use equipment and instruments necessary to administer chiropractic adjustment or manipulation; and
 - f. recognize the indications and contraindications for, and potential complications of, chiropractic adjustment or manipulation.
3. Skills
 - a. palpate specific anatomical landmarks associated with spinal segments and other articulations;
 - b. select and effectively utilize palpatory and other appropriate methods to identify subluxations of the spine and/or other articulations;

- c. use effectively equipment and instruments which support chiropractic adjustment or manipulation;
- d. deliver effectively the correct chiropractic adjustments or manipulations which utilize appropriate positioning, alignment, contact and execution;
- e. administer effectively a variety of chiropractic adjustments or manipulations in order to accommodate differences in patient body type and clinical status;
- f. record accurately the method of determining location, specific procedure followed and outcome of the chiropractic adjustment or manipulation;
- g. select and employ palpation and other methods for identifying the effects following chiropractic adjustment or manipulation;
- h. communicate the health benefits of chiropractic adjustment or manipulation to patients;
- i. perform chiropractic adjustment and manipulation in a confident and decisive manner; and
- j. discuss potential immediate or delayed reactions or responses to the chiropractic adjustment or manipulation.

Emergency Care

Doctors of chiropractic may encounter clinical situations - within and outside the office setting - that require immediate attention, and must develop the ability to identify an emergency or life-threatening situation and apply the necessary care or procedures.

1. Attitudes
 - a. recognize the responsibility to provide emergency care procedures; and
 - b. recognize the need for a prompt critical appraisal and response to an emergency situation.

2. Knowledge
 - a. recognize an emergency or life-threatening situation;
 - b. understand current emergency care and first aid procedures, equipment and instruments;
 - c. monitor the effect of emergency care on the patient;
 - d. understand the legal implications associated with providing emergency care; and
 - e. determine the availability of local emergency care resources and select the appropriate services.

3. Skills
 - a. utilize emergency care procedures and equipment effectively in providing first aid and basic cardiac life support;

- b. remain calm, reassure and communicate with the patient, and elicit additional help, as needed;
- c. recognize the need for assistance in an emergency situation and effectively communicate and collaborate with other health care professionals; and
- d. perform appropriate reporting, recording and follow-up procedures.

Case Follow-Up and Review

Case follow-up and review involves monitoring the clinical status of the patient and modifying the care plan as new clinical information becomes available. Doctors of chiropractic evaluate patient progress by conducting follow-up examinations, and seek help from clinical consultants when needed.

1. Attitudes
 - a. recognize the need to monitor the patient's response to care and modify the care plan, consult with, or refer to another health care provider when indicated;
 - b. recognize and respond to patient concerns and apprehension that may result from proposed changes in a care plan or the need for referral or collaborative care; and
 - c. appreciate the benefits of appropriate consultation and/or referral in the management of the patient, and be considerate of patient questions regarding second opinions and alternative forms of care.
2. Knowledge
 - a. understand how and when to re-evaluate the patient's clinical status to obtain current information;
 - b. recognize the need to modify the care plan consistent with current clinical information;
 - c. identify referral needs, and how to communicate them to patients; and
 - d. evaluate the patient's response to care by identifying appropriate outcomes.
3. Skills
 - a. monitor patient's clinical status during and after completion of the health care regimen through follow-up and review appropriate to the patient's health status;
 - b. record data relevant to case management decisions in an organized manner;
 - c. communicate appropriately when referring to other health care providers; and
 - d. conduct a relevant and competent re-evaluation of the patient.

Recordkeeping

Record-keeping is that element of case management in which proper documentation of the patient's evaluation, clinical care and other transactions are recorded, accurately maintained and appropriately reported.

1. Attitudes
 - a. recognize the need to ensure that all records relevant to the patient's care and management contain legible, accurate, complete and current information;
 - b. recognize the patient's right to privacy and ensure that information from the record is released only upon legal and/or written authorization;
 - c. be willing to respond to requests for patient records, or information from patient records, in an adequate and timely manner;
 - d. recognize the need to ensure patient record security and confidentiality;
 - e. be sensitive to the interests that patients may have in accessing their records, and follow accepted legal guidelines when it is deemed necessary to provide or withhold specific information regarding the patient; and
 - f. recognize the need to keep abreast of current trends and technologies for record-keeping, communications and data transfer.

2. Knowledge
 - a. be aware of and follow accepted procedures and protocols when requesting patient records or information from other health care providers or agencies;
 - b. know what elements of the record must be released to the patient, or other health care providers or agencies, and those elements that can be legally withheld;
 - c. know and understand those elements essential to the patient record including demographic data, clinical findings and patient care information, financial transactions, reports, correspondence and communications;
 - d. be aware of accepted methods and legal requirements for record maintenance, storage and security;
 - e. be aware of the need to provide a key with records if abbreviations or symbols are used; and
 - f. use accepted coding systems for diagnosis and clinical procedures.

3. Skills
 - a. construct the patient record in a manner that is accurate, legible, complete and current, and is neither inflammatory, prejudicial nor degrading to the patient;
 - b. enter clinical findings, diagnosis or initial clinical impressions, identity of the doctor and other care providers, care plans, progress notes, and follow-up evaluations in a manner that is legible, accurate, organized and reflects the clinical decision-making process; and

- c. generate clear, concise, and professional narrative reports and correspondence in a timely manner.

The Doctor-Patient Relationship

The nature of the relationship between the doctor and the patient has an important influence on the process and outcome of chiropractic care. Doctors of chiropractic are expected to respond to their patients' needs and provide care in an atmosphere of trust and confidence. Accordingly, doctors of chiropractic must be compassionate, sensitive to the bio-psycho-social needs, recognize the importance of good communication skills, and consider the patient to be their partner in the care process.

1. Attitudes

- a. recognize the importance of developing and maintaining professional attitudes and behavior within and outside the office setting;
- b. appreciate the importance of developing a professional relationship with the patient based on trust, confidence, respect, and confidentiality;
- c. recognize and accept the importance and seriousness of the role that doctors of chiropractic have in the care of patients;
- d. be aware of and be willing to respond to the needs, concerns and fears that patients may have relative to their health complaints and problems;
- e. appreciate the importance of compassion, empathy and touch as vital components of healing and factors that influence the outcome of care;
- f. recognize the importance of both the doctor and patient working together as partners in promoting optimum health;
- g. recognize and accept the inherent vulnerability of patients because of the perception of authority that patients attach to care-givers;
- h. recognize the important and frequent role physical contact has within many chiropractic clinical services; and
- i. appreciate and respect the protective boundaries patients secure over their physical and emotional being.

2. Knowledge

- a. recognize the need to appropriately manage patients who may develop unrealistic expectations of and a dependency on chiropractic care;
- b. appreciate and be willing to adapt to the cultural, social, religious, gender and age differences that may exist between the doctor and his or her patients;
- c. know what patient care and office procedures can be employed that will reduce potential risk and professional liability.
- d. recognize the importance of open communication and the need to properly and adequately inform the patient of potential or proposed care;
- e. understand the appropriateness of obtaining informed consent from the patient prior to initiating clinical care; and

- f. recognize the need to establish and maintain appropriate boundaries in doctor-patient interactions which ensure physical and emotional safety.
3. Skills
- a. develop and exhibit behavior and a communication style that project a professional image and enhance the doctor-patient relationship;
 - b. use effective and appropriate methods of touch and other non-verbal communication techniques; and
 - c. use appropriate techniques that may be employed when managing a patient who exhibits inappropriate behavior.

Professional Issues

Health care providers have an obligation to the patients they serve, and to society, to provide competent and effective care, and to do so in a professional manner. Doctors of chiropractic must exhibit ethical values and behaviors, recognize their responsibility to first serve the patient, and to follow sound business practices. It is important that doctors of chiropractic maintain knowledge and clinical skills through continuing education, and be able to access, understand and critically evaluate the research literature.

1. Attitudes
- a. appreciate the importance of supporting and participating in professional activities and organizations;
 - b. recognize the need to support and participate in the activities and affairs of the community;
 - c. acknowledge the societal obligation of the profession to produce research, and appreciate the importance of research in education, clinical practice and to the growth of the profession;
 - d. have a desire and an ability to critically evaluate new and current knowledge;
 - e. exhibit ethical attitudes regarding the provision of patient care services, fees, financial arrangements, billing practices and collection procedures; and
 - f. identify and acknowledge an obligation to refrain from illegal and unethical patient care and practice management procedures.
2. Knowledge
- a. be aware of and comply with, the professional reporting requirements and procedures of commercial, federal, state and local agencies;
 - b. understand the need to maintain a breadth and depth of knowledge and skills necessary for the practice of chiropractic through continuing education;
 - c. identify community health care and social service agencies that can assist in meeting patient needs;

- d. know patient care and office procedures which can be employed to reduce potential risk and professional liability;
 - e. be aware of the types, policy limits and coverage levels available for professional liability insurance;
 - f. develop a knowledge of ethical practice development strategies including marketing, community demographics, and patient management techniques; and
 - g. understand the need to follow sound business practices including those involving leases, loans, purchasing, selection of consultants and advisors, financial management, and personnel.
3. Skills
- a. critically review clinical research literature;
 - b. develop effective patient rapport by employing oral and written communication skills, and appropriate care procedures; and
 - c. use personal computers and other business and communication technologies.

Wellness

1. Attitudes
- a. appreciate how lifestyle, health status, behavior, and psychological factors interplay in the overall health and wellness of the patient;
 - b. appreciate a multidimensional character of patient wellness including the physical, intellectual, emotional, and spiritual dimensions;
 - c. appreciate and accept active patient participation as an essential component of health care;
 - d. effectively explain and appropriately emphasize the significant benefits that health promotion measures can have on response to treatment;
 - e. appreciate community-level health care issues and the doctor of chiropractic's role in community health care;
 - f. recognize and appreciate the significant impact that environmental influences may have on a patient's overall well being; and
 - g. appreciate the broad social determinants of health.
2. Knowledge
- a. discuss the basic principles and perspectives of health promotion and wellness;
 - b. describe the concepts of health promotion in the context of chiropractic health care;
 - c. describe the essential components of health promotion appropriate for the needs of the patient and the public;
 - d. describe the role of the doctor of chiropractic in health promotion;

- e. relate the specific needs of patients and the public to the lifestyle changes necessary for their health promotion;
 - f. identify the resource materials available to help educate patients and the public about health promotion and wellness
 - g. identify the minimum screening activities for health promotion;
 - h. describe principal trends evolving in the implementation of, and health impact and affected population for each of the leading health indicators (physical activity, overweight and obesity, tobacco use, substance abuse, responsible sexual behavior, mental health, injury and violence, environmental quality, immunization, and access to health care); and
 - i. describe the goals, issues, trends and disparities in the focus areas of increased quality and years of healthy life, and elimination of health disparities;
3. Skills
- a. communicate effectively with patients about aspects of their health including biological, psychological, social, and spiritual as part of comprehensive history taking;
 - b. use appropriate techniques to encourage patient participation in a shared responsibility for the patient's health;
 - c. implement recommended preventive screening activities;
 - d. perform common screening procedures and wellness assessments in different age groups; and
 - e. provide patient counseling for health promotion and assess the outcomes of this counseling.

Ethics and Integrity

Health care providers have an obligation to their patients and the communities they serve to be of high moral and ethical character and to provide their professional services in an environment of honesty and integrity and non-discrimination. Accordingly, doctors of chiropractic must learn and demonstrate high standards of ethics and integrity.

1. Attitudes
- a. recognize the ethical standards expected of a doctor of chiropractic in an academic setting; including, but not limited to cheating, stealing, plagiarism and accuracy in research;
 - b. be aware of the ethical standards expected of a doctor of chiropractic in a college clinical setting; including, but not limited to accuracy in clinical charting, HIPPA requirements for privacy, potential conflicts in interest when treating friends and relatives, avoiding dual relationships; and sexual boundaries;

- c. recognize the importance of learning, developing and maintaining high standards of ethics and integrity in personal behavior, both inside and outside the office;
- d. recognize the potential influence and harm caused by improper or illegal use of alcohol and drugs inside and outside of the professional office setting;
- e. recognize the potential harm that may arise to the doctor's objectivity by engaging in unethical and improper practice building activities, including but not limited to such as paying for referrals; fee splitting and billing for professional services through improper corporate structures;
- f. recognize the potential harm and unprofessional nature of placing the needs, desires and goals of the doctor ahead of their clinical responsibilities to their patients.

2. Knowledge

- a. the ethical standards expected of a doctor of chiropractic in an academic setting; including, but not limited to cheating, stealing, plagiarism and accuracy in research;
- b. the ethical standards expected of a doctor of chiropractic for the billing of professional services to either patients or third parties;
- c. the unethical nature and illegality of acts such as paying for patients, paying for referrals, fee splitting, kickbacks and the delivery of any item of value for direct referrals;
- d. the potential ethical violations and unprofessional conduct associated with many practice building activities, including but not limited to, improper use of diagnostic testing; excessive use of legitimate diagnostic testing, treatment programs not based on a patient's true clinical need and the improper corporate structures in some multi-professional practices;
- e. the role of a fiduciary, and to be able to discuss the improper nature of dual relationships between doctors and patients on all level.

3. Skills

- a. successfully complete the academic work and challenges of the Doctor of Chiropractic Program (DCP) in a manner consistent with expected standards of ethics and integrity by cheating, stealing, plagiarism or other violations of professional standards expected of health care professionals;
- b. successfully complete the clinical requirements of the DCP in a manner consistent with the responsibilities of a fiduciary expected between a doctor and their patient in the college clinic; and
- c. show the ability to accurately represent professional services for payment.

TCC Clinical Competencies

Business Aspects of Practice

The business aspect of practice includes the development, organization, and operation of a chiropractic practice. It incorporates business law, business ethics, and sound business management and marketing principles. The doctor of chiropractic should have an understanding of business plan development and execution, analysis and utilization of business support systems, personnel hiring and management, and basic accounting and finance skills.

1. Attitudes
 - a. recognize the importance of setting, recording, integrating, tracking and modifying goals to direct a chiropractic practice;
 - b. appreciate the importance of communicating the details of a chiropractic practice using a business plan;
 - c. appreciate the need to identify organization structures appropriate to a chiropractic practice;
 - d. appreciate support systems, organizations and professionals who can assist in the creation and maintenance of a successful chiropractic practice;
 - e. acknowledge the responsibility to practice within the boundaries of business laws;
 - f. acknowledge the responsibility to practice within the boundaries of business ethics;
 - g. recognize the need to adhere to a sound accounting and finance plan;
 - h. appreciate the importance of critically analyzing various business, practice, personal and patient insurance plans;
 - i. recognize the need to adhere to a sound personnel management plan; appreciate the importance of implementing an effective marketing strategy.

2. Knowledge
 - a. define and manage goals;
 - b. outline a complete and executable business plan;
 - c. describe various organizational structures appropriate to the chiropractic business model;
 - d. identify support systems and organizations important to starting and maintaining a successful business;
 - e. define and apply appropriate business laws to the chiropractic practice;
 - f. define and apply the primary theories of business ethics to the chiropractic practice;
 - g. define accounting, finance, and taxation strategies that may affect a chiropractic practice;

- h. identify and categorize a variety of insurance providers and plans;
- i. define personnel management strategies;
- j. define and analyze the primary strategies of small business marketing.

3. Skills

- a. develop a dynamic document of integrated personal and business goals and goals tracking;
- b. develop a dynamic business plan document, communicate the details of the document orally, and describe the practicality of executing the plan;
- c. develop a planned organizational structure that effectively positions the doctor, associates, and employees;
- d. develop a list of business support systems and organizations including the purpose and benefits of each;
- e. create a chiropractic practice model that adheres to appropriate business laws;
- f. create an ethical construct to guide the activities of chiropractic practice;
- g. utilize appropriate accounting, finance, and tax forms and documents common to the chiropractic practice;
- h. negotiate, implement, and manage insurance contracts appropriate to the chiropractic practice;
- i. demonstrate various strategies of personnel management;
- j. select the most appropriate marketing strategy for the particular chiropractic practice.

Communication

Communication is the process of importing or exchanging information, ideas, and opinions and affects all aspects of the doctor-patient relationship. Effective communication skills, both verbal and written, enable the doctor of chiropractic to acquire the information necessary for proper diagnosis, to explain the treatment plan, to facilitate ongoing patient compliance, and to interact successfully with other health care professionals. The doctor of chiropractic should have the ability to communicate with patients, peers, the public, and other professionals in a manner that is purposeful, clear, concise, and coherent.

1. Attitudes

- a. recognize the need to accurately exchange and interpret verbal and non-verbal information;
- b. recognize cultural, language, social, educational and emotional differences that affect communication;
- c. appreciate the importance of speaking, reading and writing in a clear, concise and coherent manner;
- d. appreciate the need to establish a rapport with the patient;
- e. acknowledge a shared understanding incorporating the patient's perspective.

2. Knowledge
 - a. speak in a clear manner, using appropriate and grammatically correct language;
 - b. actively listen and gather relevant information;
 - c. read, comprehend, and evaluate written communication;
 - d. effectively write letters, reports, and professional literature;
 - e. elicit relevant information from a patient;
 - f. determine, through effective communication, the level of decision making the patient wishes to have in the plan of care.

3. Skills
 - a. conduct an effective interview by developing patient rapport while gathering relevant information;
 - b. actively listen and interpret the patient's verbal and non-verbal communication;
 - c. present information to an individual or group using effective and appropriate techniques;
 - d. engage in professional dialogue with an individual or a group;
 - e. assess the patient's understanding of information provided during doctor/patient encounters.

Complementary and Alternative Medicine

Complementary and Alternative Medicine (CAM) includes a group of diverse health care systems, modalities, practices, and their theories and attitudes that are not presently considered to be part of conventional medical or chiropractic practice. The doctor of chiropractic should have the ability to have discussions about CAM with patients in an informed and unbiased matter, locate and provide reliable information on CAM therapies and practices, and collaborate with CAM providers when appropriate.

1. Attitudes
 - a. respect the patients' attitudes and understand how their attitudes influence their experiences of health and illness;
 - b. appreciate an awareness of how the doctor's professional and personal attitudes may affect his/her choice of recommendations regarding patient treatment decisions;
 - c. respect the strengths and limitations of applying evidence based practice principles to the individual patient's circumstances when recommending CAM therapies;
 - d. respect that a variety of healing approaches may be potentially effective for the care of certain conditions.

2. Knowledge

- a. describe and classify prominent CAM domains and practices;
- b. describe the prevalence and patterns of CAM use in the U.S;
- c. explain why people use CAM therapies and practices;
- d. identify reliable information resources on CAM;
- e. explain the current status of government regulation of natural products;
- f. describe the basic concepts of the most commonly used CAM modalities and practices including theories, philosophy, common clinical applications;
- g. identify potential adverse effects, evidence for effectiveness, and training/credentialing standards for practitioners;
- h. identify potential legal and ethical implications related to the use of CAM modalities in patient care.

3. Skills

- a. communicate effectively with patients about their use of CAM in a respectful and culturally appropriate manner;
- b. communicate effectively with both CAM and conventional health care providers in a collaborative manner about diagnosis, treatment, referral, and patient safety;
- c. utilize the principles of evidence based practice in analyzing CAM approaches to patient care.

Evidence Based Practice / Research

Evidence based practice is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. Evidence based practice is a process by which clinical decisions are made using the best available relevant research evidence, clinical expertise, and patient needs, preferences, and values. The doctor of chiropractic must demonstrate mastery of basic scientific knowledge, comprehension of the scientific method, and application of scientific method to patient care and continued education. The doctor of chiropractic should be able to conduct and publish practice based research.

1. Attitudes

- a. appreciate the importance of differentiating between peer-reviewed and non-peer-reviewed literature and assessing the quality, validity and relevance of clinical information;
- b. acknowledge the responsibility to continue professional development through study of peer-reviewed literature or best practice guidelines;
- c. recognize the need to incorporate research into practice in order to provide better patient care;
- d. recognize the need to contribute to the body of knowledge of practice based research through investigation and publication of findings.

2. Knowledge
 - a. incorporate into practice currently accepted and evidence-based protocols appropriate to specific patient presentations;
 - b. identify sources for relevant evidence from various data bases;
 - c. evaluate unique strengths and weaknesses of common research designs;
 - d. differentiate between levels of evidence and how study design affects the strength of evidence;
 - e. identify research designs consistent with goals of the research.

3. Skills
 - a. perform the steps of evidence based practice which include:
 1. asking a clear clinical question which incorporates the patient or problem, the intervention, and expected outcome;
 2. finding the best available evidence by selecting an appropriate database and entering an optimal search strategy;
 3. critiquing the evidence for validity, importance, and relevance;
 4. applying the evidence into clinical practice and evaluating the performance.
 - b. use the scientific method to organize and apply information for patient care;
 - c. practice the scientific method by formulating and testing hypotheses;
 - d. apply information gained from scientific problem solving to basic clinical knowledge, improving patient care, and furthering the knowledge of colleagues;
 - e. carry out and publish practice-based research.

Health Care Informatics

Health care informatics brings together computer science, cognitive science, and biomedical sciences to understand and solve information problems in healthcare. The emphasis is placed on how data is collected, stored, and communicated while protecting patient privacy rights; how the data is processed into health information suitable for clinical decision making; and how information technology can be applied to support those processes. Health care informatics applies computer, information, and cognitive sciences to enhance the delivery of healthcare, support health care research, and foster education of health professionals and the public. The appropriate application of current healthcare information to patient care decisions is essential for a practicing doctor of chiropractic.

1. Attitudes
 - a. accept the increasing role of computer-based technology in the management of patients;
 - b. recognize the importance of maintaining basic computer literacy including operating systems and application software to perform common computing tasks;
 - c. appreciate the need to compile patient records that allow for accurate retrieval of information in either written or electronic format;
 - d. appreciate the need to utilize available data sources both in print and electronic format.

2. Knowledge
 - a. collect, store, and retrieve information to improve clinical decisions and patient care;
 - b. access data sources used to improve practice methods and patient care (e.g. evidence-based practice data, professional guidelines, literature data base searches, internet);
 - c. critically evaluate the various data sources used for information;
 - d. access and comply with laws and regulations insuring patient privacy when recording, maintaining, or transferring patient health information.

3. Skills
 - a. retrieve, manage, and utilize information for solving problems and/or making decisions that are relevant to patient care;
 - b. use communication technologies such as e-mail, voicemail, phones, and PDAs;
 - c. retrieve accurate and complete data from patient health records.;
 - d. access information from databases, print media, or other appropriate sources that can be used for making sound clinical decisions.

Nutritional Counseling

Nutritional counseling includes the attitudes, knowledge, and skills necessary to assess the nutritional status of patients and provide appropriate interventions or recommendations utilizing evidence based nutritional principles. Lifestyle and nutritional factors may influence both the health of patients and affect recovery of patients from common ailments. Therefore, doctors of chiropractic must be prepared to apply appropriate tools for basic nutritional assessment, evaluate results of such assessment, and provide appropriate advice regarding nutritional needs of the patient in both disease and health.

1. Attitudes
 - a. recognize the importance of nutritional counseling and follow-up for health promotion and disease prevention and treatment;
 - b. recognize that nutritional requirements vary for different backgrounds and circumstances;
 - c. recognize the need to utilize resources that are evidence based and evaluate nutrition assessment and treatment claims for validity;
 - d. appreciate the importance of identification and prevention of food borne illness;
 - e. appreciate the importance of patient autonomy and shared decision making in nutritional management.

2. Knowledge
 - a. describe the role of nutritional elements such as carbohydrates, fats, proteins, vitamins, minerals, water, and fiber in human health;
 - b. estimate the general macronutrient and micronutrient content of food;
 - c. describe the various components of sound nutritional assessment including dietary intake, anthropometric measurement, biochemical evaluation, history, and clinical examination;
 - d. assess the need for and utilize generally accepted dietary guidelines;
 - e. prescribe dietary supplements in treatment or prevention of nutritional imbalance with consideration to safety, effectiveness, and cost;
 - f. identify food allergies and food intolerances;
 - g. utilize community nutrition resources such as food banks or other provisions;
 - h. identify and describe nutrient/nutrient, nutrient/drug, and nutrient/herb interactions.

3. Skills
 - a. conduct a thorough nutritional assessment including dietary intake, anthropometric measurements, biochemical evaluation, history, and clinical examination;
 - b. diagnose malnutrition, eating disorders, and the need for weight gain or loss;
 - c. effectively counsel the patient about recommendations and goals based on the nutritional assessment while maintaining sensitivity to the patient's age, lifestyle, cultural, and ethnic background;
 - d. integrate nutritional counseling into the patient's overall plan of care;
 - e. access evidence-based resources to appropriately assess nutrient/nutrient, nutrient/drug, and nutrient/herb interactions;
 - f. collaborate with registered dietitians, certified diabetes educators, and other nutritional professionals.

Public Health

Public health is the science that deals with the prevention and control of disease and disability and the promotion of physical and mental health of the general population or community. The doctor of chiropractic should have an understanding of the core concepts in public health such as biostatistics, epidemiology, behavioral science, infectious disease, and health services. Particular emphasis should be placed on health policy, occupational health, environmental health sciences, management of non-communicable diseases, preventative health education, and effective use of social services.

1. Attitudes

- a. appreciate the need to clearly identify how chiropractic care may be utilized to accomplish the public health objectives of prevention and control of disease, illness and disability;
- b. acknowledge the responsibility to promote the mental, physical, environmental and occupational health of the general population or community;
- c. appreciate the need to utilize credible resources that clearly define best evidence based interventions that produce positive clinical outcomes through application of public health and social service core concepts;
- d. recognize the importance of differentiating between communicable and non-communicable disease control methods;
- e. appreciate the role of the doctor of chiropractic in promotion of population and community health as it relates to the organization and delivery of healthcare within the domain of public health.

2. Knowledge

- a. identify the population based determinants of health and describe how they interact to predispose patients to a range of health outcomes;
- b. access and evaluate those databases of public health care measures that will bring about improved health status expeditiously as well as economically;
- c. critically appraise published research regarding public health measures and apply the findings to health care decisions;
- d. correlate clinical data collected from the patient or patient population with available public health services;
- e. describe how chiropractic care is integrated into the organization and financing of the U.S. health care system;
- f. identify occupational health risks and their impact in the work environment.

3. Skills

- a. conduct an optimal search of credible resources, identify best evidence based public health measures and utilize such measures in the chiropractic practice;

- b. develop a chiropractic practice model that is sensitive to public health care measures;
- c. communicate and share health information with patients, the public, and other appropriate parties;
- d. effectively manage communicable and non-communicable diseases using the most appropriate and best evidence-based methods;
- e. suggest changes in the workplace that minimize occupational health risks and prescribe appropriate measures to alleviate illness or disability that may be the result of unresolved occupational health risks.

Quality Assurance/Quality Improvement

Health care quality is the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge (Institute of Medicine). The process includes assessment of practice methods and evaluation of patient outcomes that may lead to improvement in the quality of health care. The doctor of chiropractic must understand how quality factors into every clinical decision and every system and process in which he or she is involved. Quality assurance and quality improvement are complimentary endeavors for attaining continual improvement of health care quality.

1. Attitudes
 - a. value the tenet that quality improvement is essential to the practice of chiropractic;
 - b. recognize the importance of peer review and self-evaluation in chiropractic practice;
 - c. appreciate the importance of participation in quality improvement programs in clinical education and practice.

2. Knowledge
 - a. define quality of care;
 - b. distinguish between traditional quality assurance and continuous quality improvement techniques;
 - c. describe quality management techniques such as process definition, statistical process control, and performance evaluation;
 - d. critically evaluate the knowledge base supporting quality patient care;
 - e. explain how evidence is translated into best practice guidelines for patient care;
 - f. analyze the use of outcomes in continuous quality improvement;
 - g. identify examples of the three major classes of quality problems (overuse, underuse, and misuse) and understand how each does harm to the delivery of health care;

- h. describe approaches to successfully close the prevailing practices and best practices gap;
 - i. assess prevailing local practices, compare them to best practices, and identify opportunities for improvement;
 - j. discuss how areas such as the doctor-patient relationship, organization systems, societal expectations, and the legal system may impact or lead to health care errors.
3. Skills
- a. identify and document local care processes;
 - b. use best practice guidelines for patient care;
 - c. establish criteria and standards for quality improvement in chiropractic practice;
 - d. apply quality improvement methods and tools to a chiropractic practice;
 - e. assess one's own practices and apply corresponding efforts to improve them.

Referral/Collaborative Care

The doctor of chiropractic refers patients to other providers and co-manages patient care when warranted. When considering referral/collaboration, the doctor of chiropractic must recognize provider roles and limitations, identify appropriate professional services and providers, and be aware of the legal ramifications of referral. Documentation of interdisciplinary patient care is dependent on a strong foundation in interdisciplinary communication, interpretation of clinical data, and patient privacy rights.

1. Attitudes
- a. appreciate the strengths and limitations of different health care professionals in providing the best evidence based care for the patient;
 - b. appreciate the need to utilize appropriate referral and/or collaborative patient care;
 - c. recognize the importance of effectively communicating, verbally and in writing, the circumstances of the referral and/or collaborative care to the patient, health care providers and third party payors;
 - d. recognize that patient referral carries legal responsibilities;
 - e. foster intraprofessional and interprofessional respect;
 - f. acknowledge the responsibility to obtain the patient's informed consent, cooperation and compliance with care and/or referral recommendations;
 - g. respect the patient's right to privacy in the referral/collaborative care process.
2. Knowledge
- a. identify factors in the patient's presentation and treatment outcomes that may warrant referral and/or collaborative care;

- b. select the type of health care provider appropriate for referral/collaborative care based upon the patient's need.
3. Skills
 - a. refer a patient to the appropriate health care provider;
 - b. document patient referral/collaborative care information including the reason for the referral, existing patient records, and third party payer information while maintaining the patient's right to privacy;
 - c. facilitate the transfer of accurate information between providers, develop good professional relations, and promote understanding regarding the care or referral of a patient through effective communication.

Special Populations

Special populations are specific and discrete demographic groups with unique health care needs and issues when compared to the general population. This may result in differences in patient symptomatology, resultant treatment protocols, and treatment outcomes. Additionally, the special populations may constitute a significant percentage of total chiropractic patients either presently or in the future. Special populations include, but are not limited to, the elderly, athletes, the underserved, children, women, and patients from different cultural backgrounds. It is important for the doctor of chiropractic to recognize the unique health care needs of these special populations that may alter the evaluation, management, and treatment outcome expectations.

1. Attitudes
 - a. recognize that some patients may fall into a special population group with unique health care needs;
 - b. appreciate that membership in a special population may influence patient presentation, treatment and clinical outcomes;
 - c. respect a patient's cultural background and recognize it may influence the doctor's approach to examination and treatment.
2. Knowledge
 - a. identify a patient as a member of a special population;
 - b. discern the unique characteristics of each special population with regard to prevalent conditions, appropriate treatment, and anticipated treatment outcomes;
 - c. determine the appropriate screening examinations that should be performed on patients in a special population;
 - d. identify factors that may alter the doctor's ability to communicate effectively with patients from varied cultural backgrounds and age groups.

3. Skills

- a. tailor the examination, treatment plan, and expected treatment outcome to reflect the unique characteristics of the special population;
- b. explain to the patient the characteristics of the applicable special population and any resultant effect on treatment protocols and outcomes;
- c. communicate the importance of preventative health care to patients attaining specific age milestones;
- d. direct the patient to additional health services that may be appropriate to the members of a special population.

Physical Therapeutic Procedures

Physical therapeutic procedures are among the methods of musculoskeletal care that may speed the healing process, modulate pain, and return the patient to a functional level of activity in a timely and cost effective manner. Modalities include, but are not limited to, thermal agents, hydrotherapy, traction and compression, ultrasound, electromagnetic therapy, electrical currents, biofeedback, mechanical therapy, and rehabilitative care techniques. The doctor of chiropractic should have an adequate understanding of current physical therapeutic procedures and of their guidelines for appropriate and safe use.

1. Attitudes

- a. appreciate the role and benefits of appropriately selected therapeutic procedures in clinical practice;
- b. acknowledge the responsibility to obtain informed consent from the patient regarding selected or prescribed therapeutic procedures and applications;
- c. recognize the importance of the process of validating indications, contraindications and precautions of therapeutic procedures and applications;
- d. recognize the need to minimize patient reservations and/or apprehensions regarding selected therapeutic procedures and applications;
- e. appreciate the need to transition the patient from one therapeutic modality to another to optimize clinical outcomes.

2. Knowledge

- a. select the appropriate physical therapeutic procedures and/or technique based on neuromuscular, physical, psychosocial, and historical examinations;
- b. predict and measure the clinical outcomes of selected physical therapeutic procedures and/or techniques;
- c. describe the biological effects of selected physical therapeutic procedures and/or techniques;
- d. allay the patient's apprehension to therapy techniques;
- e. identify precautions and contraindications to therapy based on patient predicament;
- f. make use of the best available evidence in the application of therapy.

3. Skills

- a. properly apply a therapeutic device or perform an appropriate technique in accordance with the physical, neuromuscular, psychosocial, and historical examination findings;
- b. accurately record therapy parameters and observe patient response to therapy;
- c. select the proper venue for patient safety and comfort during the application of therapy;
- d. transition the patient from one physical therapeutic modality to another based upon the patient's clinical presentation to optimize clinical outcomes.

SECTION TWO: DOMAINS, LEARNING OUTCOMES AND RELATED COMPETENCIES

This section of the document is based on the work from the Scottish Doctor (Simpson et al, 2002). The Scottish Doctor states there are three essential elements of the competent doctor:

1. What the doctor is able to do.
2. How does the doctor approach his/her practice.
3. The doctor as a professional person.

From these elements clinical domains have been derived. A domain is defined as a sphere of knowledge and clinical activity. Once the domains and competencies were identified the Task Force developed programmatic learning outcomes related to them. A learning outcome quantifies and qualifies the level of knowledge, skill and attitudes that students will gain. Outcomes define the type and depth of learning students are expected to achieve and they provide an objective benchmark for formative, summative and prior learning assessment.

The domains, learning outcomes and competencies have been placed into a three column table which is subdivided based on these three essential elements. In the left column are the domains, the middle column has the learning outcomes related to that specific domain and the right column contains the clinical competencies that relate to the domains and learning outcomes. Associating domains, learning outcomes and competencies will aid the curriculum committee in determining which competencies are currently being addressed in the curriculum and where they are addressed. Additionally this association will help the faculty member tie student assessment to course and programmatic assessments.

What the TCC Graduate Doctor of Chiropractic is Able to Do

Definition: The technical intelligence necessary for carrying out procedures, skills and investigations representing the core of what the TCC Graduate is able to do as a mastery requirement. This can be thought of as “Do the Right Thing”.

| DOMAIN | LEARNING OUTCOME | RELATED CLINICAL COMPETENCY |
|------------------------|---|---|
| Clinical Skills | <p>Take a History from patient, relatives and others in a sensitive, structured and thorough approach.</p> <p>Perform a general and systems based physical examination appropriate for the patient’s age, gender and state of health in a sensitive, thorough, efficient and systematic manner.</p> <p>Perform a mental status examination of a patient in a sensitive, thorough and structured manner.</p> | <p><u>TCC Competencies</u> Special Populations Communication</p> <p><u>CCE Competencies</u> The Doctor-Patient Relationship</p> <p>History Taking</p> <p>Record-Keeping</p> <p>Physical Examination</p> |

| DOMAIN | LEARNING OUTCOME | RELATED CLINICAL COMPETENCY |
|--|--|--|
| | <p>Assess posture, gait, muscle strength, flexibility, soft tissue status, and joint mobility through observation, palpation, movement and mensuration.</p> <p>Interpret the results from clinical examinations.</p> | <p>The Psychosocial Assessment</p> <p>Neuromusculoskeletal Examination</p> <p>Diagnosis</p> |
| Practical Procedures | <p>♦ Measure and Record Vital Signs</p> <p>Peak expiratory flow rate</p> <p>Spinal and peripheral joint ranges of motion with an inclinometer and goniometer.</p> <p>Height and weight, Body Mass Index (BMI), and waist to hip ratio.</p> <p>Blood glucose using reagent sticks with and without a glucometer.</p> <p>Urinalysis using reagent sticks. Pregnancy testing.</p> <p>12 lead Electrocardiogram</p> <p>Clinical outcomes for pain, function and health related quality of life using patient questionnaires.</p> <p>♦ Administer & Perform Venipuncture</p> <p>Taking nose, throat, and skin swabs.</p> <p>First Aid</p> <p>Basic resuscitation and basic life support for adults and children.</p> <p>Postural analysis.</p> <p>Spinal Palpation</p> <p>Produce quality x-rays for the spine and extremities.</p> | <p><u>TCC Competencies</u></p> <p><u>CCE Competencies</u> Physical Examination</p> <p>Record-Keeping</p> <p>Diagnostic Studies</p> <p>Neuromusculoskeletal Examination</p> <p>Emergency Care</p> <p>Diagnostic Studies</p> |
| General Principles for Appropriate Diagnostic Investigation | <p>Demonstrate a knowledge of patient record confidentiality requirements and legislative guidelines regulating patient health information privacy</p> <p>Request appropriate investigations that</p> | <p><u>TCC Competencies</u> Communication</p> <p>Referral/Collaborative Care</p> <p><u>CCE Competencies</u></p> |

| DOMAIN | LEARNING OUTCOME | RELATED CLINICAL COMPETENCY |
|--|---|---|
| | <p>conform to established protocols and guidelines.</p> <p>Communicate to a patient the need for a diagnostic study and the conditions under which the study must be performed.</p> <p>Obtain appropriate informed consent.</p> <p>Insure proper patient identification.</p> <p>Provide proper documentation on all laboratory samples and requested forms.</p> | <p>Diagnostic Studies</p> <p>Record-Keeping</p> <p>The Doctor-Patient Relationship</p> <p>Diagnosis</p> |
| <p>Order, Interpret and Communicate Diagnostic Investigations</p> | <p>♦ Order, interpret and communicate:</p> <p>Diagnostic imaging</p> <p>Clinical lab studies</p> <p>Electrodiagnostic studies</p> <p>Sleep Studies</p> <p>Pulmonary Function Studies</p> | <p><u>TCC Competencies</u> Nutritional Counseling</p> <p><u>CCE Competencies</u> Diagnostic Studies</p> <p>Record-Keeping</p> |
| <p>Patient Care, Treatment & Management</p> | <p>Develop and implement a patient care plan based on best practices.</p> <p>Adapt patient care plan to clinical context and patient's circumstances. (i.e. resources, availability, and compliance.)</p> <p>Include the family and other social support systems in patient management.</p> <p>Determine the need for referral and/or collaborative care.</p> | <p><u>TCC Competencies</u> Therapeutic procedures</p> <p>Communication</p> <p>Evidence based practice / research</p> <p>Nutritional counseling</p> <p>Quality Assurance/Quality Improvement</p> <p>Referral/Collaborative care</p> <p><u>CCE Competencies</u> Case Management</p> <p>Chiropractic Adjustment or Manipulation</p> <p>Non-Adjustive Therapeutic Procedures</p> <p>Case Follow-Up and Review</p> |
| <p>Wellness, Prevention & Health Promotion</p> | <p>Demonstrate the role that chiropractic plays in achieving and maintaining wellness through</p> | <p><u>TCC Competencies</u> Communication</p> |

| DOMAIN | LEARNING OUTCOME | RELATED CLINICAL COMPETENCY |
|--|---|---|
| | <p>health promotion and prevention.</p> <p>Explain effective strategies for achieving and enhancing one's health by modifying their risk behaviors and engaging in healthy choices.</p> <p>Conduct effective preventative services such as health screenings, evaluate the outcomes of those services and provide counseling to the individual.</p> <p>Correlate how the determinants of wellness lead to health promotion.</p> <p>Apply principles of primary, secondary and tertiary prevention.</p> <p>Collaborate with appropriate professionals and agencies on health promotion and disease prevention.</p> <p>Assess the risk factors that may need to be screened in the demographics of your practice.</p> | <p>Nutritional counseling</p> <p>Special Populations</p> <p>Referral/collaborative care</p> <p>Public Health</p> <p><u>CCE Competencies</u> Wellness</p> <p>Diagnostic Studies</p> <p>History Taking</p> |
| Communication | <p>Demonstrate, interpret, and coordinate effective verbal and nonverbal communication.</p> <p>Identify limitations and barriers to effective communication.</p> <p>Demonstrate active listening techniques.</p> <p>Establish and maintain appropriate rapport with patient, family, the public, healthcare providers and other interested parties.</p> <p>Ensure patient informed consent and confidentiality.</p> | <p><u>TCC Competencies</u> Communication</p> <p>Special Populations</p> <p>Referral/Collaborative Care</p> <p><u>CCE Competencies</u> The Doctor-Patient Relationship</p> <p>Case Follow-Up and Review</p> <p>Record-Keeping</p> <p>Professional Issues</p> |
| Documentation and Health Care Informatics | <p>Acquire knowledge of the principles of information management in a modern healthcare setting.</p> <p>Conduct data searches using library and other systems to access information from sources such as computerized databases and the Internet.</p> <p>Exhibit skills in the critical appraisal and assessment of information.</p> <p>Integrate information in evidence based</p> | <p><u>TCC Competencies</u> Evidence Based Practice / Research</p> <p>Health Care Informatics</p> <p>Business Aspects of Practice</p> <p>Referral/Collaborative Care</p> <p><u>CCE Competencies</u> Case Management</p> |

| DOMAIN | LEARNING OUTCOME | RELATED CLINICAL COMPETENCY |
|--------|--|---|
| | <p>practice.</p> <p>Integrate computer based technology into clinical practice.</p> <p>Employ methods to maintain quality patient records.</p> <p>Demonstrate knowledge of patient records confidentiality practices and regulations regarding patient health information privacy.</p> | <p>Case Follow-Up and Review</p> <p>Record-Keeping</p> <p>Professional Issues</p> |

How the TCC Graduate Doctor of Chiropractic Approaches Their Practice

Definition: The competent TCC Graduate recognizes, explains and manages health problems using principles of current scientific knowledge and understanding; acts professionally; and uses appropriate decision making and analytical strategies. This can be thought of as “Doing the Thing Right”.

| DOMAIN | LEARNING OUTCOME | RELATED CLINICAL COMPETENCY |
|--|---|---|
| <p>The Role of Understanding Basic Clinical and Behavioral Sciences in the Practice of Chiropractic</p> | <p>Relate each of the major organ systems to the normal structure and function of the individual.</p> <p>Apply basic principles of biomechanics and kinesiology to the assessment and management of disorders of the locomotor system.</p> <p>Describe the influence of the lifecycle on normal structure and function.</p> <p>Explain the basic principles of human behavior and the social relationships between individuals, family, social groups and society at large.</p> <p>Describe major pathological processes and alterations in the structure and function of organ systems resulting from various disorders, diseases and conditions.</p> <p>Explain the etiology and pathogenesis of common illnesses, disorders and diseases seen in chiropractic practice.</p> <p>Correlate basic science and epidemiologic</p> | <p><u>TCC Competencies</u></p> <p>Special Populations</p> <p>Physical Therapeutic Procedures</p> <p>Public Health</p> <p>Evidence Based Practice/ Research</p> <p>Nutritional Counseling</p> <p><u>CCE Competencies</u></p> <p>Diagnosis</p> <p>The Psychosocial Assessment</p> <p>Non-Adjustive Therapeutic Procedures</p> <p>Chiropractic Adjustment and Manipulation</p> <p>Neuromusculoskeletal Examination</p> |

| DOMAIN | LEARNING OUTCOME | RELATED CLINICAL COMPETENCY |
|--|---|--|
| | <p>knowledge with clinical reasoning.</p> <p>Explain biological principles underpinning treatment procedures including mechanisms of action and adverse reactions.</p> <p>Provide evidence for the safety and effectiveness of treatment measures used in the clinical management of chiropractic patients.</p> | Physical Examination |
| <p>The Role of Identity, Philosophy and Principles of Chiropractic</p> | <p>Describe and support a contemporary philosophy of chiropractic as it relates to the philosophical constructs of vitalism, holism, naturalism, therapeutic conservatism, humanism and critical rationalism.</p> <p>Discuss contemporary chiropractic tenets and principles.</p> <p>Identify current chiropractic theories and evaluate their scientific basis.</p> <p>Apply logic and critical thinking to various opinions and claims made about the chiropractic profession and the care rendered by doctors of chiropractic.</p> <p>Discuss the role of the doctor of chiropractic as a primary care health care provider.</p> <p>Describe a doctor of chiropractic's approach to examination, diagnosis and treatment in the health care encounter.</p> | |
| <p>Professional Attitudes, Ethical Principles and Standards, and Legal Responsibilities</p> | <p>Establish trust and respect between the doctor and patient.</p> <p>Involve patients in their health care decisions.</p> <p>Apply principles of autonomy, beneficence, nonmaleficence and justice to clinical practice.</p> <p>Maintain patient confidentiality.</p> <p>Exhibit truthfulness, and integrity in professional practice.</p> <p>Describe and follow appropriate codes of conduct.</p> | <p><u>TCC Competencies</u> Business Aspects of Practice</p> <p>Referral/Collaborative Care</p> <p>Health Care Informatics</p> <p>Special Populations</p> <p><u>CCE Competencies</u> The Doctor-Patient Relationship</p> <p>Record-Keeping</p> <p>Professional Issues</p> |

| DOMAIN | LEARNING OUTCOME | RELATED CLINICAL COMPETENCY |
|--|--|---|
| | Discuss the doctor of chiropractic's legal responsibility to the staff, patients and other health care providers. | |
| Clinical Decision Making, Clinical Reasoning & Judgment | <p>Understand the importance of making decisions in partnership with colleagues and patients.</p> <p>Demonstrate the ability to use pattern recognition and hypotheticodeductive reasoning processes when clinical problem solving.</p> <p>Apply various clinical decision aids, prior basic science and clinical knowledge, and evidence to the clinical decision making process.</p> <p>Identify common errors in clinical reasoning and provide strategies to avoid them.</p> <p>Demonstrate the ability to manage clinical uncertainty in the decision making process.</p> <p>Demonstrate the use of regular self reflection in the clinical learning setting.</p> | <p><u>TCC Competencies</u> Evidence Based Practice / Research</p> <p><u>CCE Competencies</u> Diagnosis</p> <p>Case Management</p> |

The TCC Graduate Doctor as a Professional

Definition: The role of the TCC graduate in the health care system and his / her ongoing professional and personal development. This can be thought of as “The Right Person Doing It”.

| DOMAIN | LEARNING OUTCOME | RELATED CLINICAL COMPETENCY |
|--|--|--|
| The Role of the TCC Graduate within the U.S. Health Care System | <p>Describe the organization and function of the U.S. health care system and its interface with the chiropractic profession.</p> <p>Explain the clinical responsibilities and roles of the TCC Graduate doctor of chiropractic toward the public.</p> <p>Identify and describe codes of ethics and standards of practice in the chiropractic profession.</p> <p>Demonstrate the ability to function as a consumer of and contributor to chiropractic research.</p> <p>Exhibit the ability to act as a mentor and</p> | <p><u>TCC Competencies</u> Communication</p> <p>Referral/Collaborative Care</p> <p>Business Aspects of Practice</p> <p>Evidence Based Practice/ Research Health care Informatics</p> <p>Quality Assurance/Quality Improvement</p> <p>Public Health</p> |

| DOMAIN | LEARNING OUTCOME | RELATED CLINICAL COMPETENCY |
|---|--|--|
| | <p>teacher.</p> <p>Demonstrate the management skills necessary to run a chiropractic practice.</p> <p>Perform as a member of multi-professional team and collaborate with other health care professionals.</p> | <p><u>CCE Competencies</u> Professional Issues</p> |
| <p>The Personal and Professional Development of the D.C.</p> | <p>Function as reflective and accountable practitioner.</p> <p>Act as self-directed learner.</p> <p>Develop a career plan including professional community involvement.</p> <p>Demonstrate a commitment to continued professional development.</p> <p>Recognize the importance of self-care and balance between personal and professional health and well-being.</p> | |

SECTION THREE: PRIORITY HEALTH CARE ISSUES

The following is a list of 42 clinical presentations and related conditions / disorders that may be seen in a doctor of chiropractic's office. The clinical presentation list was developed for the following reasons:

1. to direct curriculum content;
2. to guide the selection of conditions for the various forms of case-based learning;
3. to assist in the development of diagnostic and management protocols;
4. to provide guidance to the students for active learning; and
5. as a resource for review and critical appraisal.

This list was generated from several different sources: 2005 Job Analysis Survey conducted by the National Board of Chiropractic Examiners; an internal survey of clinical faculty conducted by TCC Graduate Task Force on priority health care conditions; and information gathered from Newble's article: Developing an outcome-focused core curriculum (Newble et al, 2005). The TCC internal survey of priority health care conditions was constructed to identify:

1. conditions that are diagnosed in a chiropractic practice;
2. conditions that are treated solely and / or co-managed by a doctor of chiropractic;
3. conditions that should be referred and/or are contraindicated to a doctor of chiropractic's care;
4. conditions that are preventable; and
5. conditions that would be useful as a conceptual teaching model.

Each clinical presentation is allocated into subgroup presentations (where appropriate) and by possible conditions / disorders that may manifest with that presentation. This list is not all inclusive. Each instructor may wish to add to the conditions / disorders that are taught with the associated clinical presentation. However, the identified patient presentations and conditions / disorders should be addressed in the curriculum.

| Patient Presentation | Presentation Subgroup | Condition/Disorder |
|------------------------|-----------------------|---|
| Abdominal Pain | | Appendicitis Cholecystitis Colitis Diverticulitis Gastritis Infection (bacterial/viral) Pancreatitis Ulcer |
| Affect Disorder | | Anxiety Depression Irritability Personality disorders |

| Patient Presentation | Presentation Subgroup | Condition/Disorder |
|---|--|---|
| Bleeding & Bruising | Bruising | Abuse Age Related Changes Coagulation Disorders Trauma |
| | Hematemesis (GI Bleed) and / or Melena | Cancer Colitis Diverticulitis Hemorrhoids Irritable Bowel Syndrome Peptic Ulcer |
| | Hematuria (GU Bleed) | Calculi Infections Physiologic Bleed Trauma |
| Blood Pressure Changes | Hypertension | Benign Hypertension Secondary Hypertension |
| | Hypotension | Orthostatic Hypotension |
| Bowel Habit Changes | Constipation Diarrhea | Infection Inflammation Nutritional Disorders/ Changes Obstruction |
| Chest and/or Chest Wall Pain | | Angina/Myocardial Infarction Costochondritis Dislocation Fracture Herpes Zoster Lung Pathology Post-surgical Chest Wall Pain Slipping Rib Syndrome Sprain/Strain Subluxation/Joint dysfunction |
| Cough | | Bronchitis Common Cold Diphtheria Environmental/Occupational Disease Flu Lung Cancer Pertussis (Whooping Cough) Pneumonia Tuberculosis |
| Dizziness/Vertigo/Balance Disorder | | Acoustic Neuroma Benign Paroxysmal Positional Vertigo Cerebrovascular Accident Cerebellar Disorders Cervicogenic Vertigo Drug Induced |

| Patient Presentation | Presentation Subgroup | Condition/Disorder |
|---------------------------------------|------------------------------|---|
| | | Labyrinthitis Meniere's Disease Posterior Column Disease Vertebrobasilar Insufficiency Visual Disturbances |
| Dyspepsia | | Esophagitis Gastritis Gastrointestinal Reflux |
| Dysphagia | | Cranial Nerve Palsies Esophagitis/Esophageal Stricture Throat Infections |
| Ear pain/Tinnitus/Hearing Loss | | Infection Meniere's Disease Presbycusis |
| Facial pain | | Herpes Zoster Sinusitis Trigeminal Neuralgia TMJ Syndrome |
| Fatigue | | Anemia Bone Marrow Disorders Cancer Fibromyalgia Hepatitis Infection Premenstrual Syndrome |
| | Endocrine Disorders | Adrenal Disorders Diabetes Mellitus Parathyroid Disease Thyroid Disease |
| Female Conditions/ Disorders | | Breast Cancer/Disorders Menopause Pregnancy Premenstrual Syndrome Reproductive System Cancer /Disorders |
| Fever | | Infection Fever of Unknown Origin |
| Flank pain | | Kidney Infection/Stones Sprain/Strain |
| Gait abnormalities | | Central Canal Stenosis Cerebrovascular Accident Common Peroneal Neuropathy Parkinson's Disease Pathomechanical Faults |

| Patient Presentation | Presentation Subgroup | Condition/Disorder |
|-----------------------------|------------------------------|---|
| Headaches | | Brain Tumor Cervicogenic Cluster Concussion Eye Strain/Disorder Migraine Sinus Tension-type TMJ Syndrome |
| Incontinence | Fecal Urinary | Benign Prostatic Hypertrophy Cauda Equina Syndrome Central Canal Stenosis Cerebrovascular Accident Infection Prostate Cancer |
| Joint Swelling/Pain | | Degenerative Joint Disease Gout Other Inflammatory/Infectious Disorders Rheumatoid Arthritis Systemic Lupus Erythematosus |
| Lower Extremity Pain | | Arthritis Bursitis Dislocation Fracture Infection/Osteomyelitis Peripheral Arterial Disease/Claudication Prosthetics Radiating/Referred Pain Sprain/Strain Structural/Functional Disorders Subluxation/Joint Dysfunction Tendinitis/Tendinosis Tunnel Syndromes |
| | Hip Pain | Avascular Necrosis Dysplasias |
| | Thigh Pain | Meralgia Paresthetica |
| | Knee Pain | Meniscal Injuries Patellofemoral Tracking Disorders |
| | Leg Pain | Compartment Syndromes Paget's Disease |
| | Ankle/Foot Pain | Interdigital Neuroma Plantar Fasciitis |

| Patient Presentation | Presentation Subgroup | Condition/Disorder |
|--|------------------------------|--|
| Male Disorders | Impotency | Benign Prostatic Hypertrophy Cauda Equina Syndrome Central Canal Stenosis Cerebrovascular Accident Prostate Cancer |
| Memory loss | | Alzheimer's Drug Related Cerebrovascular Accident Senile Sementia |
| Muscle Aches/Soreness | | Dystonias Fibromyalgia Muscle Guarding Muscular Dystrophies Myofascial Pain Syndrome Myositis Strains Tendinitis/Tendinosis |
| Nausea/Vomiting | | Cholecystitis Flu Food Poisoning Pancreatitis Vertiginous Conditions |
| Nose Problems or Problems With Sense of Smell | | Allergies Common Cold Nasal Polyps Sinusitis Upper Respiratory Tract Infections |
| Palpitations | | Anxiety Cardiac Murmur/Rhythm Problem Congestive Heart Failure Drug/Caffeine Induced |
| Paresthesias | | Myelopathy Peripheral Neuritis/Neuropathy Radiculitis/Radiculopathy Tunnel Syndromes |
| Pelvic Pain | | Bladder Infection Coccygeal Dysfunction Female/Male Disorders Inguinal Hernia Osteitis Pubis |
| Peripheral Edema | | Chronic Renal Failure Congestive Heart Failure Lymphoedema Venous Incompetence Venous Thrombosis/Phlebitis |

| Patient Presentation | Presentation Subgroup | Condition/Disorder |
|---|---|---|
| Physical Malformations/ Abnormal Stature | | Achondroplasia Congenital Anomalies Pituitary Disorders Scoliosis |
| Respiratory Changes | Congestion Rhinorrhea Shortness of Breath | Allergies Asthma Atelectasis/Pneumothorax Chronic Obstructive Pulmonary Disease Emphysema Environmental/Occupational Disorders Infection (Bacterial/Viral) Lung Cancer |
| Skin Abnormalities | | Acne/Dermatitis/Psoriasis Bacterial/Fungal Infections Pigment Disorders Rashes Skin Cancers Ulcerations |
| | Jaundice | Cirrhosis Hepatitis |
| Sleep Disorders | Insomnia | Drug Induced Fibromyalgia Sleep Apnea |
| Spinal Pain | | Abnormal Spinal Curvatures Central/Lateral Canal Stenosis Dislocation Facet Syndrome Fracture Infection/Osteomyelitis Intervertebral Disc Syndrome Metastasis Postural Syndromes (Upper & Lower Cross Syndrome) Primary Bone & Spinal Cord Tumors Radiating/Referred Pain Spondylosis Sprain/Strain Subluxation/Joint Dysfunction |
| | Neck Pain | Cervical Instability Cervicogenic Headache Meningitis Vascular Anomalies Whiplash Associated Disorder |

| Patient Presentation | Presentation Subgroup | Condition/Disorder |
|---|------------------------------|---|
| | Thoracic Pain | Scheuermann's Disease |
| | Low Back Pain | Acute/Subacute/Chronic Low Back Pain Cauda Equina Syndrome Sacroiliac Joint Syndrome Spondylolisthesis |
| Syncope | | Concussion Drug Induced Orthostatic Hypotension Vasovagal Syncope Vertebrobasilar Insufficiency |
| Tremor | | Benign Essential Tremor Cerebellar Disorders Drug/Caffeine Induced Parkinson's Disease |
| Upper Extremity Pain | | Arthritis Avascular Necrosis/ Osteochondritis Bursitis Dislocation Fracture Infection/Osteomyelitis Instability Radiating/Referred Pain Sprain/Strain Subluxation/Joint Dysfunction Tendinitis/Tendinosis Tunnel Syndrome |
| | Shoulder Pain | Capsulitis Impingement Syndrome Labral Tears Pancoast Tumor Rotator Cuff Tears |
| | Elbow Pain | Anterior Interosseous Nerve Syndrome Epicondylitis Pronator Syndrome |
| | Wrist/Hand Pain | DeQuervain's Disease Dupuytren's Contractures Functional/Structural Disorders Triangular Fibrocartilage Tears |
| Visual Impairment/Eye Pain/Redness | | Cataract Conjunctivitis Corneal Abrasions Cranial Nerve Palsies Glaucoma Macular Degeneration Presbyopia |

| Patient Presentation | Presentation Subgroup | Condition/Disorder |
|-----------------------|----------------------------|---|
| | | Refractive Error |
| Weakness | | Amyotrophic Lateral Sclerosis Bell's Palsy Cerebrovascular Accident Guillen-Barre' Muscular Dystrophy Multiple Sclerosis Myasthenia Gravis Myelopathy Neuropathy Radiculitis/Radiculopathy Strain Tendinosis |
| Weight changes | Weight Loss Weight Gain | Cancer Eating Disorders Endocrine Disorder (e.g., Thyroid Disease, Diabetes Mellitus) Nutritional disorders |
| Well patient | | |

SECTION FOUR: ASSESSMENT

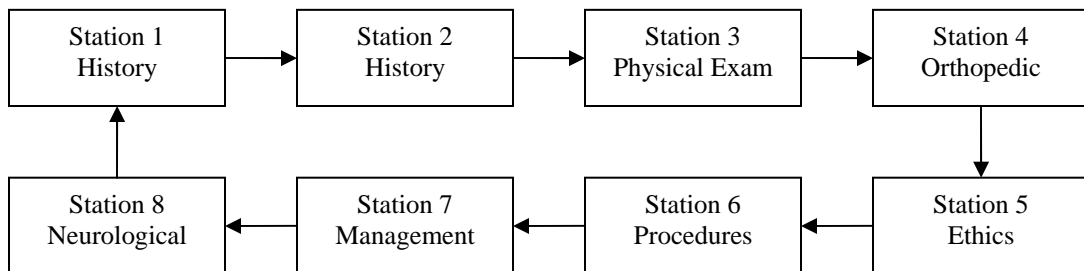
To ensure that the defined programmatic outcomes are met which include learning domains and clinical competencies, it is necessary to identify and utilize appropriate assessment methods. The health profession's education field has yielded an ever increasing body of knowledge related to competency assessment over the last 20 years. Multiple methods of assessment related to the TCC Graduate Project learning outcomes have been identified as necessary to effectively monitor the success of educational initiatives. The following descriptions outline the basic information related to assessment tools identified as valid, reliable measures of the domains and competencies of the TCC Graduate document. This list is not intended to be exhaustive but representative of the methods that should be employed.

Objective Structured Clinical Examination (OSCE)

An OSCE is designed to obtain a cross-sectional sampling of a learner's competence through a series of themed encounters. Each learner rotates through stations that have various clinical scenarios represented. Most typically, stations contain a standardized patient (SP) who is an individual that has been trained to portray a specific clinical presentation, set of symptoms or other situation that may be encountered in practice. Other station options may include visual information, oral examination or a written task. Learners are usually asked to perform a specific skill or other focused aspect of clinical care.

An OSCE typically consists of 8 to 20 stations at which a learner may spend anywhere from 3 to 30 minutes. Often, this encounter is followed by a post-encounter station where written or oral feedback to or from the learner is required. This feedback can be both formative and/or summative. OSCE's are usually scored with a standardized checklist or global rating scales. These exams are both reliable and valid for assessing many clinical skills, communication skills, diagnostic reasoning and knowledge base.

Sample OSCE Rotation



Checklist Evaluation

A checklist evaluation is often used to rate a competency, or any part of a competency, that can be broken down into component parts. The checklist contains specific elements, behaviors or actions related to the successful performance or application of a clinical ability. These evaluations can be used to insure that all necessary components of an ability are adequately mastered. Additionally, checklists can be used to determine if skills that require a specific sequence of events are performed correctly.

Checklists provide a very reliable method to assess clinical skills and processes. Care must be taken when selecting checklist items and input from multiple experts and reliable standard setting methods such as the Angoff or Hofstee methods must be employed. These evaluations are often incorporated into an OSCE as the method to score a station but can also be used effectively as a stand alone assessment tool.

Sample Checklist

| | Excellent (4) | Satisfactory (3) | Marginal (2) | Unsatisfactory (1) | Not Performed (0) |
|---|------------------|---------------------|-----------------|-----------------------|-------------------------|
| Interviewer used open-ended questions | ✓ | | | | |
| Interviewer asked question one at a time | | ✓ | | | |
| Interviewer proceeded through history in a logical sequence | | | | ✓ | |
| Interviewer used language that was clear of medical jargon | | | ✓ | | |
| Interviewer questioned patient to appropriate depth | | ✓ | | | |
| Total Points | 13 | | | | |

Global Rating Assessment

Global rating assessments are similar to checklist evaluations except that the rater makes judgments on general categories of an ability rather than specific components. Global ratings can be of two types: 1) Ratings on a specific ability observed over a period of time (e.g. end of a clinical rotation) or 2) Ratings of an ability considering all aspects of the necessary attitudes, knowledge and skills required (e.g. rating performance of chiropractic technique, considering all the components necessary, into a single score). Global ratings are generally considered to be summary evaluations.

Certain weaknesses are inherent in these evaluations. Most notably is consistency between raters and rater bias. These weaknesses can be attenuated by recognizing

potential pitfalls and conducting appropriate rater training. Global rating assessments become much more reliable when completed in a series and by multiple raters. Due to the need for direct observation of a learner's performance, global ratings also provide an opportunity for formative feedback between the learner and rater.

Written Examinations

Written examinations take on many forms and are used in varying frequency in medical education. These examinations can be classified into two categories of open response (e.g. fill in the blank or essay) and selected response (e.g. multiple choice). Open response examinations require the learner to recall knowledge rather than recognize it. These examinations are reliable if constructed and scored well. However, much time is required to score short answer and essay questions and it is difficult to create a comprehensive answer key. These factors often limit the use of open response examinations in medical education.

Selected response written examinations consists of a question, clinical vignette or other stem followed by a list of answers from which the learner can select. In general, these written examinations require the learner to recognize the answer rather than recall it. Multiple choice examinations generally evaluate a learner's knowledge related to a subject but advanced forms of selected response examinations such as extended matching, key features and script concordance examinations can be used to assess higher levels of thinking, reasoning and clinical decision making.

Multiple Choice Questions (MCQ) – Multiple choice question format examinations are one of the most common type of assessments utilized in higher education. A MCQ consists of an introductory statement or stem followed by a list of choices as an answer with only one of them being correct. This type of question is best used to assess medical knowledge or understanding. Multiple choice questions can be reliable and discriminatory as long as rigorous psychometric standards are applied.

Sample MCQ

How many antigen binding sites does IgG possess?

- | | |
|--------|---------|
| A. One | C. Four |
| B. Two | D. Ten |

Extended Matching Questions (EMQ) – Extended matching questions are a variant of multiple choice questions. A question formatted as an EMQ has an introductory statement or stem similar to a MCQ; the stem may be in the form of a question, statement or clinical vignette. Learners are then given a list of multiple items to choose an answer from. This list is generally 10 to 20 items long and often, items in the list may be selected more than once. Multiple stems can be used for a single list of answer items as well. Unlike MCQ format examinations which are useful for measuring medical knowledge, extended matching question examinations are very useful to assess clinical reasoning and decision making which is considered a higher order of learning.

Sample EMQ

| | |
|---|---|
| For each case described below, select the single most likely diagnosis. Answers may be used once, more than once or not at all. | |
| A 41 y/o male presents complaining of intense lower back pain of two days duration. He describes a sudden onset of the pain while lifting a 75 lb. box. The patient is experiencing no pain or numbness in the buttock or leg. The pain is midline at the L4 level and the regional muscles are tender and taught to palpation. | |
| <ul style="list-style-type: none"> A. Disc prolapse B. Lumbar muscle strain C. Facet inflammation D. Joint infection E. Disc degeneration | <ul style="list-style-type: none"> F. Primary bone tumor G. Space occupying lesion H. Fracture I. Metastasis J. Degenerative joint disease |

Key Features Examinations – A key feature examination is a type of written assessment used to measure clinical decision making skills. A key feature is defined as a critical step in the resolution of the problem. A key feature assessment considers two areas of clinical decision making: (1) it focuses on a step in which examinees are most likely to make an error and (2) it is a difficult aspect of the identification and management of a problem in practice. A typical key feature problem begins with a clinical vignette of sufficient length to establish the problem and its parameters. The vignette is followed by a series of questions aimed at identifying areas of common mistakes or difficult diagnostic pathways. These questions can take on various forms including fill in the blank, short answer, multiple choice or extended matching. While key feature problems have been shown to perform well when assessing clinical decision making skills, much planning and development of items and scoring criteria are required.

Sample Key Features Question

| | |
|--|--|
| Paul, a 56 y/o man consults you in the outpatient clinic because of pain in his left leg which began two days ago and has been getting progressively worse. He states his leg is tender below the knee and swollen around the ankle. He has never had similar problems. His other leg is fine. | |
| Question 1 | |
| What diagnosis would you consider at this time? List up to three. | |
| <ul style="list-style-type: none"> 1. _____ 2. _____ 3. _____ | |
| Question 2 | |
| With respect to your diagnosis, what elements of his history would you particularly want to elicit? Select up to seven. | |
| <ul style="list-style-type: none"> A. Activity at onset of symptoms B. Alcohol intake C. Allergies D. Angina pectoris E. Anti-inflammatory therapy F. Cigarette smoking G. Cough | <ul style="list-style-type: none"> H. Headache I. Low back pain J. Paresthesia K. Polydipsia L. Previous knee problems M. Recent dental procedure N. Wounds on foot |

Script Concordance Test – The script concordance test is another method to assess clinical decision making skills and clinical reasoning. The questions are preceded by a clinical vignette that is described in a few sentences. The actual questions in a script concordance test follow a certain format which has three parts. The first part includes a diagnostic hypothesis, an investigative action or a treatment option that is relevant to the situation. The second presents new information that may have an effect on the diagnostic hypothesis, an investigative action or a treatment option. The third part is a 5 point Likert type scale. Script concordance questions require development and scoring by a panel of experts. This panel can range from 2 to 10.

Script Concordance Sample

| | | | | | |
|--|---|---|----|---|-------|
| A 22 y/o female presents with acute ankle pain of two days duration. The pain is a result of a running injury. | | | | | |
| If you were considering the utility of the following treatment... | ...and the following new information were to become available... | ...you would then consider this treatment... | | | |
| Ultrasound | Stress fracture of talus bone | -2 | -1 | 0 | +1 +2 |
| Elevation | Ankle edema | -2 | -1 | 0 | +1 +2 |
| Wobble board exercises | Ligament instability | -2 | -1 | 0 | +1 +2 |
| Bracing | Ligament laxity | -2 | -1 | 0 | +1 +2 |
| -2 Useless -1 less useful 0 neither more or less useful +1 useful +2 very useful | | | | | |

Standardized Patient Encounters

Standardized patients (SP) are individuals that have been trained to portray various clinical conditions and scenarios or may be patients with actual diagnoses that have been trained to standardize their responses about their condition for assessment purposes. While an SP is not necessarily an assessment tool alone, they are a vehicle to allow an assessment of a learner’s performance in many aspects of clinical competency. Often, standardized checklists, global rating scales or narrative responses are used with SP’s. Most often, standardized patients are used in OSCE’s but can also be effectively used as a stand alone assessment tool.

Direct Observation

Direct observation assessments are a simple method that can be used to assess many aspects of clinical competence and ability. A great advantage of direct observation assessments is that they often take place in a real clinical environment and encompass all of the unique aspects of a particular case. To increase the validity of these assessments, standardized approaches must be employed such as the use of checklists or global rating scales.

Multi-Source Feedback Evaluations

Multi-source feedback assessments incorporate input from at least two sources, one of which is usually the learner (self evaluation). These assessments often use survey or questionnaire instruments that have items related to observable behaviors such as communication or professionalism. The various instruments are then used to provide a “picture” of the learner related to the attribute to be measured. While not greatly useful for evaluating many clinical skills, certain competencies such as communication, professionalism, doctor-patient relationship and ethics and integrity can be effectively evaluated with this tool. Multi-source feedback methods also promote and encourage self-improvement and reflection by the learner.

Technology Based Assessment

Many programs exist to provide a platform for technology based assessment. Included in these are software designed to provide computer-based testing and simulation, web-based programs designed to stimulate clinical reasoning and medical simulators designed to provide a safe alternative to practice clinical skills and procedures. The area of technology based assessment is an ever changing field. Regular advancements in technology create increasing opportunities for more advanced assessment of competency.

Summary

Applying the appropriate type of assessment methods to evaluate specific areas of competency requires knowledge of both the accurate development and correct use of the tools mentioned above. It is understood that other assessment tools that go beyond the ones outlined exist and can be used successfully in measuring the acquisition of the domains and competencies defined in the TCC Graduate document. The following table identifies the most likely use of the assessment tools discussed in this document. Other methods could be used and some of the tools could be used in areas not specifically outlined. Careful consideration should be taken when selecting an appropriate method to assess competency and a full understanding of any tool chosen is necessary to accurately evaluate ability.

Common Assessment Methods

| Assessment Type | Domains | Competencies |
|---|---|---|
| Objective Structured Clinical Examination (OSCE) | <ul style="list-style-type: none"> Clinical Skills Practical Procedures Diagnostic Investigation Order, Interpret and Communicate Diagnostic Investigations Patient Care, Treatment and Management Wellness, Prevention & Health Promotion Communication Documentation and Health Care Informatics Professional attitudes, ethical principles and standards, legal responsibilities Clinical Decision Making, Clinical Reasoning & Judgment | <ul style="list-style-type: none"> History Taking Physical Examination Neuromusculoskeletal Examination Psychosocial Assessment Diagnostic Studies Diagnosis Case Management Emergency Care Case Follow-up and Review Wellness Ethics and Integrity Communication Nutritional Counseling Referral/Collaborative Care Physical Therapeutic Procedures |
| Checklist Evaluation | <ul style="list-style-type: none"> Clinical Skills Practical Procedures Communication Documentation and Health Care Informatics Professional attitudes, ethical principles and standards, legal responsibilities | <ul style="list-style-type: none"> History Taking Physical Examination Neuromusculoskeletal Examination Psychosocial Assessment Chiropractic Adjustment or Manipulation Emergency Care Case Follow-up and Review Record-Keeping |

| Common Assessment Methods | | |
|----------------------------------|--|---|
| Assessment Type | Domains | Competencies |
| | | Ethics and Integrity Communication Physical Therapeutic Procedures |
| Global rating Assessment | <p>Clinical Skills</p> <p>Practical Procedures General Principles for Appropriate Diagnostic Investigation</p> <p>Order, Interpret and Communicate Diagnostic Investigations</p> <p>Patient Care, Treatment and Management</p> <p>Wellness, Prevention & Health Promotion</p> <p>Communication</p> <p>Documentation and Health Care Informatics</p> <p>The role of understanding basic, clinical and behavioral sciences in the practice of chiropractic</p> <p>The role of identity, philosophy and principles of chiropractic</p> <p>Professional attitudes, ethical principles and standards, legal responsibilities</p> <p>Clinical Decision Making, Clinical Reasoning & Judgment</p> <p>The role of the TCC graduate within the U.S health care system</p> | <p>History Taking</p> <p>Physical Examination</p> <p>Neuromusculoskeletal Examination</p> <p>Psychosocial Assessment</p> <p>Diagnostic Studies</p> <p>Diagnosis</p> <p>Case Management</p> <p>Chiropractic Adjustment or Manipulation</p> <p>Emergency Care</p> <p>Case Follow-up and Review</p> <p>Record-Keeping</p> <p>Doctor-Patient Relationship</p> <p>Professional Issues</p> <p>Wellness</p> <p>Ethics and Integrity</p> <p>Business Aspects of Practice</p> <p>Communication</p> <p>Complimentary and Alternative Medicine</p> <p>Evidence Based Practice/Research</p> <p>Health Care Informatics</p> <p>Nutritional Counseling</p> <p>Public Health</p> |

| Common Assessment Methods | | |
|--|--|---|
| Assessment Type | Domains | Competencies |
| | The personal and professional development of the D.C. | Quality Assurance/Quality Improvement Referral/Collaborative Care Special Populations Physical Therapeutic Procedures |
| Written Examinations Multiple Choice Questions | General Principles for Appropriate Diagnostic Investigation Order, Interpret and Communicate Diagnostic Investigations Patient Care, Treatment and Management Wellness, Prevention & Health Promotion Documentation and Health Care Informatics The role of understanding basic, clinical and behavioral sciences in the practice of chiropractic The role of identity, philosophy and principles of chiropractic Professional attitudes, ethical principles and standards, legal responsibilities The role of the TCC graduate within the U.S health care system The personal and professional development of the D.C. | History Taking Physical Examination Neuromusculoskeletal Examination Psychosocial Assessment Diagnostic Studies Diagnosis Case Management Chiropractic Adjustment or Manipulation Emergency Care Case Follow-up and Review Record-Keeping Doctor-Patient Relationship Professional Issues Wellness Ethics and Integrity Business Aspects of Practice Communication Complimentary and Alternative Medicine Evidence Based Practice/Research Health Care Informatics |

| Common Assessment Methods | | |
|--|---|--|
| Assessment Type | Domains | Competencies |
| | | Nutritional Counseling Public Health Quality Assurance/Quality Improvement Referral/Collaborative Care Special Populations Physical Therapeutic Procedures |
| Written Examinations Extended Matching Questions | Practical Procedures General Principles for Appropriate Diagnostic Investigation Order, Interpret and Communicate Diagnostic Investigations Patient Care, Treatment and Management Wellness, Prevention & Health Promotion Communication Documentation and Health Care Informatics The role of understanding basic, clinical and behavioral sciences in the practice of chiropractic The role of identity, philosophy and principles of chiropractic Professional attitudes, ethical principles and standards, legal responsibilities Clinical Decision Making, | History Taking Physical Examination Neuromusculoskeletal Examination Psychosocial Assessment Diagnostic Studies Diagnosis Case Management Chiropractic Adjustment or Manipulation Emergency Care Case Follow-up and Review Record-Keeping Doctor-Patient Relationship Professional Issues Wellness Ethics and Integrity Business Aspects of Practice Communication Complimentary and Alternative Medicine |

| Common Assessment Methods | | |
|---|--|--|
| Assessment Type | Domains | Competencies |
| | Clinical Reasoning & Judgment | Evidence Based Practice/Research Health Care Informatics Nutritional Counseling Public Health Quality Assurance/Quality Improvement Referral/Collaborative Care Special Populations Physical Therapeutic Procedures |
| Written Examinations Key Features Questions | Order, Interpret and Communicate Diagnostic Investigations Patient Care, Treatment and Management Wellness, Prevention & Health Promotion Professional attitudes, ethical principles and standards, legal responsibilities Clinical Decision Making, Clinical Reasoning & Judgment | History Taking Physical Examination Neuromusculoskeletal Examination Psychosocial Assessment Diagnostic Studies Diagnosis Case Management Chiropractic Adjustment or Manipulation Emergency Care Case Follow-up and Review Record-Keeping Doctor-Patient Relationship Professional Issues Wellness Ethics and Integrity Business Aspects of Practice Communication |

| Common Assessment Methods | | |
|--|---|--|
| Assessment Type | Domains | Competencies |
| | | Complimentary and Alternative Medicine Evidence Based Practice/Research Health Care Informatics Nutritional Counseling Public Health Quality Assurance/Quality Improvement Referral/Collaborative Care Special Populations Physical Therapeutic Procedures |
| Written Examinations Script Concordance Questions | General Principles for Appropriate Diagnostic Investigation Order, Interpret and Communicate Diagnostic Investigations Patient Care, Treatment and Management Wellness, Prevention & Health Promotion Communication The role of understanding basic, clinical and behavioral sciences in the practice of chiropractic Clinical Decision Making, Clinical Reasoning & Judgment | Diagnosis Case Management Chiropractic Adjustment or Manipulation Emergency Care Case Follow-up and Review Ethics and Integrity Nutritional Counseling Referral/Collaborative Care Special Populations Physical Therapeutic Procedures |
| Standardized Patient Encounters | Clinical Skills Practical Procedures | History Taking Physical Examination |

Common Assessment Methods

| Assessment Type | Domains | Competencies |
|---------------------------|--|--|
| | <p>General Principles for Appropriate Diagnostic Investigation</p> <p>Order, Interpret and Communicate Diagnostic Investigations</p> <p>Patient Care, Treatment and Management</p> <p>Wellness, Prevention & Health Promotion</p> <p>Communication</p> <p>Documentation and Health Care Informatics</p> <p>The role of understanding basic, clinical and behavioral sciences in the practice of chiropractic</p> <p>The role of identity, philosophy and principles of chiropractic</p> <p>Professional attitudes, ethical principles and standards, legal responsibilities</p> <p>Clinical Decision Making, Clinical Reasoning & Judgment</p> | <p>Neuromusculoskeletal Examination</p> <p>Psychosocial Assessment</p> <p>Diagnostic Studies</p> <p>Diagnosis</p> <p>Case Management</p> <p>Chiropractic Adjustment or Manipulation</p> <p>Emergency Care</p> <p>Case Follow-up and Review</p> <p>Record-Keeping</p> <p>Doctor-Patient Relationship</p> <p>Wellness</p> <p>Ethics and Integrity</p> <p>Communication</p> <p>Complimentary and Alternative Medicine</p> <p>Nutritional Counseling</p> <p>Public Health</p> <p>Referral/Collaborative Care</p> <p>Special Populations</p> <p>Physical Therapeutic Procedures</p> |
| Direct Observation | <p>Clinical Skills</p> <p>Practical Procedures</p> <p>General Principles for Appropriate Diagnostic Investigation</p> <p>Order, Interpret and</p> | <p>History Taking</p> <p>Physical Examination</p> <p>Neuromusculoskeletal Examination</p> <p>Psychosocial Assessment</p> <p>Diagnostic Studies</p> |

Common Assessment Methods

| Assessment Type | Domains | Competencies |
|--|---|---|
| | <p>Communicate Diagnostic Investigations</p> <p>Patient Care, Treatment and Management</p> <p>Wellness, Prevention & Health Promotion</p> <p>Communication</p> <p>Documentation and Health Care Informatics</p> <p>Professional attitudes, ethical principles and standards, legal responsibilities</p> <p>Clinical Decision Making, Clinical Reasoning & Judgment</p> <p>The personal and professional development of the D.C.</p> | <p>Diagnosis</p> <p>Case Management</p> <p>Chiropractic Adjustment or Manipulation</p> <p>Emergency Care</p> <p>Case Follow-up and Review</p> <p>Record-Keeping</p> <p>Doctor-Patient Relationship</p> <p>Professional Issues</p> <p>Wellness</p> <p>Ethics and Integrity</p> <p>Communication</p> <p>Complimentary and Alternative Medicine</p> <p>Evidence Based Practice/Research</p> <p>Health Care Informatics</p> <p>Nutritional Counseling</p> <p>Public Health</p> <p>Quality Assurance/Quality Improvement</p> <p>Referral/Collaborative Care Special Populations</p> <p>Physical Therapeutic Procedures</p> |
| Multi-Source Feedback Evaluations | <p>Communication</p> <p>The role of understanding basic, clinical and behavioral sciences in the practice of chiropractic</p> <p>The role of identity,</p> | <p>Doctor-Patient Relationship</p> <p>Professional Issues</p> <p>Ethics and Integrity</p> <p>Communication</p> |

| Common Assessment Methods | | |
|------------------------------------|--|---|
| Assessment Type | Domains | Competencies |
| | <p>philosophy and principles of chiropractic</p> <p>Professional attitudes, ethical principles and standards, legal responsibilities</p> <p>The personal and professional development of the D.C.</p> | |
| Technology Based Assessment | <p>Clinical Skills</p> <p>Practical Procedures</p> <p>General Principles for Appropriate Diagnostic Investigation</p> <p>Order, Interpret and Communicate Diagnostic Investigations</p> <p>Patient Care, Treatment and Management</p> <p>Clinical Decision Making, Clinical Reasoning & Judgment</p> | <p>History Taking</p> <p>Physical Examination</p> <p>Neuromusculoskeletal Examination</p> <p>Psychosocial Assessment</p> <p>Diagnostic Studies</p> <p>Diagnosis</p> <p>Case Management</p> <p>Emergency Care</p> <p>Case Follow-up and Review</p> <p>Referral/Collaborative Care</p> <p>Special Populations</p> |

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Glossary of Terms

Active Listening: A way of listening that focuses entirely on what the other person is saying and confirms understanding of both the content of the message and the emotions and feelings underlying the message to ensure that understanding is accurate.

Autonomy: Effective deliberation of an action without coercion or limitation by external constraints.

Beneficence: The duty of doing or producing good when in a position to do so.

Best Practices: A method of patient care that is patient centered, utilizes practitioner experience, and takes into account best available external evidence.

Biomechanics: The study of mechanical laws and their application to the human body and its locomotor system.

Chiropractic Principles: Fundamental tenets of chiropractic that guide how a doctor of chiropractic approaches patients in health and illness.

Chiropractic Tenets: Opinions or doctrines which the chiropractic profession believes or maintains.

Clinical Competency: The capability to perform acceptably those duties directly related to patient care; the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served.

Clinical Reasoning: A problem solving process that enhances the development of clinical thinking and decision making in patient care. It involves the movement from accumulation of knowledge to the incorporation of skill, expertise and evidence leading to sound clinical judgment.

Codes of Conduct: A set of conventional principles and expectations that are considered binding on any person who is a member of a particular practice or professional group.

Codes of Ethics: A set of ethical principles that outlines the doctor of chiropractic's responsibility to the patient, the public, and the profession.

Condition: State of being, specifically in reference to physical and mental health or well-being.

Critical Appraisal: Process of systematically examining research evidence to assess its validity, results and relevance before using it to inform a clinical decision.

Critical Rationalism: Philosophical tradition that implies that the scientific method is applicable to the areas of health care and can provide the knowledge base for clinical practice.

Determinants of Wellness: Myriad of factors that contribute to health.

Disease: An abnormal condition of a patient demonstrates a deviation from normal structure and/or function that is manifested with characteristic signs and symptoms.

Disorders: A disturbance or abnormality of structure and/or function

Domain: A sphere of knowledge and clinical activity.

Health Promotion: The processes of helping people change their lifestyle to move toward a state of optimal health.

Holism: A doctrine that emphasizes the priority of a whole over its parts. Focus the whole person in its context, concentrating on the cause of the illness as well as symptoms.

Humanism: A broad category of ethical philosophies that affirm the dignity and worth of all people. An objective of humanism is to produce health care providers who will care for patients in a compassionate and humanistic manner.

Hypothetico-deductive Reasoning: An analytical approach to reasoning in which a working hypothesis is formulated and tested.

Illness: The patient-perceived state that usually accompanies disease but can exist in the absence of demonstrable disease.

Justice: The way in which benefits and burdens of society are distributed.

Kinesiology: The study of the anatomy, physiology and mechanics of body movement.

Learning Outcome: A statement of the attitude, knowledge and skills the individual student possesses and can demonstrate, upon completion of a learning experience.

Lifecycle: A series of changes a human undergoes beginning at birth and ending at death.

Naturalism: The preference for natural therapies.

Nonmaleficence: The ethical principle of doing no harm

Patient Care Plan: The framework for management of patient care.

Pattern Recognition: The skill of identifying typical or repeated characteristics of diseases or illnesses to aid in making a diagnosis

Philosophy of Chiropractic: The application of the principles and methods of philosophy to develop an understanding of chiropractic.

Prevention: Any activity which reduces the burden of mortality and/or morbidity.

Primary Prevention: Methods that are employed to avoid the development of disease.

Reflective Practitioner: Involves thoughtfully considering one's own experiences in applying knowledge to practice while being coached by professionals in the discipline.

Secondary Prevention: The activities that are aimed at early disease detection, thereby increasing opportunities for interventions to prevent progression of the disease and emergence of symptoms.

Standards of Practice: Legal or legislative criteria against which the professional procedures and practices can be evaluated.

Tertiary Prevention: The reduction of the negative impact of an already established disease by restoring function and decreasing disease-related complications

Therapeutic Conservatism: The philosophical approach to patient care which emphasizes the ability to facilitate the body's own healing capacity and implies that the best care is the least amount of intervention necessary.

Vitalism: A doctrine that the processes of life are sustained by a self-determining vital force which is expressed in the concept of the inherent capacity of the body to heal itself.

Wellness: A term that is generally used to mean a healthy balance of the mind, body, and spirit that results in an overall feeling of well-being.