

Summary Chart

Oncology Nursing Certification Exam Development Guidelines

| Structural Variables | | | |
|---------------------------------------|---|-------------------------|----------------|
| Examination Length and Format | Approximately 165 objective questions (e.g., multiple-choice) | | |
| Question Presentation | 50-60% independent questions 40-50% case-based questions | | |
| Cognitive Ability Levels of Questions | Knowledge | 15-25% of the questions | |
| | Application | 50-60% of the questions | |
| | Critical Thinking | 20-30% of the questions | |
| Competency Categories | Prevention, Early Detection and Screening | 3-11% of the questions | |
| | Diagnosis and Staging of Cancer | 2-10% of the questions | |
| | Knowledge of Cancer Diseases | 15-23% of the questions | |
| | Treatment Modalities | 22-30% of the questions | |
| | Symptom and Treatment Management | 22-30% of the questions | |
| | Supportive Care | 6-14% of the questions | |
| | Continuity of Care | 2-10% of the questions | |
| Contextual Variables | | | |
| Age and Gender | Age Group | Males | Females |
| | Child & Adolescent (0-18 years old) | 2-5% | 2-5% |
| | Adult (19-64 years old) | 17-26% | 17-26% |
| | Older Adult (65+ years old) | 21-29% | 21-29% |
| Patient Culture | Questions measuring awareness, sensitivity, and respect for different cultural values, beliefs, and practices, without introducing stereotypes, are included on the exam. | | |
| Patient Health Situation | In the development of the Oncology Nursing Exam, the patient is viewed holistically. The patient health situations presented reflect a cross-section of health promotion, prevention, active treatment, long-term care, rehabilitation care, and palliative care. | | |
| Health-Care Environment | It is recognized that oncology nursing is practised in a variety of settings. The health-care environment is specified only where it is required for clarity or in order to provide guidance to the candidate. | | |

The Oncology Nursing Certification Exam List of Competencies

I. Prevention, Early Detection and Screening

The oncology nurse:

- 1.1 Identifies epidemiological data and trends related to incidence and prevalence of cancer, mortality and survival.
- 1.2 Identifies overall risk factors for cancer including:
 - 1.2a genetics (e.g., family heredity, age, gender);
 - 1.2b lifestyle (e.g., smoking, diet, obesity); and
 - 1.2c environmental exposures (e.g., occupational hazards, sun exposure, previous cancer treatments).
- 1.3 Understands the purpose and implications of genetic testing, counselling and resources.
- 1.4 Promotes public participation in prevention, screening and early detection (e.g., provides information related to recommended screening programs, identifies barriers, teaches self-assessment and prevention strategies).

II. Diagnosis and Staging of Cancer

The oncology nurse:

- 2.1 Integrates the findings of the history and physical exam, diagnostic investigations (e.g., surgery, radiological, tumour receptor status), and tumour markers (e.g., PSA, CA-125, CEA) as related to the diagnosis and staging of cancer.
- 2.2 Describes the pathophysiology of cancer (e.g., carcinogenesis, cell cycle, tumour growth, metastatic sites).
- 2.3 Assesses the patient's understanding of his/her diagnosis and staging.
- 2.4 Educates the patient on his/her diagnosis based on identified needs (e.g., readiness to learn, emotional impact).
- 2.5 Refers the patient to appropriate resource(s) based on his/her needs (e.g., dietitian, cancer support group).

III. Knowledge of Cancer Diseases

The oncology nurse:

- 3.1 Describes the clinical presentation, risk factors and prognostic factors in relation to the management of the following more common cancer diseases in adults (in alphabetical order): *(Approximately 25% of questions in this section)*
 - 3.1a breast;
 - 3.1b colorectal;
 - 3.1c genito-urinary (bladder, kidney);
 - 3.1d gynecological (ovarian, uterine, cervical);
 - 3.1e leukemia;
 - 3.1f lung;
 - 3.1g lymphomas;
 - 3.1h melanoma; and
 - 3.1i prostate.

- 3.2 Describes the standard treatments in relation to the management of the following more common cancer diseases in adults (in alphabetical order): *(Approximately 30% of the questions in this section)*
 - 3.2a breast;
 - 3.2b colorectal;
 - 3.2c genito-urinary (bladder, kidney);
 - 3.2d gynecological (ovarian, uterine, cervical);
 - 3.2e leukemia;
 - 3.2f lung;
 - 3.2g lymphomas;
 - 3.2h melanoma; and
 - 3.2i prostate.

- 3.3 Describes the clinical presentation, risk factors and prognostic factors in relation to the management of the following less common cancer diseases in adults (in alphabetical order): *(Approximately 10% of questions in this section)*
- 3.3a bone and soft tissue sarcoma;
 - 3.3b brain and central nervous system;
 - 3.3c endocrine;
 - 3.3d gastrointestinal;
 - 3.3e head and neck;
 - 3.3f HIV-related; and
 - 3.3g myelomas.
- 3.4 Describes the standard treatments in relation to the management of the following less common cancer diseases in adults (in alphabetical order): *(Approximately 20% of the questions in this section)*
- 3.4a bone and soft tissue sarcoma;
 - 3.4b brain and central nervous system;
 - 3.4c endocrine;
 - 3.4d gastrointestinal;
 - 3.4e head and neck;
 - 3.4f HIV-related; and
 - 3.4g myelomas.
- 3.5 Describes the clinical presentation and prognostic factors in relation to the management of the following more common cancer diseases in children (in alphabetical order): *(Approximately 5% of questions in this section)*
- 3.5a bone and soft tissue sarcomas;
 - 3.5b brain and central nervous system;
 - 3.5c leukemias;
 - 3.5d lymphomas; and
 - 3.5e Wilms' tumour.
- 3.6 Describes the standard treatments in relation to the management of the following cancer diseases in children (in alphabetical order): *(Approximately 10% of the questions in this section)*
- 3.6a bone and soft tissue sarcomas;
 - 3.6b brain and central nervous system;
 - 3.6c leukemias;
 - 3.6d lymphomas; and
 - 3.6e Wilms' tumour.

IV. Treatment Modalities

4.1 Surgery

The oncology nurse:

- 4.1a Understands the role of surgery in cancer treatment (i.e., cure, control or palliation).
- 4.1b Assists the patient in understanding the role of surgery in his/her treatment plan.
- 4.1c Educates the patient about the expected outcomes of surgical interventions (e.g., postoperative restrictions, ostomy care, disturbances in body image).
- 4.1d Uses interventions to decrease the incidence and severity of complications related to cancer surgery (e.g., thromboembolytic events, lymphedema).
- 4.1e Assesses the patient's understanding of the pathologic findings of the surgical intervention.
- 4.1f Assists the patient to understand the pathologic findings of the surgical intervention (e.g., answers patient's questions or asks the physician to explain the findings).
- 4.1g Initiates referral to supportive services to ensure comprehensive patient care (e.g., physiotherapy, occupational therapy).

4.2 Chemotherapy

The oncology nurse:

- 4.2a Understands the role of chemotherapy in cancer treatment (i.e., cure, control or palliation, adjuvant, neoadjuvant).
- 4.2b Understands the mechanisms of action and side effects related to the classifications of chemotherapeutic agents (e.g., vinca alkaloids, anthracyclines, antimetabolites).
- 4.2c Applies the principles of safe chemotherapy administration (e.g., correct labelling, drug dose calculation using BSA/AUC, light sensitivity, sequence of administration, compatible tubing).
- 4.2d Applies the principles of safe handling and disposal of chemotherapeutic agents and their waste (e.g., tubing and body fluids).
- 4.2e Assists the patient to understand the role of chemotherapy in his/her treatment plan.
- 4.2f Educates the patient about the immediate, early, late and delayed side effects of chemotherapy (e.g., anaphylaxis, nausea and vomiting, pain at site of injection, constipation, diarrhea, infertility, early menopause, mucositis, cognitive dysfunction).
- 4.2g Uses interventions to decrease the incidence and severity of side effects and complications related to chemotherapy (e.g., hydration, medication, sperm banking).
- 4.2h Initiates referral to supportive services to ensure comprehensive patient care (e.g., finances, wigs, home care).

4.3 Radiation Therapy

The oncology nurse:

- 4.3a Understands the role of radiation therapy in cancer treatment (i.e., cure, control or palliation).
- 4.3b Understands the mechanisms of action of radiation therapy (e.g., stereotactic, brachytherapy, radioactive isotopes, hyperfractionation).
- 4.3c Implements radiation protection precautions and principles of safe handling/disposal of radioactive sources (e.g., time, distance and shielding).
- 4.3d Assists the patient to understand the role of radiation therapy in his/her treatment plan.
- 4.3e Educates the patient and care providers about radiation protection and precautions (e.g., radioactive implants, active isotopes).
- 4.3f Educates the patient about the immediate, early, late and delayed side effects of radiation therapy (e.g., skin reactions, alopecia, mucositis, cystitis, diarrhea, fatigue, early menopause, sexual dysfunction, nausea and vomiting, fibrosis, cognitive dysfunction).
- 4.3g Uses interventions to decrease the incidence and severity of side effects and complications related to radiation therapy (e.g., skin reaction protocols, oral care, hydration, medication administration).
- 4.3h Initiates referral to supportive services to ensure comprehensive patient care (e.g., physiotherapy, speech therapy).

4.4 Biologic, Hormone and Targeted Therapies

The oncology nurse:

- 4.4a Understands the role of biologic, hormone and targeted therapies.
- 4.4b Understands the mechanisms of action related to biologic, hormone and targeted therapies.
- 4.4c Assists the patient to understand the role of biologic, hormone and targeted therapies in his/her treatment plan.
- 4.4d Applies the principles of safe handling and disposal of biologic, hormone and targeted therapies and their waste (e.g., tubing and body fluids).
- 4.4e Educates the patient about the side effects of biologic, hormone and targeted therapies (e.g., gynecomastia, hirsutism, flu-like symptoms, acne).
- 4.4f Uses interventions to decrease the incidence and severity of side effects and complications related to biologic, hormone and targeted therapies (e.g., premedication, hydration, anaphylaxis protocols, titrate dosing).
- 4.4g Initiates referral to supportive services to ensure comprehensive patient care (e.g., funding, psychosocial).

4.5 Hematopoietic Stem Cell Transplant

The oncology nurse:

- 4.5a Understands the role of hematopoietic stem cell transplant.
- 4.5b Understands the types of hematopoietic stem cell transplants and their mechanisms of action.
- 4.5c Assists the patient to understand the role of hematopoietic stem cell transplant in his/her treatment plan.
- 4.5d Assists the donor to understand his/her role in hematopoietic stem cell transplant.
- 4.5e Educates and initiates appropriate referrals to ensure the patient receives comprehensive education regarding hematopoietic stem cell transplant (e.g., diet, social work, counselling, teleconference with treating centre).
- 4.5f Recognizes the acute, chronic and late side effects of hematopoietic stem cell transplant (e.g., graft vs. host disease, veno occlusive disease, cystitis, severe mucositis).
- 4.5g Uses interventions to decrease the incidence and severity of side effects and complications related to bone marrow and hematopoietic transplant (e.g., hydration, transfusion, anti-rejection therapy, anti-fungal, anti-virals).

4.6 Complementary and Alternative Health Care

The oncology nurse:

- 4.6a Respects individual choices related to complementary and alternative health care (e.g., massage, visualization, homeopathic, herbal remedies, acupuncture).
- 4.6b Educates the patient regarding the importance of reporting the use of complementary and alternative health care (e.g., anti-oxidants, herbal remedies).
- 4.6c Refers the patient to appropriate resources for complementary and alternative health-care information (e.g., evidence-based literature, pharmacist).
- 4.6d Uses interventions to reduce the potential interaction of complementary and alternative therapies with conventional treatment modalities (e.g., discuss with health-care team members, including physician, pharmacist and/or dietitian).

4.7 Research

The oncology nurse:

- 4.7a Understands the purpose, types and phases of clinical trials and research studies (e.g., psychosocial research, symptom-based research, ethical issues).
- 4.7b Refers the patient to the appropriate health-care provider to answer questions and/or ensure understanding of clinical trials and research studies.
- 4.7c Initiates referral to supportive services to ensure comprehensive patient care (e.g., travel, financial, dietary).

V. Symptom and Treatment Management

5.1 Oncologic Emergencies

The oncology nurse:

- 5.1a Identifies the clinical presentation and risk factors for the following metabolic oncologic emergencies:
 - i) anaphylaxis;
 - ii) disseminated intravascular coagulation (DIC);
 - iii) hypercalcemia;
 - iv) sepsis;
 - v) syndrome of inappropriate antidiuretic hormone (SIADH); and
 - vi) tumour lysis syndrome.

- 5.1b Identifies the clinical presentation and risk factors for the following structural oncologic emergencies:
 - i) increased intracranial pressure;
 - ii) malignant bowel obstruction;
 - iii) neoplastic cardiac tamponade;
 - iv) spinal cord compression; and
 - v) superior vena cava syndrome.

- 5.1c Incorporates nursing interventions in response to the following metabolic oncologic emergencies:
 - i) anaphylaxis;
 - ii) disseminated intravascular coagulation (DIC);
 - iii) hypercalcemia;
 - iv) sepsis;
 - v) syndrome of inappropriate antidiuretic hormone (SIADH); and
 - vi) tumour lysis syndrome.

- 5.1d Incorporates nursing interventions in response to the following structural oncologic emergencies:
 - i) increased intracranial pressure;
 - ii) malignant bowel obstruction;
 - iii) neoplastic cardiac tamponade;
 - iv) spinal cord compression; and
 - v) superior vena cava syndrome.

5.2 Treatment Delivery Devices and Systems

The oncology nurse:

- 5.2a Understands the role of treatment delivery devices (e.g., venous access devices, infusion pumps).
- 5.2b Assesses the patient for appropriateness of venous access devices (e.g., venous status, lifestyle, treatment regime, length of treatment).
- 5.2c Manages care and maintenance of the treatment delivery device for the patient.
- 5.2d Educates the patient regarding complications and safe management of treatment delivery devices.
- 5.2e Educates the patient about self-care of treatment delivery devices.

5.3 Disease and Treatment-Related Side Effects and Symptom Management

The oncology nurse:

- 5.3a Assesses patient for disease symptoms and/or systemic and organ specific treatment-related side effects, including:
 - i) alterations in protective mechanisms:
 - myelosuppression (e.g., neutropenia, thrombocytopenia)
 - mobility (e.g., arm ROM)
 - skin integrity (e.g., skin reactions, mucositis)
 - neurological status (e.g., seizures, peripheral neuropathy)
 - mental status (e.g., confusion, hopelessness);
 - ii) alterations in circulation (e.g., edema, pericardial effusion, anemia);
 - iii) alterations in ventilation (e.g., dyspnea, effusion, fibrosis);
 - iv) alterations in gastrointestinal function (e.g., constipation, taste alteration, cachexia, nausea, vomiting);
 - v) alterations in urinary function (e.g., cystitis, anuria); and
 - vi) alterations in comfort (e.g., pain, fatigue).
- 5.3b Understands the etiologic factors of the symptom and/or side effect related to the individual patient.
- 5.3c Educates the patient about prevention and management of disease symptoms and/or systemic and organ specific treatment-related side effects (e.g., oral care, adhering to an anti-emetic schedule, hydration).
- 5.3d Incorporates interventions related to the management of disease symptoms and/or systemic and organ specific and treatment-related side effects.
- 5.3e Conducts ongoing evaluation of the effectiveness of interventions used in the management of disease symptoms and/or systemic and organ specific treatment-related side effects.

VI. Supportive Care

6.1 Psychosocial, Spiritual and Cultural Support

The oncology nurse:

- 6.1a Respects the patient's unique psychosocial, spiritual and cultural needs.
- 6.1b Assesses the impact of the patient's unique psychosocial, spiritual and cultural needs on his/her illness.
- 6.1c Facilitates effective coping strategies (e.g., fear of recurrence, loss of control, fear of death, pain, role changes).
- 6.1d Supports the patient in his/her decision-making.
- 6.1e Initiates referral to supportive services to ensure comprehensive patient care.

6.2 Sexuality

The oncology nurse:

- 6.2a Uses interventions respecting the patient's needs related to alterations in:
 - i) body and self-image;
 - ii) sexual function; and
 - iii) fertility.
- 6.2b Initiates referral to supportive services to ensure comprehensive patient care related to alterations in:
 - i) body and self-image;
 - ii) sexual function; and
 - iii) fertility.

6.3 Rehabilitation

The oncology nurse:

- 6.3a Uses interventions to assist the patient to achieve optimum quality of life (e.g., self-care, ADL independence).
- 6.3b Engages members of the interdisciplinary team to assist the patient's rehabilitation (e.g., lymphedema, ambulation, esophageal speech training, prosthetics).

6.4 Survivorship

The oncology nurse:

- 6.4a Recognizes the unique issues of cancer survivors (e.g., pediatric cancer, young adult, older adult).
- 6.4b Educates the cancer survivor regarding the need for appropriate follow-up.
- 6.4c Refers the cancer survivor to appropriate information and resources to facilitate post-treatment adaptation (e.g., socio-economic, cognitive function, sexual health).

6.5 End-of-Life Care

The oncology nurse:

- 6.5a Explains the goals of palliative treatments to the patient.
- 6.5b Recognizes the unique needs of the patient approaching end-of-life.
- 6.5c Recognizes potential ethical dilemmas related to end-of-life decision-making (e.g., hydration, feeding, truth telling, DNR).
- 6.5d Educates and initiates appropriate referrals to ensure the patient receives comprehensive support (e.g., support groups, hospice).

VII. Continuity of Care

The oncology nurse:

- 7.1 Identifies and advises health-care team of system issues impeding continuity of care for the patient (e.g., waiting times, multi-institutional involvement, human resources, technical difficulties, travel, non-insured costs).
- 7.2 Assists the patient to navigate the health-care system (e.g., transfer of care, accessing social support systems, follow-up care, care plan).
- 7.3 Communicates/collaborates with the interdisciplinary health-care team (e.g., home care, family physician, nurse) to ensure continuity of care.
- 7.4 Directs the patient to the appropriate health-care professional (e.g., home care, family physician, nurse) to contact if he/she has questions or concerns.

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Note: All references are important but bolded references were chosen by members of the Oncology Examination Committee as “key references” for nurses preparing for the oncology nursing certification examination.

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