

Exam Blueprint and Specialty Competencies

Introduction – Blueprint for the Occupational Health Nursing Certification Exam

The primary function of the blueprint for the CNA Occupational Health Nursing Certification Exam is to describe how the exam is to be developed. Specifically, this blueprint provides explicit instructions and guidelines on how the competencies are to be expressed within the exam in order for accurate decisions to be made on the candidates' competence in occupational health nursing.

The blueprint has two major components: (1) the content area to be measured and (2) the explicit guidelines on how this content is to be measured. The content area consists of the list of competencies (i.e., the competencies expected of fully competent practising occupational nurses with at least two years of experience), and the guidelines are expressed as structural and contextual variables. The blueprint also includes a summary chart that summarizes the exam guidelines.

Description of Domain

The CNA Occupational Health Nursing Certification Exam is a criterion-referenced exam.¹ A fundamental component of a criterion-referenced approach to testing is the comprehensive description of the content area being measured. In the case of the Occupational Health Nursing Certification Exam, the content consists of the competencies of a fully competent practising occupational health nurse with at least two years of experience.

This section describes the competencies, how they have been grouped and how they are to be sampled for creating an exam.

Developing the List of Competencies

The final list of competencies was approved by the Occupational Health Nursing Certification Exam Committee.

¹ Criterion-referenced exam: An exam that measures a candidate's command of a specified content or skills domain or list of instructional objectives. Scores are interpreted in comparison to a predetermined performance standard or as a mastery of defined domain (e.g., percentage correct and mastery scores), independently of the results obtained by other candidates (Brown, 1983).

Assumptions

In developing the list of competencies for occupational health nurses, the following assumptions were made, based on current standards for occupational health nursing practice:

- Occupational health nurses are registered nurses who practice under their jurisdictional registering body regarding ethics, privacy and confidentiality.
- The occupational health nurse is a specialist who practices independently and interdependently in the workplace, demonstrating responsibility, accountability and leadership, and providing direction.
- The occupational health nurse's practice is based on knowledge gained primarily from nursing, medicine, ergonomics, epidemiology, infectious diseases, toxicology, environmental sciences, occupational health and safety, and social/behavioural sciences, as well as from management, administration, business, finance and educational concepts and practices, and legal/regulatory requirements.
- The occupational health nurse functions as an advocate for health and safety – both physical and psychological – in the workplace.
- The occupational health nurse practices in a holistic manner and understands that individuals, organizations and communities are unique.
- The occupational health nurse's scope of practice includes the promotion of health, safety and wellness; the prevention of illness and injury; assessment; the treatment and rehabilitation of employees; the enhancement of employee and organizational health; and the support of a safe and healthy workplace.
- The occupational health nurse's scope of practice also includes participating in business strategy, and the review and evaluation of programs.
- The occupational health nurse consults and collaborates with colleagues, professional experts and industry associations, as well as individuals and groups, both internal and external to the organization.
- The occupational health nurse acts as a subject-matter expert for employers, employees, unions, colleagues and other stakeholders.
- The occupational health nurse understands that health and safety culture is an important component in determining the direction, support and influence of the workplace.
- Occupational health nurses practice in a variety of work environments, including any location or equipment at, upon, in, or near the place at which a worker works.

Competency Categories

The competencies are classified under a six-category scheme commonly used to organize occupational health nursing.

Some of the competencies lend themselves to one or more of the categories; therefore, these six categories should be viewed simply as an organizing framework. Also, it should be recognized that the competency statements vary in scope, with some representing global behaviours and others more discrete and specific nursing behaviours.

Competency Sampling

Using the grouping and the guideline that the Occupational Health Nursing Certification Exam will consist of approximately 165 questions, the categories have been given the following weights in the total examination.

Table 1: Competency Sampling

Categories	Approximate weights in the total examination
Occupational Health Nursing Practice	5-10%
Assessment, Control and Evaluation of Workplace Hazards	25-30%
Health Surveillance	25-30%
Assessment, Care and Case Management of Illnesses and Injuries	15-20%
Health, Safety and Wellness Promotion	15-20%
Health, Safety and Wellness Management	10-15%

Technical Specifications

In addition to the specifications related to the competencies, other variables are considered during the development of the Occupational Health Nursing Certification Exam. This section presents the guidelines for two types of variables: structural and contextual.

Structural Variables: Structural variables include those characteristics that determine the general appearance and design of the exam. They define the length of the exam, the format and presentation of the exam questions (e.g., multiple-choice format) and special functions of exam questions (e.g., case-based or independent questions).

Contextual Variables: Contextual variables specify the nursing contexts in which the exam questions will be set (e.g., client culture, client health situation and health-care environment).

Structural Variables

Exam Length: The exam consists of approximately 165 multiple-choice questions.

Question Presentation: The multiple-choice questions are presented in one of two formats: case-based or independent. Case-based questions are a set of approximately four questions associated with a brief health-care scenario (i.e., a description of the client's health-care situation). Independent questions stand alone. In the Occupational Health Nursing Certification Exam, 60 to 70 per cent of the questions are presented as independent questions and 30 to 40 per cent are presented within cases.

Taxonomy for Questions: To ensure that competencies are measured at different levels of cognitive ability, each question on the Occupational Health Nursing Certification Exam is aimed at one of three levels: knowledge/comprehension, application and critical thinking.²

1. Knowledge/Comprehension

This level combines the ability to recall previously learned material and to understand its meaning. It includes such mental abilities as knowing and understanding definitions, facts and principles and interpreting data (e.g., knowing the effects of certain drugs or interpreting data appearing on a client's record).

2. Application

This level refers to the ability to apply knowledge and learning to new or practical situation. It includes applying rules, methods, principles and theories in providing care to clients (e.g., applying nursing principles to the care of clients).

3. Critical Thinking

The third level of the taxonomy deals with higher-level thinking processes. It includes the abilities to judge the relevance of data, to deal with abstraction and to solve problems (e.g., identifying priorities of care or evaluating the effectiveness of interventions). The occupational health nurse with at least two years of experience should be able to identify cause-and-effect relationships, distinguish between relevant and irrelevant data, formulate valid conclusions and make judgments concerning the needs of clients.

² These levels are adapted from the taxonomy of cognitive abilities developed in Bloom (1956).

The following table presents the distribution of questions for each level of cognitive ability.

Table 2: Distribution of Questions for Each Level of Cognitive Ability

Cognitive Ability Level	Percentage of questions on Occupational Health Nursing Certification Exam
Knowledge/Comprehension	10-20%
Application	40-50%
Critical Thinking	35-45%

Contextual Variables

Client Culture: Questions are included that measure awareness, sensitivity and respect for different cultural values, beliefs and practices, without introducing stereotypes.

Organizational Culture: Questions are included that measure awareness, sensitivity and ability to work within a variety of organizational cultures.

Health-Care Environment: It is recognized that occupational health nursing is practiced in a variety of settings. Therefore, for the purposes of the Occupational Health Nursing Certification Exam, the health-care environment is only specified where it is required for clarity or in order to provide guidance to the examinee.

Conclusions

The blueprint for the Occupational Health Nursing Certification Exam is the product of a collaborative effort between CNA, Measure Learning – Yardstick and a number of occupational health nurses across Canada. Their work has resulted in a compilation of the competencies required of practising occupational health nurses and has helped determine how those competencies will be measured on the Occupational Health Nursing Certification Exam. A summary of these guidelines can be found in the summary chart Occupational Health Nursing Certification Exam Development Guidelines.

Occupational health nursing practice will continue to evolve. As this occurs, the blueprint may require revision so that it accurately reflects current practices. CNA will ensure that such revision takes place in a timely manner and will communicate any changes in updated editions of this document.

Summary Chart

Occupational Health Nursing Certification Exam Development Guidelines

STRUCTURAL VARIABLES		
Exam Length and Format	Approximately 165 multiple-choice questions	
Question Presentation	Independent questions:	60-70% of the questions
	Case-based questions:	30-40% of the questions
Cognitive Ability Levels of Questions	Knowledge/Comprehension	10-20% of the questions
	Application	40-50% of the questions
	Critical Thinking	35-45% of the questions
Competency Categories	Occupational Health Nursing Practice	5-10% of the questions
	Assessment, Control and Evaluation of Workplace Hazards	25-30% of the questions
	Health Surveillance	25-30% of the questions
	Assessment, Care and Case Management of Illnesses and Injuries	15-20% of the questions
	Health, Safety and Wellness Promotion	15-20% of the questions
	Health, Safety and Wellness Management	10-15% of the questions
CONTEXTUAL VARIABLES		
Client Culture	Questions measuring awareness, sensitivity and respect for different cultural values, beliefs and practices, without introducing stereotypes, are included on the exam.	
Organizational Culture	Questions are included that measure awareness, sensitivity and ability to work within a variety of organizational cultures.	
Health-Care Environment	It is recognized that occupational health nursing is practiced in a variety of settings, and that for the purpose of the examination, the health-care environment is only specified when it is required for clarity or to provide guidance to the candidate.	

The Occupational Health Nursing Certification Exam List of Competencies

1. Occupational Health Nursing Practice

The occupational health nurse:

- 1.1 Practices in accordance with nursing standards and code of ethics, as well as provincial, territorial and federal legislation.
- 1.2 Advises stakeholders on occupational health and safety hazards and risks, using effective leadership, communication strategies and decision making.
- 1.3 Recommends risk-reduction strategies related to identified health and safety risks.
- 1.4 Ensures the security, privacy and confidentiality of employee health records (e.g., levels of security in relation to electronic and paper documentation, access, transfer, release, retention and disposal).
- 1.5 Ensures documentation meets legislative requirements (e.g., immunization reports, exposure management, respiratory fit testing, incident reports and investigations, WCB/WSIB data).
- 1.6 Delivers nursing services based on current occupational health nursing best practices, critical inquiry, and culturally appropriate and evidence-informed practice.
- 1.7 Uses program planning principles (e.g., needs assessment, planning, implementation and evaluation) to develop programs.
- 1.8 Assists with reporting to governmental agencies as required by the applicable legislation.

2. Assessment, Control and Evaluation of Workplace Hazards

The occupational health nurse:

- 2.1 Implements a comprehensive hazard assessment and identification process.
- 2.2 Assesses the following potential and existing workplace hazards:
 - 2.2.1 Chemical hazards in relation to the following sources:
 - 2.2.1a solids (e.g., lead, cadmium, nickel, asbestos, welding fumes, silica)
 - 2.2.1b liquids (e.g., solvents, degreasers, acids, alkali)
 - 2.2.1c gases (e.g., carbon monoxide, chlorine, anesthetic gases, cyanide)

2.2.2 Biological hazards in relation to the following sources:

- 2.2.2a bacteria (e.g., tuberculosis, MRSA)
- 2.2.2b viruses (e.g., COVID-19, influenza, hepatitis)
- 2.2.2c fungi (e.g., toxoplasmosis, mould)
- 2.2.2d insects (e.g., insect bites or stings)
- 2.2.2e plants (e.g., poison ivy, stinging nettle, baneberry ivy)
- 2.2.2f zoonotic (e.g., rabies, Q-fever)

2.2.3 Physical hazards in relation to the following:

- 2.2.3a thermal stress (e.g., heat, cold)
- 2.2.3b noise (e.g., impact noise, high-frequency noise)
- 2.2.3c vibration (e.g., segmental, whole-body)
- 2.2.3d ionizing and non-ionizing radiation (e.g., lasers, X-rays, nuclear materials, radioactive isotopes, electromagnetic radiation, welding-arc vision)
- 2.2.3e air pressure (e.g., hydraulic, pneumatic, pressurized environments, pressure changes, G-force)
- 2.2.3f energy (e.g., steam, electrical, kinetic)
- 2.2.3g environmental factors (e.g., confined space, heights)
- 2.2.3h powered mobile equipment (e.g., robotics, vehicles, scissor lifts, boats, forklifts)

2.2.4 Ergonomic hazards in relation to the following:

- 2.2.4a workplace environment (e.g., lighting, stressors, distractions, workplace design, work-station setup, person-machine interface)
- 2.2.4b physical demands (e.g., lifting/carrying, pushing/pulling, prolonged sitting and standing, positioning, force, repetition, duration, frequency, unsafe work practices and procedures, driving)

2.2.5 Psychosocial hazards in relation to the following:

- 2.2.5a organizational risk factors (e.g., organizational change, shift work, job demands, role conflict)
- 2.2.5b workplace harassment and violence (e.g., sexual harassment, bullying, verbal or written threats, verbal abuse, physical altercations)
- 2.2.5c impairment in the workplace (e.g., substance use, fatigue, impairment caused by health issues)
- 2.2.5d failure to address workforce diversity and culture (e.g., varying physical and intellectual abilities, literacy issues, multi-cultural issues, multi-generational issues, aging workers, gender and non-binary-identity)

- 2.2.5e emergency situations (e.g., bomb threat, pandemic, extreme violence, natural disaster, stress and fear caused by significant injury in the workplace)
- 2.3 Assesses the level of risk based on frequency, severity and probability of harm by:
 - 2.3.1 Collaborating with internal and/or external stakeholders for recommendations.
 - 2.3.2 Facilitating the appropriate risk assessment (e.g., air sampling, ergonomic risk assessment, noise survey).
 - 2.3.3 Analyzing the results of the assessment.
- 2.4 Recommends and implements control measures based on:
 - 2.4.1 Engineering controls (e.g., elimination, substitution, containment, design)
 - 2.4.2 Administrative controls (e.g., work practices, policies and procedures, musculoskeletal-injury prevention programs, respiratory-protection programs)
 - 2.4.3 Personal protective equipment (e.g., gloves, safety footwear, respirators, face protection)
- 2.5 Evaluates the effectiveness of the implemented control measures.

3. Health Surveillance

The occupational health nurse:

- 3.1 Develops and implements appropriate health surveillance policies, programs and procedures to support employee health.
- 3.2 Assesses the health status of employees in relation to job-specific hazards or demands upon initial pre-placement or job transfer, or periodically as required by occupational need, standards or legislation (e.g., vision and audiometric screening, immune status).
- 3.3 Develops and implements health surveillance in relation to the following:
 - 3.3.1 Chemical hazards (e.g., pulmonary function test, blood lead levels, CBC)
 - 3.3.2 Biological hazards (e.g., antibody and antigen levels, tuberculosis screening, immunizations, infectious-disease testing)
 - 3.3.3 Physical hazards (e.g., audiometry, personal dosimetry)
 - 3.3.4 Ergonomic hazards (e.g., ergonomic assessments, employee questionnaires or surveys)
 - 3.3.5 Psychosocial hazards (e.g., violence risk assessment, Employee Assistance Program review)

- 3.4 Evaluates and improves health surveillance policies, programs and procedures (e.g., type of tests, frequency of measurements, nature of reports and follow-up, incident statistics review, compliance audits, disability management program review).
- 3.5 Provides health counselling in relation to workplace exposures.

4. Assessment, Care and Case Management of Illnesses and Injuries

The occupational health nurse:

- 4.1 Implements appropriate interventions to minimize effects of occupational and non-occupational illness and injury by:
 - 4.1.1 Managing acute and non-acute illnesses and injuries.
 - 4.1.2 Collecting occupational and relevant non-occupational histories (e.g., employment history, exposures, lifestyle, hobbies, previous illnesses and injuries).
 - 4.1.3 Providing care and treatment options.
 - 4.1.4 Providing health counselling.
 - 4.1.5 Liaising with the appropriate health-care providers (e.g., collaboration, referral).
 - 4.1.6 Facilitating psychological support (e.g., crisis support, referral to the Employee Assistance Program).
 - 4.1.7 Analyzing internal and external reports and consultations (e.g., health-care provider reports, independent medical evaluations, vocational assessments, nursing documentation, changes in work performance).
- 4.2 Identifies fitness-to-work implications based on physical and psychological health limitations and restrictions (e.g., type 2 diabetes, cognitive impairment, physical limitations, ability to concentrate, asthma).
- 4.3 Identifies fitness-to-work implications in relation to the potential transmission of infectious diseases in the workplace (e.g., COVID-19, tuberculosis, varicella, influenza, hepatitis, staph and strep infections).
- 4.4 Identifies fitness-to-work implications in relation to specialized roles or specialized job functions (e.g., safety-sensitive role, substance-use-related harms when applicable).
- 4.5 Recommends workplace accommodation based on occupational and non-occupational illness, injury and disability.
- 4.6 Provides and coordinates case management by:
 - 4.6.1 Communicating as needed with an ill or injured employee and the employee's supervisor and/or manager.

- 4.6.2 Identifying an employee's needs and rehabilitation challenges (e.g., counselling, assistive devices).
 - 4.6.3 Identifying organizational barriers that impede an employee's ability to return to work or continue to work (e.g., interpersonal conflicts, policies, organizational culture, environment).
 - 4.6.4 Identifying personal or psychosocial barriers that may affect a successful return to work (e.g., family dysfunction, childcare responsibilities, substance use).
 - 4.6.5 Facilitating evaluations in relation to fitness to work (e.g., physical demands analyses, functional assessment evaluations, independent medical evaluations, health-care provider assessments, cognitive assessments, job matching).
 - 4.6.6 Facilitating an employee's return to work and accommodation in collaboration with stakeholders (e.g., manager, union representative, human resources representative, insurance representative, workers' compensation, health-care provider).
- 4.7 Works with employees to prevent and manage occupational and non-occupational illnesses and injuries by:
- 4.7.1 Identifying behavioural or physical manifestations for potential psychological or physical health issues.
 - 4.7.2 Identifying employees at risk of medical emergencies and intervening when required (e.g., suicidal thoughts, hypoglycemic episode, cardiac event).
 - 4.7.3 Developing and facilitating a comprehensive rehabilitation plan.
 - 4.7.4 Facilitating referrals to appropriate community, health-care and workplace resources (e.g., Employee Assistance Program, allied health professionals, lifestyle counselling, addiction counselling).
 - 4.7.5 Advocating for employees' rights to rehabilitation, accommodation and the return-to-work process.
 - 4.7.6 Understanding the process for diagnosing substance-use disorders (i.e., according to the DSM-5), the severity, and the variation within and between specific substance-use disorder diagnoses.
 - 4.7.7 Understanding that substance use and substance-use disorders are multidimensional, complex, biopsychosocial and spiritual conditions.
 - 4.7.8 Communicating respectfully by refraining from judging, labelling, demeaning, stigmatizing or humiliating clients (e.g., uses substances, LGBT2Q+).

5. Health, Safety and Wellness Promotion

The occupational health nurse:

- 5.1 Provides leadership to promote the development of individual and/or organizational health, safety and wellness.
- 5.2 Identifies individual employees' health, safety and wellness needs (e.g., health-risk assessments, health screenings).
- 5.3 Identifies organizational health, safety and wellness needs (e.g., environmental scans, demographic analyses, absenteeism rates, time-loss reports, overtime-usage statistics, perception surveys, Employee Assistance Program utilization).
- 5.4 Recommends the development of health promotion programming for the organization (e.g., psychological health and safety program, body-mechanic training).
- 5.5 Develops and provides individual and organizational educational activities using the principles of adult education (e.g., literacy level, established program objectives, delivery format, appropriate learning atmosphere, cultural sensitivity).
- 5.6 Empowers employees to take actions to improve their health behaviours to reduce their risk of illness and injury (e.g., motivational interviewing techniques, educational programs using evidence-based resources).
- 5.7 Determines whether learning outcomes are achieved and aligned with program objectives (e.g., questionnaires, evaluation sheets, audits, direct observation).

6. Health, Safety and Wellness Management

The occupational health nurse:

- 6.1 Health, safety and wellness services management:
 - 6.1.1 Demonstrates leadership in relation to service development and implementation (e.g., gap analyses, needs assessments, environmental scans, benchmarking).
 - 6.1.2 Sets goals, objectives, policies and procedures that align with organizational strategies, and supports service development and implementation.
 - 6.1.3 Coordinates the provision of services with internal and external resources (e.g., emergency preparedness and response, health surveillance, injury management, training/education, hazard recognition).
 - 6.1.4 Demonstrates the cost effectiveness of health, safety and wellness services to senior management (e.g., cost–benefit analyses, business plans, return on investment).
 - 6.1.5 Collaborates with senior management to incorporate health and safety into the organization's strategic plan.

- 6.1.6 Collaborates with stakeholders in relation to health, safety and wellness services (e.g., employees, management, occupational health and safety committees, unions, infection control committees).
- 6.1.7 Identifies appropriate internal and external resources (e.g., auditors, Employee Assistance Program providers, industrial hygienists, safety professionals, benefit providers).
- 6.1.8 Facilitates continuous improvement through the ongoing evaluation and revision of services.
- 6.2 Research into health, safety and wellness services:
 - 6.2.1 Collects and analyzes internal and external aggregate data (e.g., vaccination rate, sick-days rate, type of injury, lost days, number of wellness initiatives, number of accommodations, number of job matches).
 - 6.2.2 Applies research outcomes to health, safety and wellness services.
 - 6.2.3 Communicates research findings to internal and external stakeholders (e.g., publication, research, government agencies reports, legislative reporting).
 - 6.2.4 Participates in research to advance the field of occupational health nursing.
- 6.3 Cultural sensitivity in health, safety and wellness services:
 - 6.3.1 Seeks out ongoing professional development opportunities to enhance cultural competence and cultural safety for themselves, and for their Indigenous colleagues and clients and other marginalized clients (e.g., Black, People of Colour, Sikh, LGBT2Q+, religious minorities).
 - 6.3.2 Demonstrates ways to acknowledge and value Indigenous knowledges with respect to the health and well-being of Indigenous clients (e.g., about specific people-groups, about the ways of knowledge transmission: e.g., story-telling).
 - 6.3.3 Recognizes the value of Indigenous healing practices and uses them in the treatment of Indigenous clients in collaboration with Indigenous healers and Elders when requested by Indigenous clients.