

Exam Blueprint and Specialty Competencies

Introduction – Blueprint for the Medical-Surgical Nursing Certification Exam

The primary function of the Blueprint for the CNA Medical-Surgical 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 medical-surgical 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 medical-surgical 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 Medical-Surgical Nursing Certification Exam¹ is a criterion-referenced exam. 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 Medical-Surgical Nursing Certification Exam, the content consists of the competencies of a fully competent practising 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

A working group of eight highly experienced medical-surgical nurses from various regions in Canada created the current list of competencies during a five-day meeting. These competencies were reviewed by a group of seven medical-surgical nurses in Eastern Canada and a subsequent group of eight medical-surgical nurses from Western Canada. The final list of competencies was approved by the Medical-Surgical 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 medical-surgical nurses, the following assumptions were made.

The practice environment

- The medical-surgical environment is challenging, complex, ethically demanding, culturally diverse, technological and dynamic.
- The care of the medical-surgical client is driven by best practice standards and the efficient utilization of internal and external resources.
- The medical-surgical environment is the cornerstone for teaching, acquisition and consolidation of nursing knowledge, skills and critical thinking.
- The medical-surgical nurse practises in a variety of capacities and settings in an environment that promotes safe, efficient, effective health-care services.
- Medical-surgical care is provided at the primary, secondary and tertiary levels in community, acute, chronic and long-term/continuing care settings. Examples include inpatient and outpatient settings, day surgeries, adult medical clinics, primary health clinics, community clinics, pre-admission clinics and military assignments.
- Holistic medical-surgical care is best provided through the collaborative practice of members of an interprofessional team and community partners to meet the physical, emotional, social, spiritual and cultural needs of the client and his/her family.

Person

- The medical-surgical client may be an adult, a family or a community varying in race, gender, language, education, culture, socio-economic background, religion and sexual orientation.
- The medical-surgical client often has multiple, complex comorbidities of increasing acuity and chronicity and may have needs that vary from ambulatory to total care across the adult lifespan. There is increasing representation of persons over 65 years of age.
- The medical-surgical client and his/her family are active participants and consumers of health care.

Family

- The family is defined by the client and may be a participant in care.

Nurse

- The medical-surgical nurse is a leader and pivotal member of the interprofessional health-care team who facilitates timely assessment, care, treatment, education, discharge and follow-up.
- The medical-surgical nurse has primary responsibility to prioritize, organize and coordinate the care of multiple clients with ever-changing, complex, multi-system issues.
- The medical-surgical nurse has responsibility for encouraging health promotion and illness prevention.
- The medical-surgical nurse provides evidence-informed care while maintaining professional competence through ongoing education, research and skill development.
- The medical-surgical nurse strives to achieve a smooth transition of clients and families along the health-care continuum and within the health-care system.
- The medical-surgical nurse respects the client's rights to his/her perception of the health problem and self-determination of care, while understanding the impact of the determinants of health.
- The medical-surgical nurse facilitates the client's and family's ability to cope with stressors related to illness and the environment and promotes access to appropriate and available resources.
- The medical-surgical nurse advocates for ethical, safe, quality care environments promoting the best possible client outcomes.
- The medical-surgical nurse has professional accountability to guide, mentor and share experiences with nurses, students and other health-care providers.
- The medical-surgical nurse continuously adapts in a technologically advancing health-care system.

Health

- Health is a personal concept viewed within the context of the client's personal, cultural, religious and ethical value systems.
- Health exists on a continuum from absence of disease to acute illness, chronic illness, disability, frailty, aging and end of life.
- Health behaviours are directed toward promotion, prevention, maintenance, rehabilitation, restoration or palliation.
- Pain is what the client says it is, in the context of health and illness.

Competency Categories

The competencies are classified under a twelve-category classification scheme. Some of the competencies lend themselves to one or more of the categories; therefore, these twelve 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.

Percentage of Competencies in Each Group

The following table presents the number and the percentage of competencies in each category.

Table 1: Percentage of Competencies in Each Group

Category	Number of competencies	Percentage of the total number of competencies
Neurologic System	18	7%
Eye, Ear, Nose and Throat	28	11%
Cardiovascular System	25	10%
Respiratory System	56	22%
Gastrointestinal System	27	11%
Genitourinary and Reproductive Systems	29	12%
Musculoskeletal and Integumentary	28	11%
Immunology, Hematology and Endocrinology	25	10%
Infectious Diseases, Prevention and Control	18	7%
Pain	7	3%
Delirium, Dementia and Depression	12	5%
Professional, Legal and Ethical Issues	6	2%

Competency Sampling

Using the grouping and guidelines, the Medical-Surgical Nursing Certification Exam will consist of approximately 165 questions; the categories have been given the following weights in the total exam.

Table 2: Competency Sampling

Categories	Approximate weights in the total examination
Neurologic System	7-11%
Eye, Ear, Nose and Throat	2-4%
Cardiovascular System	11-15%
Respiratory System	10-13%
Gastrointestinal System	6-9%
Genitourinary and Reproductive Systems	5-9%
Musculoskeletal and Integumentary	5-9%
Immunology, Hematology and Endocrinology	7-10%
Infectious Diseases, Prevention and Control	8-12%
Pain	8-13%
Delirium, Dementia and Depression	6-9%
Professional, Legal and Ethical Issues	5-8%

Technical Specifications

In addition to the specifications related to the competencies, other variables are considered during the development of the Medical-Surgical 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) and any special functions of exam questions (e.g., 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 or 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 4 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 Medical-Surgical Nursing Certification Exam, 50 to 60 per cent of the questions are presented as independent questions and 40 to 50 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 Medical-Surgical Nursing Certification Exam is aimed at one of three levels: knowledge/comprehension, application or 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 These levels are adapted from the taxonomy of cognitive abilities developed in Bloom, 1956.

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 while 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 medical-surgical 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 about the needs of clients.

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

Table 3: Distribution of Questions for Each Level of Cognitive Ability

Cognitive Ability level	Percentage of items on the Medical-Surgical Nursing Certification Exam
Knowledge/Comprehension	15-25%
Application	50-60%
Critical Thinking	20-30%

Contextual Variables

Client Gender and Age: In the development of the Medical-Surgical Nursing Certification Exam, questions will include only adult clients (i.e., 18 years and older). The age of the client will be determined by the presented health situations. The questions will represent both genders.

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

Client Health Situation: In the development of the Medical-Surgical Nursing Certification Exam, the client is viewed holistically. The client health situations presented also reflect a cross-section of health situations encountered by medical surgical nurses.

Health-Care Environment: Medical-surgical nursing is practised in the primary, secondary and tertiary levels in community, acute, chronic and long-term/continuing care settings. However, medical surgical nursing can also be practised in other settings. Therefore, for the purposes of the Medical-Surgical Nursing Certification Exam, the health-care environment is specified only where it is required for clarity or in order to provide guidance to the examinee.

Conclusions

The Blueprint for the Medical-Surgical Nursing Certification Exam is the product of a collaborative effort between CNA, ASI, Canadian Association of Medical and Surgical Nurses (CAMSNS) and a number of medical-surgical nurses across Canada. Their work has resulted in a compilation of the competencies required of practising medical-surgical nurses and has helped determine how those competencies will be measured on the Medical-Surgical Nursing Certification Exam. A summary of these guidelines can be found in the summary chart: Medical-Surgical Nursing Certification Exam Development Guidelines.

It is recognized that medical-surgical 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

Medical-Surgical Nursing Certification Exam Development Guidelines

Structural Variables																															
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Cognitive Ability Levels of Questions	<table border="0"> <tr> <td>Knowledge/Comprehension</td> <td>15-25% of questions</td> </tr> <tr> <td>Application</td> <td>50-60% of questions</td> </tr> <tr> <td>Critical Thinking</td> <td>20-30% of questions</td> </tr> <tr> <td>Neurologic System</td> <td>7-11% of questions</td> </tr> <tr> <td>Eye, Ear, Nose and Throat</td> <td>2-4% of questions</td> </tr> <tr> <td>Cardiovascular System</td> <td>11-15% of questions</td> </tr> <tr> <td>Respiratory System</td> <td>10-13% of questions</td> </tr> <tr> <td>Gastrointestinal System</td> <td>6-9% of questions</td> </tr> <tr> <td>Genitourinary and Reproductive Systems</td> <td>5-9% of questions</td> </tr> <tr> <td>Musculoskeletal and Integumentary</td> <td>5-9% of questions</td> </tr> <tr> <td>Immunology, Hematology and Endocrinology</td> <td>7-10% of questions</td> </tr> <tr> <td>Infectious Diseases, Prevention and Control</td> <td>8-12% of questions</td> </tr> <tr> <td>Pain</td> <td>8-13% of questions</td> </tr> <tr> <td>Delirium, Dementia and Depression</td> <td>6-9% of questions</td> </tr> <tr> <td>Professional, Legal and Ethical Issues</td> <td>5-8% of questions</td> </tr> </table>	Knowledge/Comprehension	15-25% of questions	Application	50-60% of questions	Critical Thinking	20-30% of questions	Neurologic System	7-11% of questions	Eye, Ear, Nose and Throat	2-4% of questions	Cardiovascular System	11-15% of questions	Respiratory System	10-13% of questions	Gastrointestinal System	6-9% of questions	Genitourinary and Reproductive Systems	5-9% of questions	Musculoskeletal and Integumentary	5-9% of questions	Immunology, Hematology and Endocrinology	7-10% of questions	Infectious Diseases, Prevention and Control	8-12% of questions	Pain	8-13% of questions	Delirium, Dementia and Depression	6-9% of questions	Professional, Legal and Ethical Issues	5-8% of questions
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The Medical-Surgical Nursing Certification Exam List of Competencies

Neurological

The medical-surgical nurse:

- 1.1 Recognizes the clinical presentation of clients with:
 - a) neuromuscular diseases (e.g., Parkinson's, ALS, MS);
 - b) altered levels of consciousness;
 - c) cerebrovascular incidences (e.g., transient ischemic attack/cerebrovascular accident);
 - d) seizures/status epilepticus;
 - e) space-occupying lesions (e.g., tumours); and
 - f) head injury.
- 1.2 Cares for client undergoing the following neurological procedures:
 - a) lumbar punctures; and
 - b) diagnostics (e.g., MRI, CT, angiograms, EEG).
- 1.3 Assesses the neurological system for subtle changes using trending of vital signs and neurological vital signs, motor sensory assessments, functional status and cognitive screenings.
- 1.4 Interprets data related to the neurological system using vital signs and neurological vital signs, laboratory results and diagnostic procedures/imaging.
- 1.5 Selects interventions to appropriately monitor neurological status and maintain cerebral perfusion such as:
 - a) managing fluid and electrolyte balance;
 - b) administering and monitoring pharmacological agents;
 - c) implementing non-pharmacological strategies;
 - d) providing safe client environment (e.g., fall prevention, seizure precautions, behavioural management); and
 - e) addressing client's/family's psychosocial needs.

- 1.6 Evaluates interventions for the client with neurological care needs, adapts plan of care, and communicates and documents plan.
- 1.7 Recognizes and manages potential neurological complications post procedure/event (e.g., embolisms, allergies, bleeding/hemorrhage, renal complications, shock, infection, headaches, seizures, pain).
- 1.8 Implements education using an individualized teaching plan for the client with neurological care needs (e.g., client's readiness to learn, additional resources, evaluating client's understanding, discharge planning, safety, adaptation to new body image).

Eye, Ear, Nose and Throat

The medical-surgical nurse:

- 2.1 Recognizes the clinical presentation of clients with:
 - a) inflammatory processes (e.g., stomatitis, pharyngitis, epiglottitis);
 - b) infectious processes (e.g., tonsillitis, sinusitis, peritonsillar abscesses);
 - c) hearing loss;
 - d) visual impairment (e.g., macular degeneration, cataracts, glaucoma);
 - e) traumatic injuries (e.g., eye trauma, facial fractures, dental/jaw fractures);
 - f) epistaxis; and
 - g) oral-pharyngeal cancers.
- 2.2 Cares for client undergoing the following EENT procedures:
 - a) incision and drainage;
 - b) nasal packing;
 - c) swallowing assessments;
 - d) eye surgery (e.g., cataracts, glaucoma); and
 - e) neck and throat surgery (e.g., tonsillectomy, thyroidectomy, tracheotomy).

- 2.3 Assesses the EENT system using:
- a) trending vital signs including O₂ saturation and pain;
 - b) assessment of the respiratory system and airway patency; and
 - c) functional assessment (e.g., visual and auditory acuity).
- 2.4 Interprets data related to the EENT system using vital signs, laboratory results and diagnostic procedures/imaging.
- 2.5 Selects interventions to appropriately monitor and manage EENT status such as:
- a) maintaining adequate airway;
 - b) optimizing ventilation;
 - c) maintaining fluid and electrolyte balance;
 - d) providing nutritional support and monitoring;
 - e) administering and monitoring pharmacological agents;
 - f) implementing non-pharmacological strategies;
 - g) providing safe client environment (e.g., wire cutters, fall risk, mobility);
 - h) addressing impaired communication (e.g., aural, visual and auditory); and
 - i) addressing client's/family's psychosocial needs.
- 2.6 Evaluates interventions for the client with EENT care needs, adapts plan of care, and communicates and documents plan.
- 2.7 Recognizes and manages EENT complications post invasive procedure (e.g., embolisms, allergies, bleeding/hemorrhage, renal complications, shock, infection, pain).
- 2.8 Partners for individualized client learning related to EENT care needs (e.g., client's readiness to learn, additional resources, evaluating client's understanding, discharge planning, adaptation to new body image).

Cardiovascular

The medical-surgical nurse:

- 3.1 Recognizes the clinical presentation of clients with:
 - a) heart failure (e.g., pulmonary edema);
 - b) venous thromboembolism;
 - c) acute coronary syndromes;
 - d) heart rate disturbances;
 - e) infectious and inflammatory processes (e.g., endocarditis, pericarditis, systemic sepsis);
 - f) hypertension/hypotension;
 - g) shock;
 - h) cardiac arrest; and
 - i) peripheral vascular disease.
- 3.2 Cares for client with or undergoing the following:
 - a) venous access devices;
 - b) vascular surgery (e.g., femoral popliteal bypass, stenting);
 - c) pacemaker;
 - d) angiograms/angioplasty; and
 - e) exercise tolerance test.
- 3.3 Assesses the cardiovascular system using trending of vital signs, cardiac and peripheral vascular assessment and functional status.
- 3.4 Interprets data related to the cardiovascular system using trending of vital signs, laboratory results and diagnostic procedures/imaging.

- 3.5 Selects interventions to appropriately monitor and manage cardiovascular status such as:
 - a) trending vital signs, cardiovascular assessment and cardiac rhythm;
 - b) managing fluid and electrolyte balance;
 - c) administering and monitoring pharmacological agents;
 - d) implementing non-pharmacological strategies;
 - e) providing safe client environment (e.g., fall risk, hypotension); and
 - f) addressing client's/family's psychosocial needs.
- 3.6 Evaluates interventions for the client with cardiovascular care needs, adapts plan of care, and communicates and documents plan.
- 3.7 Recognizes and manages actual or potential cardiovascular complications post procedure/event (e.g., embolisms, allergies, bleeding/hemorrhage, renal complications, shock, infection).
- 3.8 Partners for individualized client learning related to cardiovascular care needs (e.g., client's readiness to learn, additional resources, evaluating client's understanding, discharge planning, safety).

Respiratory

The medical-surgical nurse:

- 4.1 Recognizes the clinical presentation of clients with:
 - a) partial or complete airway obstruction (e.g., tongue, foreign bodies, mucous plugs);
 - b) restrictive lung diseases (e.g., pneumonia);
 - c) obstructive lung diseases (e.g., COPD, emphysema, asthma);
 - d) interstitial lung diseases (e.g., cystic fibrosis);
 - e) pulmonary emboli;
 - f) pleural effusion;
 - g) empyema;
 - h) obstructive sleep apnea;
 - i) lung cancer;
 - j) pneumothorax; and
 - k) atelectasis.

- 4.2 Cares for client with or undergoing the following procedures:
- a) surgery (e.g., lobectomy, tracheostomy, pneumonectomy, thorocotomy);
 - b) chest tube (e.g., insertions, removal);
 - c) pleurocentesis;
 - d) pleurodesis;
 - e) bronchoscopy; and
 - f) pulmonary function test.
- 4.3 Assesses the respiratory system using:
- a) trending of vital signs including pulse oximetry;
 - b) respiratory assessment (e.g., inspection, auscultation, palpation, percussion, level of consciousness); and
 - c) functional status (e.g., exercise tolerance, fatigue).
- 4.4 Interprets data related to the respiratory system using trending of vital signs, arterial blood gases, laboratory results and diagnostic procedures/imaging.
- 4.5 Selects interventions to appropriately monitor and manage respiratory status such as:
- a) maintaining adequate airway including non-invasive positive pressure ventilation devices;
 - b) optimizing gaseous exchange (e.g., positioning, mobilizing, pain management, oxygen, incentive spirometry);
 - c) administering and monitoring pharmacological agents;
 - d) managing fluid and electrolyte balance;
 - e) implementing non-pharmacological strategies;
 - f) providing safe client environment; and
 - g) addressing client's/family's psychosocial needs.
- 4.6 Evaluates interventions for the client with respiratory care needs (e.g., recognizing subtle changes, adapting plan, communicating/documenting plan).
- 4.7 Recognizes and manages actual or potential respiratory complications post procedure/event (e.g., embolisms, allergies, bleeding/hemorrhage, renal complications, shock, infection).
- 4.8 Partners for individualized client learning related to respiratory care needs (e.g., client's readiness to learn, additional resources, evaluating client's understanding, discharge planning, safety).

Gastrointestinal Systems

The medical-surgical nurse:

- 5.1 Recognizes the clinical presentation of clients with:
 - a) mechanical gastrointestinal disorders (e.g., bowel obstruction, constipation/diarrhea, hernia, dysphagia);
 - b) gastrointestinal/dietary disorders (e.g., pancreatitis, gastritis, GERD, peritonitis, appendicitis, irritable bowel syndrome, pernicious anemia);
 - c) liver diseases (e.g., cirrhosis, hepatic failure);
 - d) inflammatory bowel diseases (e.g., Crohn's disease, ulcerative colitis, diverticulitis);
 - e) gallbladder diseases (e.g., cholelithiasis, cholecystitis);
 - f) cancer;
 - g) GI bleeds (e.g., esophageal varices, peptic ulcers, upper and lower bleeds); and
 - h) bariatric issues.
- 5.2 Cares for client undergoing the following gastrointestinal procedures:
 - a) diagnostic imaging;
 - b) surgical interventions (e.g., ostomies, resections);
 - c) scopes (e.g., gastroscopes, sigmoidoscopes, colonoscopes, ERCP);
 - d) insertion of enteral feeding tubes (e.g., PEG); and
 - e) paracentesis.
- 5.3 Assesses the gastrointestinal system using trending of vital signs, weight gain/loss, abdominal assessment, nutritional assessment and functional status.
- 5.4 Interprets data related to the gastrointestinal system using vital signs, laboratory results and diagnostic procedures imaging.
- 5.5 Selects interventions to appropriately monitor and manage gastrointestinal health such as:
 - a) optimizing gastrointestinal function;
 - b) managing nasogastric tubes, enteral feeding, drains and ostomies;
 - c) performing abdominal assessment (e.g., rigidity, distention, tenderness);
 - d) administering and monitoring pharmacological agents;
 - e) implementing non-pharmacological strategies;

- f) providing and monitoring nutritional support (e.g., total parenteral nutrition);
 - g) managing fluid and electrolyte balance;
 - h) providing safe client environment; and
 - i) addressing client's/family's psychosocial needs.
- 5.6 Evaluates interventions for the client with gastrointestinal care needs (e.g., recognizing subtle changes, adapting plan, communicating/documenting plan).
- 5.7 Recognizes and manages actual or potential gastrointestinal complications post procedure/event (e.g., nausea/vomiting/diarrhea, obstructions, paralytic ileus, embolisms, allergies, bleeding/hemorrhage, wound dehiscence/evisceration, shock, perforation, infection).
- 5.8 Partners for individualized client learning related to gastrointestinal care needs (e.g., client's readiness to learn, additional resources, evaluating client's understanding, discharge planning, safety).

Genitourinary and Reproductive Systems

The medical-surgical nurse:

- 6.1 Recognizes the clinical presentation of clients with:
- a) acute/chronic renal failure (e.g., rhabdomyolysis);
 - b) infections (e.g., UTI, glomerulonephritis, pyelonephritis, prostatitis, cystitis);
 - c) incontinence, urinary retention and obstruction;
 - d) cancer (e.g., renal, prostate, ovarian, breast);
 - e) prolapse;
 - f) urolithiasis; and
 - g) benign prostatic hypertrophy.
- 6.2 Cares for client undergoing the following procedures:
- a) diagnostic imaging/procedure (e.g., IVP, cystoscopy);
 - b) urinary diversions (e.g., neobladder, ileal conduit);
 - c) continuous bladder irrigation (CBI);
 - d) tubes and drains;
 - e) dialysis (e.g., peritoneal, hemodialysis);

- f) urinary catheterization (e.g., suprapubic, urethral);
 - g) nephrectomy;
 - h) male-specific surgical procedures (e.g., TURP, radical prostatectomy, orchidectomy);
 - i) female-specific surgical procedures (e.g., mastectomy, lumpectomy, hysterectomy, transvaginal taping, uterine artery embolization); and
 - j) reconstructions (e.g., breast, urologic).
- 6.3 Assesses the genitourinary and/or reproductive systems using monitoring and trending of intake/output, urine/vaginal flow characteristics and voiding patterns.
- 6.4 Interprets data related to the genitourinary and/or reproductive system using trending of vital signs, laboratory results and diagnostic procedures/imaging.
- 6.5 Selects interventions to appropriately monitor and manage genitourinary and/or reproductive status such as:
- a) optimizing genitourinary function (e.g., early catheter removal, bladder training);
 - b) assessing the effects of nephrotoxic agents or delayed clearance (e.g., diuretics, vasopressors, antibiotics, radiographic dyes);
 - c) administering and monitoring pharmacological agents;
 - d) implementing non-pharmacological strategies;
 - e) managing fluid and electrolyte balance;
 - f) providing safe client environment; and
 - g) addressing client's/family's psychosocial needs.
- 6.6 Evaluates interventions for the client with genitourinary and/or reproductive care needs (e.g., recognizing subtle changes, adapting plan, communicating/documenting plan).
- 6.7 Recognizes and manages actual or potential genitourinary and/or reproductive complications post procedure/event (e.g., embolisms, allergies, bleeding/hemorrhage, renal complications, shock, infection).
- 6.8 Partners for individualized client learning related to genitourinary and/or reproductive care needs (e.g., client's readiness to learn, additional resources, evaluating client's understanding, discharge planning, safety, body image).

Musculoskeletal and Integumentary

The medical-surgical nurse:

- 7.1 Recognizes the clinical presentation of clients with:
 - a) osteoarthritis;
 - b) pathological/traumatic fractures (e.g., osteoporosis, bone cancers, motor vehicle collisions);
 - c) muscle, soft tissue and/or ligament injuries;
 - d) infections (e.g., necrotizing fasciitis, cellulitis, osteomyelitis, abscesses);
 - e) skin cancers; and
 - f) ulcers (e.g., pressure, venous, arterial).
- 7.2 Cares for client with or undergoing the following:
 - a) joint replacement;
 - b) internal/external fixation (e.g., casting, traction, bracing, pinning and plating, fusions);
 - c) amputation;
 - d) incision and drainage;
 - e) wound care (e.g., debridement, vacuum-assisted closure, skin grafts); and
 - f) biopsy.
- 7.3 Assesses the musculoskeletal/integumentary system using trending of vital signs, neurovascular assessment, peripheral vascular assessment, skin assessment and functional status.
- 7.4 Assesses for mobility risk factors (e.g., falls, skin breakdown, use of Braden scale).
- 7.5 Interprets data related to the musculoskeletal/integumentary system using vital signs, peripheral vascular assessment, laboratory results and diagnostic procedures/imaging.
- 7.6 Selects interventions to appropriately monitor and manage musculoskeletal or integumentary status such as:
 - a) optimizing functional status;
 - b) administering and monitoring pharmacological agents;
 - c) implementing non-pharmacological strategies;
 - d) managing fluid and electrolytes balance;

- e) managing changes in neurovascular assessment;
 - f) managing assistive devices (e.g., braces, walkers, prosthesis);
 - g) promoting healthy skin (pressure redistribution strategies);
 - h) promoting optimal nutrition;
 - i) providing safe client environment; and
 - j) addressing client's/family's psychosocial needs.
- 7.7 Evaluates interventions for the client with musculoskeletal/integumentary care needs (e.g., recognizing subtle changes, adapting plan, communicating/documenting plan).
- 7.8 Manages actual or potential musculoskeletal/integumentary complications post procedure/event (e.g., embolisms, allergies, bleeding/hemorrhage, renal complications, shock, infection, compartment syndrome).
- 7.9 Partners for individualized client learning related to musculoskeletal/integumentary care needs (e.g., client's readiness to learn, additional resources, evaluating client's understanding, discharge planning, safety, body image).

Immunology, Hematology and Endocrinology

The medical-surgical nurse:

- 8.1 Recognizes the clinical presentation of clients with:
- a) diabetes (e.g., hyper/hypoglycemia, diabetic ketoacidosis);
 - b) thyroid conditions (e.g., hypothyroidism, hyperthyroidism);
 - c) adrenal gland conditions (e.g., Addison's disease, Cushing's syndrome, syndrome of inappropriate antidiuretic hormone (SIADH), diabetes insipidus);
 - d) blood dyscrasia (e.g., multiple myeloma, hemophilia, anemia, sickle cell crisis, polycythemia, thrombocytopenia);
 - e) immunosuppression;
 - f) autoimmune disorder (e.g., rheumatoid arthritis, systemic lupus erythematosus, gout); and
 - g) blood cancer.

- 8.2 Cares for client with or undergoing the following immunology/hematology/ endocrinology procedures:
- a) thyroidectomy;
 - b) chemotherapy/radiation therapy;
 - c) bone marrow aspirate; and
 - d) blood and blood product transfusion.
- 8.3 Assesses the immunology/hematology/endocrinology system using trending of vital signs, glucose levels, functional status, skin inspection, weight gain/loss and nutritional status.
- 8.4 Prevents and treats opportunistic infections.
- 8.5 Interprets data related to the immunology/hematology/endocrinology system using vital signs, laboratory results and diagnostic procedures/imaging.
- 8.6 Selects interventions to appropriately monitor and manage alterations in immunology/ hematology/ endocrinology status such as:
- a) managing blood glucose levels;
 - b) administering blood and blood products;
 - c) administering and monitoring pharmacological agents (e.g., cytotoxic agents);
 - d) implementing non-pharmacological strategies;
 - e) initiating precautions (e.g., protective isolation);
 - f) promoting optimal nutrition;
 - g) providing and promoting safe client environment; and
 - h) addressing client's/family's psychosocial needs.
- 8.7 Evaluates interventions for the client with immunology/hematology/endocrinology care needs (e.g., recognizing subtle changes, adapting plan, communicating/documenting plan).
- 8.8 Recognizes and manages actual or potential immunology/hematology/endocrinology complications post procedure/event (e.g., embolisms, allergies, bleeding/hemorrhage, renal complications, shock, infection).
- 8.9 Partners for individualized client learning related to immunology/hematology/ endocrinology care needs (e.g., client's readiness to learn, additional resources, evaluating client's understanding, discharge planning, safety, nutrition, knowledge of lifestyle changes, medication regimens, support groups).

Infectious Diseases, Prevention and Control

The medical-surgical nurse:

- 9.1 Recognizes the clinical presentation of clients with:
 - a) antibiotic-resistant organisms (e.g., MRSA, VRE, C. difficile, ESBL);
 - b) non-communicable infections (e.g., necrotizing fasciitis, cellulitis);
 - c) communicable infections (e.g., hepatitis, HIV/AIDS);
 - d) severe respiratory infection (e.g., SARS, TB, influenza);
 - e) systemic inflammatory response syndrome (e.g., sepsis); and
 - f) sexually transmitted infections (e.g., chlamydia, gonorrhea, syphilis).
- 9.2 Assesses client risk factors related to infectious diseases, prevention and control (e.g., lifestyle, previous hospitalization).
- 9.3 Interprets data and client's clinical presentation related to infectious diseases using trending of vital signs, laboratory results and diagnostic procedures/imaging.
- 9.4 Notifies appropriate infection prevention-control practitioner and/or public health agency regarding reportable conditions, identification of close contacts and environmental containment.
- 9.5 Selects interventions to appropriately manage and monitor infectious disease/prevention/control status such as:
 - a) initiating and maintaining isolation precautions for nurse and/or family;
 - b) specimen collection;
 - c) administering and monitoring pharmacological agents;
 - d) implementing non-pharmacological strategies;
 - e) providing safe client environment; and
 - f) managing psychosocial implications of living with communicable disease.
- 9.6 Evaluates interventions for the client with infectious disease/prevention/control care needs (e.g., recognizing subtle changes, adapting plan, communicating/documenting plan).
- 9.7 Recognizes and manages actual or potential complications related to infectious diseases (e.g., allergies, systemic complications, shock).

- 9.8 Partners for individualized client learning related to infectious disease/prevention/control care needs (e.g., client's readiness to learn, additional resources, evaluating client's understanding, discharge planning, safety, nutrition, knowledge of lifestyle changes, medication regimens, support groups).

Pain

The medical-surgical nurse:

- 10.1 Identifies types of pain (e.g., neuropathic, visceral, somatic, psychological).
- 10.2 Assesses pain (e.g., functional limitation, physical examination, psychosocial evaluation, pain scales, vital signs, pain history, pain management, subjective health status).
- 10.3 Identifies issues related to ongoing substance use.
- 10.4 Implements nursing interventions including:
- a) implementing pain management regimes (e.g., scheduled, p.r.n., breakthrough, PCA, nerve blocks, epidural, intrathecal); and
 - b) incorporating adjuvant therapies and non-pharmacological therapies (e.g., tricyclic antidepressants, anticonvulsants, sedatives, relaxation, deep breathing, hypnosis, massage, TENS).
- 10.5 Monitors and manages the efficacy and adverse effects of pain treatment.
- 10.6 Partners for individualized client learning related to the client experiencing pain (e.g., client's readiness to learn, additional resources, evaluating client's understanding, discharge planning, safety, elimination, knowledge of lifestyle changes, medication regimens, support groups, end-of-life care).

Delirium, Dementia and Depression

The medical-surgical nurse:

- 11.1 Recognizes the clinical presentation of clients with:
- a) delirium;
 - b) dementia; and
 - c) depression.
- 11.2 Assesses the client using neurocognitive and affective screening tools.

- 11.3 Assesses the underlying cause of delirium (e.g., electrolyte imbalance, UTI, pain medication).
- 11.4 Interprets neurocognitive and affective screening data.
- 11.5 Selects interventions to appropriately manage alterations in psychosocial and mental health status such as:
 - a) utilizing behaviour management techniques to preserve dignity;
 - b) implementing safety strategies (e.g., environmental modifications, constant care, minimizing risk factors, appropriate use of restraints);
 - c) administering and monitoring pharmacological agents; and
 - d) implementing non-pharmacological agents to manage underlying cause of behaviours (e.g., therapeutic communication, complementary therapies, family involvement, visualization, relaxation techniques, support groups).
- 11.6 Evaluates interventions for client with delirium, dementia and depression care needs (e.g., recognizing subtle changes, adapting plan, communicating/documenting plan).
- 11.7 Partners for individualized client learning related to the client with delirium, dementia and depression care needs (e.g., client's and/or family's readiness to learn, additional resources, evaluating client's understanding, discharge planning, safety, nutrition, knowledge of lifestyle changes, medication regimens, support groups).

Professional, Legal and Ethical Issues

The medical-surgical nurse:

- 12.1 Recognizes ethical issues and seeks assistance in addressing them (e.g., end of life, refusal of blood products, refusal of care, withdrawal of treatment).
- 12.2 Provides culturally congruent care (e.g., interpreter, belief/spiritual systems, religious rites and food preparation).
- 12.3 Approaches conflict situations in a constructive manner (e.g., moral and ethical dilemmas, horizontal violence, family conflict).
- 12.4 Identifies individual client problems that require investigation (e.g., abuse, aggression, neglect).
- 12.5 Prioritizes nursing care in varying or unexpected situation (e.g., staff shortages, skill mix changes, client acuity/intensity).
- 12.6 Participates in peer feedback.