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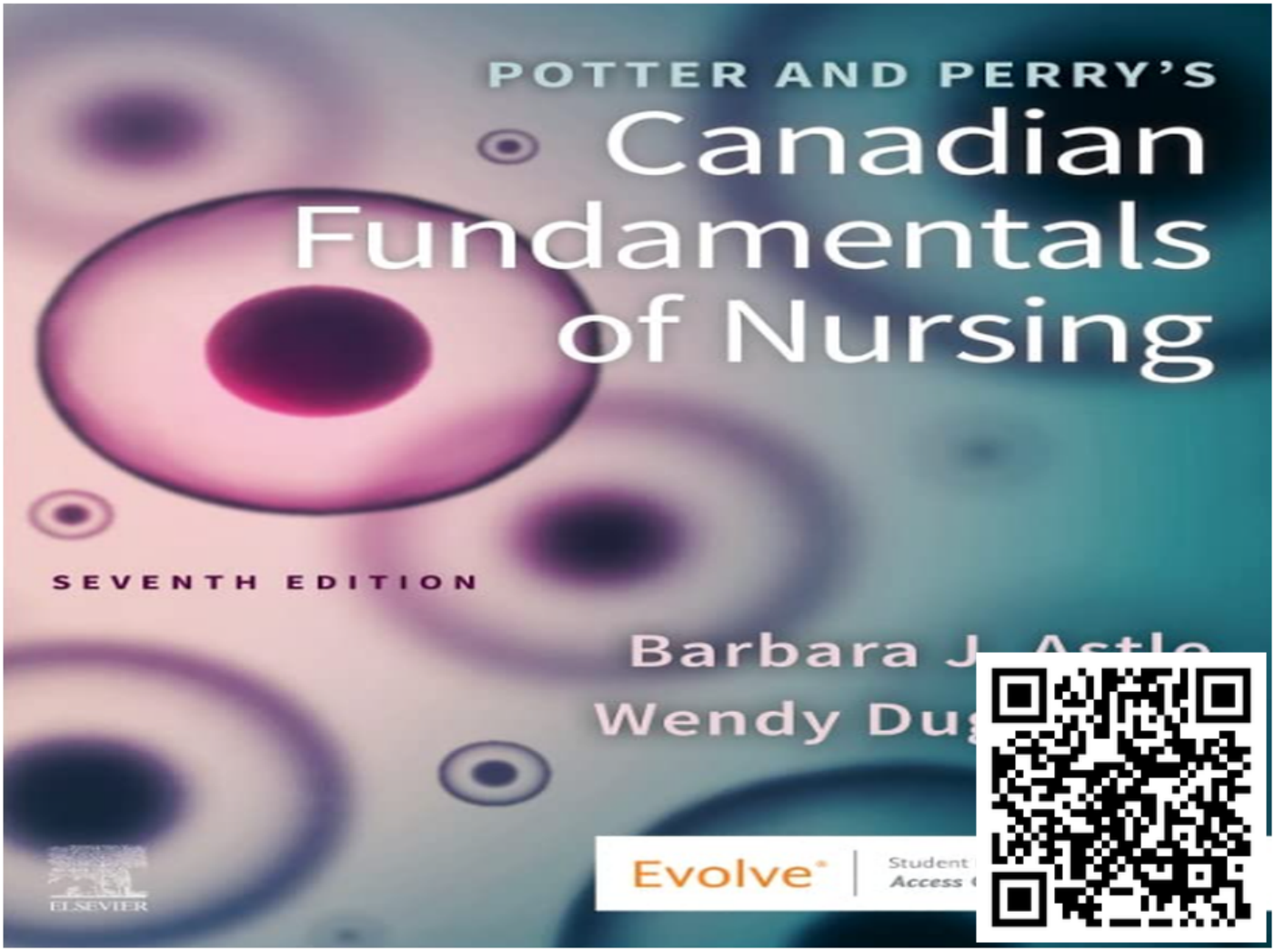

POTTER AND PERRY'S

Canadian Fundamentals of Nursing

SEVENTH EDITION

Barbara J. Astle
Wendy Duggleby

ELSEVIER

Potter and Perry's Canadian Fundamentals of Nursing

SEVENTH EDITION

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Preface to The Student

Potter and Perry's Canadian Fundamentals of Nursing provides you with all of the fundamental nursing concepts and skills you will need in a visually appealing, easy-to-use format. As you begin your nursing education, it is very important that you have a resource that includes all of the information required to prepare you for lectures, classroom activities, clinical assignments, and examinations. We've designed this text to meet all of those needs.

Check out the following special learning aids featured in *Potter and Perry's Canadian Fundamentals of Nursing*, Seventh Edition.

Learning Objectives begin each chapter to help you focus on the key information that follows.

Key Terms are listed at the beginning of each chapter and are boldfaced and defined in the text. Page numbers help you quickly find where each term is defined.

Case Study beginning each chapter relates to the chapter topic, and end-of-chapter clinical-judgement review questions refer to this case study.

1

Health and Wellness

Written by Deborah Gibson, RN, MSN

OBJECTIVES

Mastery of content in this chapter will enable you to:

- Define the key terms listed.
- Describe ways that definitions of health have been conceptualized.
- Describe key characteristics of medical, behavioural, and socioenvironmental approaches to health.
- Identify factors that have led to each approach to health.
- Describe contributions of the following Canadian publications to conceptualizations of health and health determinants: *Lalonde Report*, *Ottawa Charter*, *Epp Report*, *Strategies for Population Health*, *Jakarta Declaration*, *Bangkok Charter*, and *Toronto Charter*.
- Identify key health determinants and their interrelationships and how they influence health.
- Contrast distinguishing features of health promotion and disease prevention.
- Describe the three levels of disease prevention.
- Identify and give examples of the five health promotion strategies discussed in the *Ottawa Charter*.
- Analyze how the nature and scope of nursing practice are influenced by different conceptualizations of health and health determinants.

KEY TERMS

At-risk population
Behavioural approach
Behavioural risk factors
Determinants of health
Disease
Disease prevention
Downstream thinking
Evidence-informed decision making
Food insecurity
Health
Health as actualization
Health as actualization and stability
Health as resource
Health as stability
Health as unity
Health disparities
Health equity
Health field concept
Health inequalities
Health inequities
Health literacy
Health promotion
Health promotion strategies
Identity politics
Illness
Medical approach
Physiological risk factors
Population health approach
Prerequisites for health
Psychosocial risk factors
Racialization
Racism
Risk factor
Social determinants of health
Socioenvironmental approach
Socioenvironmental risk conditions
Structural vulnerability
Systemic racism
Upstream thinking
Wellness

WEBSITE

http://evolve.elsevier.com/Canada/Potter/fundamentals/

CASE STUDY

You are a nurse who is working in a small rural community with a population of 1 200 people, limited resources, and high rates of unemployment. Most of the community consists of families living in small homes. Meet the Lazcer family. There are nine members living in a small two-bedroom house that is a 15-minute drive from town. Joey Lazcer (preferred pronouns: he/him), who is 70 years of age, has been unable to work because of lung problems (chronic obstructive pulmonary disease; COPD) he developed from working in the local mine. Joey indicates that he is happy to have his family around, despite the crowded living circumstances. You notice that the house feels cold and a bit drafty when you enter. Joey informs you that he and his family are often cold, but he does not have the money to buy a new furnace or fix the broken living room window. He tells you that they put a cap over the window in winter, but it still gets as cold as -29°C. Joey states that he finds it very difficult to breathe in the cold air during winter. His partner, Elsie (preferred pronouns: she/her), who is 68 years

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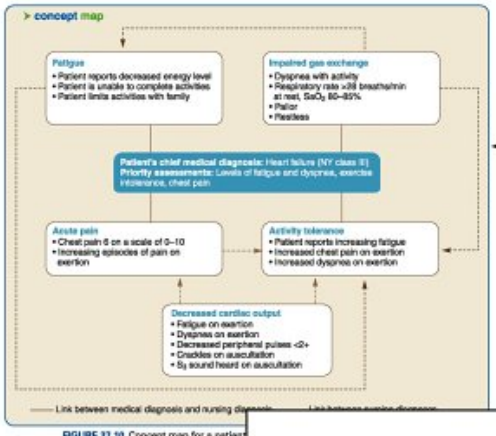

FIGURE 37.10 Concept map for a patient

Concept Maps show you the association among multiple nursing diagnoses and their relationship to medical diagnoses.

experienced angina, immediate investigation and treatment of the angina is the priority.

Teamwork and Collaboration

Planning involves understanding a patient's need to maintain function and independence. To ensure comprehensive patient-centred care, nurses need to collaborate with the multidisciplinary team. Contributions from the primary health care provider, physiotherapists, kinesiologists, and occupational therapists are essential in planning care. The nurse must always individualize a care plan to meet the actual and potential needs of the patient (Box 37.9).

Implementation

Health Promotion. A sedentary lifestyle contributes to the development of health-related challenges. As a nurse, you can promote health by encouraging patients to engage in a regular exercise program in any setting (Box 37.10). Discuss the recommendations for physical activity and fitness with the patient (Box 37.11). Design a program of physical activity in collaboration with the patient, taking into account age and developmental (see Box 37.11) and cultural factors. Collaborate with the patient's health care provider, physiotherapist, occupational therapist, and other members of the health care team to ensure patient-centred care.

Before starting an exercise program, teach patients to calculate their maximum heart rate by subtracting their current age in years from 220

patient's level of knowledge regarding home safety so that deficiencies can be corrected with an individualized nursing care plan.

CRITICAL THINKING

Successful critical thinking requires a synthesis of a nurse's knowledge and experience, as well as of information gathered from patients, combined with professional standards. Clinical judgments require nurses to anticipate necessary information, analyze the data, and make decisions regarding patient care. Critical thinking is an ongoing process. During an assessment (Figure 38.3), the nurse should consider all critical thinking elements and information about the specific patient to make appropriate nursing diagnoses.

In the case of safety, a nurse integrates knowledge from nursing and other scientific disciplines with previous experiences in caring for patients who were at risk for or had an injury. This is combined with critical thinking attitudes such as responsibility and discipline, and any standards of practice that are applicable. Agency guidelines and professional nursing associations provide standards for nursing activities such as medication administration, fall-prevention steps, and infection control to guide nurses in the provision of safe care. One such set of standards is the Registered Nurses' Association of Ontario (RNAO) (2017) *Preventing Falls and Reducing Injury from Falls*. For example, while assessing a patient's home environment, the nurse needs to consider typical locations within the home where dangers commonly exist. For a patient who has a visual impairment, the nurse applies previous experience in caring for patients with visual changes to anticipate how to thoroughly assess the patient's needs. Critical thinking directs the nurse to anticipate what needs to be assessed and how to make conclusions about available data.

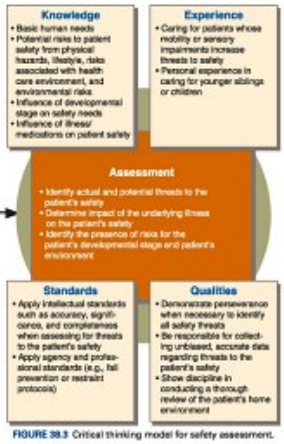

FIGURE 38.3 Critical thinking model for safety assessment.

The unique **Critical Thinking Model** shows clearly how the nursing process and critical thinking come together to help you provide the best care for your patients.

SAFETY AND THE NURSING PROCESS

Nurses are responsible for incorporating critical thinking skills when using the nursing process, assessing each patient and their environment for hazards that threaten safety, and planning and intervening appropriately to maintain a safe environment. The nursing process provides a clinical decision-making approach to develop and implement an individualized plan of safe patient care.

Assessment

To conduct a thorough patient assessment, nurses must consider possible threats to a patient's safety, including the patient's immediate environment, as well as any individual risk factors.

Health History. By conducting a health history, the nurse gathers data about the patient's level of wellness to determine if any underlying conditions exist that pose threats to safety. For example, nurses should give special attention to assessing the patient's gait, muscle strength and coordination, balance, and vision. A review of the patient's developmental status must be considered as assessment information is analyzed. A nurse must also review whether the patient has been exposed to any environmental hazards or is taking medications or undergoing procedures that pose risks. For example, the use of diuretics increases the frequency of voiding and may result in the patient having to use toilet facilities more often. This may then increase the likelihood of a fall, as these often occur when patients get out of bed quickly because of urinary urgency.

Patient's Home Environment. When caring for a patient in the home, a home hazard assessment is necessary. The nurse should walk through the home with the patient and discuss how the patient normally conducts daily activities. Key areas to inspect are the bathroom, kitchen, and areas with stairs. For example, when assessing the adequacy of the lighting, the nurse should inspect areas where the patient moves and works, such as outside walkways, steps, interior halls, and doorways. Getting a sense of the patient's routine helps the nurse recognize less obvious hazards.

Health Care Environment. When a patient is being cared for within a health care facility, a nurse must determine if any hazards exist in the immediate care environment. Does the placement of equipment or furniture pose barriers to ambulation? Does the positioning of the patient's bed allow the patient to reach items on a bedside table? Does the patient need assistance with ambulation? Is the patient aware of activity restrictions? Has the patient been taught to use the call bell, and is it within reach? Collaboration with clinical engineering staff is essential to make sure that equipment has been assessed and is in proper functioning condition.

Risk for Falls. Assessment of the patient's fall risk factors is essential in determining specific needs and targeting interventions to prevent falls. A fall assessment tool (Table 38.1) can help determine potential risks before accidents and injuries result. The tool shown in Table 38.1 is the Hendrich II Fall Risk Model. This tool is intended for use in acute care settings and takes into account the patient's ability to move independently

528 UNIT VII Scientific Basis for Nursing Practice

NURSING PROCESS AND THERMOREGULATION

Knowledge of the physiology of body temperature regulation is essential for assessing and evaluating the patient's response to temperature alterations and for intervening safely. Independent measures can be implemented to increase or minimize heat loss, promote heat conservation, and increase comfort. These measures complement the effects of medically ordered therapies. Many measures can be taught to caregivers and parents of children.

Assessment

Sites. Core and surface body temperature may be measured at several sites. The core temperatures of the pulmonary artery, esophagus, nasopharynx, and urinary bladder are measured in critical care settings. These measurements require the use of invasive devices placed in body cavities or organs that continuously display readings on an electronic monitor.

Intermittent temperature measurements are obtained invasively from the sites of the mouth, rectum, and tympanic membrane or noninvasively from the axilla and temporal artery sites. Chemically prepared thermometer patches can also be applied to the skin. In order to measure oral, rectal, axillary, and skin temperature, blood circulation at the measurement site must be effective so that the heat of the blood is conducted to the thermometer probe. Tympanic temperature relies on the radiation of body heat to an infrared sensor. The temporal artery blood supply is believed to come from the external carotid artery, directly from the heart and centre of the body, which has a relatively high and stable blood flow, indicating the body's central temperature (Mahmoudi et al., 2020, p. 148). Because they share the same arterial blood supply as the hypothalamus, tympanic and temporal artery temperature measurements can be considered core temperatures (Pursell et al., 2009).

Correct measuring technique must be used at each site (Skill 31.1) to ensure accurate readings. The temperature obtained varies according to the site used but should remain between 36.0°C and 38.0°C. Rectal temperatures are usually 0.5°C higher than oral temperatures, and axillary temperatures are usually 0.5°C lower than oral temperatures. Each measurement site has advantages and disadvantages (Box 31.4). The rectal site was traditionally chosen because of the close replication of core body temperature but is now less routinely measured given the availability of less invasive and accurate alternative measurement devices such as the temporal thermometer. The safest and most

SKILL 31.1 MEASURING BODY TEMPERATURE

Delegation Considerations

The task of measuring temperature can be delegated to unregulated care providers (UCPs). The nurse is responsible for assessing the impact of changes in body temperature; therefore, when the task of measuring temperature is delegated, it is important to inform the UCP about the following:

- The appropriate route and device to measure temperature
- Patient-specific factors that can falsely raise or lower temperature
- Appropriate precautions when positioning the patient
- Frequency of temperature measurement for the patient
- Usual values for patient
- Abnormalities that should be reported to the health care provider

Equipment

- Appropriate thermometer
- Soft tissue or wipe
- Alcohol swabs
- Lubricant (for rectal measurements only)
- Pen and either vital sign flow sheet or documentation form

PROCEDURE

STEPS

1. Identify patient using at least two person specifics (e.g., name and date of birth or name and medical record number) according to employer policy.
2. Assess for signs and symptoms of temperature alterations and for factors that influence body temperature.
3. Determine previous activity that would interfere with accuracy of temperature measurement. Wait before measuring oral temperature in the following situations: 2 minutes after patient has smoked, 5 minutes after patient has chewed gum, and 20 minutes after patient has ingested hot or cold liquids or foods.
4. Determine appropriate temperature site and device for patient.
5. Explain to patient the route by which temperature will be measured and the importance of maintaining the proper position until the reading is complete.
6. Perform hand hygiene.
7. Obtain temperature reading.

890 UNIT VIII Basic Physiological Needs

BOX 38.10 RESEARCH HIGHLIGHT

Effects of Nursing Rounds

Research Focus

Hospitalized patients often require assistance with basic activities of daily living such as eating, toileting, and ambulating. Patients usually communicate their needs by use of a call light. Not meeting a patient's needs in a timely fashion decreases patient satisfaction and places them at greater risk for injury. The nurse plays a key role in the prevention of falls and injuries related to falls.

Research Abstract

Christensen and colleagues (2018) wanted to know the impact of intentional rounding on patient and nursing outcomes and aimed to identify the barriers and facilitators surrounding implementation.

Methods

In their systematic literature review, they found 21 articles that met their inclusion criteria. Six studies reported a reduction in the number of falls, and another five studies reported a reduction in call bell use following the introduction of intentional rounding. Although results were positive, the overall quality of the studies was weak.

Implications for Practice

- Intentional rounding has demonstrated mixed results.
- A robust evaluation plan is needed to measure the impact of intentional rounding.

From Christensen, A., Cowanty, L., Graham, R., et al. (2018). Intentional rounding in acute adult healthcare settings: A systematic mixed-method review. *Journal of Clinical Nursing, 27*(9-10), 1768–1782. https://doi.org/10.1111/jocn.14370

A physical restraint immobilizes a patient or a patient's extremity (CNO, 2009). The optimal goal with all patients is to avoid the use of physical restraints, and alternatives must always be considered. However, patients who are at risk for injury to self or others may need physical restraints temporarily. Physical restraints do not prevent falls and may actually increase the severity of an injury from a fall (RNAO, 2017).

Whenever patients are physically restrained, there is a natural tendency for them to try to remove the restraint, and this can lead to injury. Restrained patients can easily become entangled in a restraint device when attempting to get out of it. In some cases, death has resulted from strangulation or asphyxiation. As a result, long-term care facilities and many health care facilities have banned the use of the jacket (vest) restraint. The use of any physical restraint is also associated with serious complications, including pressure injuries, constipation, pneumonia, urinary and fecal incontinence, and urinary retention. Contractures, nerve damage, and circulatory impairment are also potential hazards. In addition, restrained patients can experience humiliation, fear, anger, and a loss of self-esteem.

SAFETY ALERT Routine assessment of a patient in a physical restraint is critical to prevent injury. The restraint must be moved and the patient repositioned at regular intervals, according to the agency's policy. Restraints should be used only after other alternatives have been tried, and the least restrictive method of restraint should be used. The use of restraints must be part of the patient's medical treatment. Restraints are considered a short-term intervention, and once they have been applied, regular assessments are needed to determine whether they should be continued. All assessments and interventions must be clearly documented according to the agency's policy.

BOX 38.11 Alternatives to Restraints

- Orient patients and families with the care environment; explain all procedures and treatments.
- Provide companionship and supervision; use trained sitters or adjust staffing.
- Offer diversionary activities, such as listening to music or having something to hold; enlist support and input from the family.
- Assign confused or disoriented patients to rooms near the nurses' station; observe these patients frequently.
- Use calm, simple statements and physical cues as needed.
- Use de-escalation, time-outs, and other verbal intervention techniques when managing aggressive behaviours.
- Provide appropriate visual and auditory stimuli (e.g., family pictures, a clock, or a radio).
- Remove cues that promote leaving (e.g., sight of elevators, stairs, or street clothes).
- Promote relaxation techniques and normal sleep patterns.
- Institute exercise and ambulation schedules as allowed by patients' conditions; consult a physiotherapist for mobility and exercise programs.
- Attend to the patient's toileting, food, and fluid needs.
- Camouflage intravenous lines with clothing, a stockinette, or a Kling dressing.
- Evaluate all medications the patients are receiving and ensure effective pain management.
- Reassess the physical status of patients, and review laboratory findings connected with their health.

Adapted from The Joint Commission (TJC). (2020). *Comprehensive accreditation manual for hospitals: Restraint and seclusion—enclosure beds, side rails and rails.* https://www.jointcommission.org/standards/standard-faqs/hospital-and-hospital-clinics/provision-of-care-treatment-and-services-pc/000001668; American Nurses Association. (2021). Geriatric nursing resources for care of older adults. *Physical restraints.* https://hign.org/consulthgn/resources/protocols/physical-restraints

For legal purposes, nurses must know the agency's policy and procedures for the appropriate use and monitoring of physical restraints. The use of a restraint must be clinically justified and be a part of the patient's prescribed medical treatment and care plan. A physician's order may be required, depending on provincial or territorial legislation and agency policy—in some settings, nurses may order restraints. Requirements for ordering restraints may vary depending on the circumstances of a patient's situation and the type of restraint needed; nurses must comply with the agency's policies. Assessment of patients who are restrained must be ongoing. Proper documentation, including the behaviours that necessitated the application of restraints, the procedure used in restraining, the condition of the body part restrained (e.g., circulation to the patient's hand), and the evaluation of the patient response, is essential. Restraints should be removed periodically and the patient should be assessed to determine if the restraints continue to be needed.

Skill 38.1 includes guidelines for the proper use and application of restraints. Use of restraints must meet the following objectives:

- Reduce the risk of patient injury
- Prevent the interruption of therapy, such as traction, IV infusion, nasogastric tube feeding, or Foley catheterization
- Prevent the confused or combative patient from removing life-support equipment
- Reduce the risk of injury to others by the patient

The five-step **Nursing Process** provides a consistent framework for presentation of content in clinical chapters.

Research Highlight boxes provide abstracts of current nursing research studies and explain the implications for your daily practice.

Nursing Care Plans feature a format that helps you understand the process of assessment, the relationship between assessment findings and nursing diagnoses, the identification of goals and outcomes, the selection of interventions, and the process for evaluating care.

Rationales for each of the interventions in the care plans help you to understand why a specific step or set of steps is performed.

Evaluation sections explain how to evaluate and determine whether the outcomes have been achieved.

Patient Teaching boxes highlight what and how to teach patients and how to evaluate learning.

BOX 38.6 NURSING CARE PLAN

Risk for Injury

ASSESSMENT

The following is a scenario for developing a nursing care plan to mitigate against the risk of patient injuries. A visiting nurse is seeing Ms. Cohen, an 85-year-old woman, at her home. The patient has been recovering from a mild stroke affecting her left side. Ms. Cohen lives alone but receives regular assistance from her daughter and son, who both live within 15 km. The nurse's assessment includes a discussion of Ms. Cohen's health problem and how the stroke has affected her, as well as a pertinent physical examination.

Assessment Activities	*Findings and Defining Characteristics*
Ask Ms. Cohen how the stroke has affected her mobility.	She responds, "I bump into things, and I'm afraid I'm going to fall."
Conduct a home hazard assessment.	Cabinets in the kitchen are in disarray and full of breakable items that could fall out. Throw rugs are on floors; bathroom lighting is poor (40-watt bulb); bathtub lacks safety strips and grab bars; and home is cluttered with furniture and small objects.
Observe Ms. Cohen's gait and posture.	Ms. Cohen has kyphosis and has a hesitant, uncoordinated gait. She frequently holds walls for support.
Assess Ms. Cohen's muscle strength.	The left arm and leg are weaker than the right.
Assess visual acuity with corrective lenses.	Ms. Cohen has trouble reading and seeing familiar objects at a distance while wearing current glasses.

NURSING DIAGNOSIS: Risk for injury related to impaired mobility, decreased visual acuity, and physical environmental hazards

PLANNING

*Goals (Nursing Outcomes Classification)**	*Expected Outcomes*
	Risk Control
Home will be free of hazards within 1 month.	Modifiable hazards in kitchen and hallway will be reduced in the home within 1 week. Revisions to bathroom will be completed in 1 month.
	Knowledge: Personal Safety
Patient and family will be knowledgeable of potential hazards for patient's age group within 1 week.	Patient and her daughter or son will identify risks and the steps to avoid them in the home at the conclusion of a teaching session next week.
	Fall Prevention Behaviour
Patient will express greater sense of feeling safe from falls in 1 month.	Patient will report improved vision with the aid of new eyeglasses within 1 week.
Patient will be free of injury within 2 weeks.	Patient will be able to safely ambulate throughout the home and perform personal care activities within 2 weeks.

*Outcome classification labels from Moorhead, S., Swanson, E., Johnson, M., & Maas, M. L. (Eds.). (2018). Nursing outcomes classification (NOC) (6th ed.). Elsevier.

INTERVENTIONS

Interventions (Nursing Interventions Classification)†	*Rationale*
Fall Prevention	
Review findings from home hazard assessment with patient and her daughter and son.	Fall risks for homebound older persons include visual disturbances, unsteady gait, and postural changes (Meiner & Yeager, 2019). Evaluation of home hazards will highlight extrinsic factors that may lead to falls.
Establish a list of priorities to modify. Have patient's son or daughter assist in installing bathroom safety devices.	Modification of environment reduces fall risk (McCullagh, 2008).
Install lighting (75-W bulbs, nanglare) throughout the home. Have patient's son or daughter install blinds over kitchen windows.	With aging, the pupil loses the ability to adjust to light, causing sensitivity to glare. Glare can make it difficult to clearly see a walking path (Meiner & Yeager, 2019).
Discuss with patient and daughter and son the normal changes of aging, effects of recent stroke, associated risks for injury, and how to reduce risks.	Education regarding management of hazards can reduce fear of falling (Touhy & Jett, 2020).
Encourage daughter or son to schedule patient's vision testing for new prescription within 2–4 weeks.	Improved visual acuity reduces incidence of falls (Ehmes et al., 2021).
Refer patient to a physiotherapist to assess need for assistive devices for kyphosis, left sided weakness, and gait.	Exercise often improves gait, balance, and flexibility. Modifying gait problems by increasing lower extremity strength reduces fall risk.

†Intervention classification labels from Bulechek, G. M., Butcher, H. K., McCloskey Dochterman, J. M., et al. (Eds.). (2018). Nursing interventions classification (NIC) (7th ed.). Mosby.

EVALUATION

Nursing Actions	*Patient Response and Finding*	*Achievement of Outcome*
Ask patient and family to identify risks.	Ms. Cohen and her daughter and son are able to identify risks during a walk through the home and expressed a greater sense of safety as a result of changes made.	Ms. Cohen and her children are more knowledgeable of potential hazards.
Observe environment for elimination of hazards.	Throw rugs have been removed. Lighting has been increased to 75 watts, except in the bathroom and bedroom.	Environmental hazards have been partially reduced.
Reassess Ms. Cohen's visual acuity.	Ms. Cohen has new glasses and says she can read better and see distant objects more clearly.	Ms. Cohen's vision has improved, enabling her to ambulate more safely.
Observe Ms. Cohen's gait and posture.	Ms. Cohen's gait remains hesitant and uncoordinated; she reports that her daughter or son has not had time to take her to the physiotherapist.	The outcome of safe ambulation has not been totally achieved; continue to encourage Ms. Cohen and daughter or son to go to physiotherapy appointment.

considered contaminated if touched by any object that is not sterile. When nurses are working with a sterile field or with sterile equipment, they must understand that the slightest break in technique results in contamination. Surgical asepsis should be used in the following situations:

- During procedures that require the intentional perforation of the patient's skin (e.g., the insertion of intravenous catheters or administration of injections)
- When the skin's integrity is broken as a result of trauma, surgical incision, or burns
- During procedures that involve the insertion of catheters or surgical instruments into sterile body cavities

Although surgical asepsis is commonly practised in the operating room, labour and delivery area, and major diagnostic areas, nurses may also use surgical aseptic techniques at the patient's bedside—for example, when inserting intravenous or urinary catheters, suctioning the tracheobronchial airway, or reapplying sterile dressings. In an operating room, nurses must follow a series of steps to maintain sterile technique, including applying a mask, protective eyewear, and a cap; performing a surgical hand scrub; and applying a sterile gown and gloves. In contrast, when performing a dressing change at a patient's bedside, nurses may only perform hand hygiene and apply sterile gloves (see "Principles of Surgical Asepsis" section). When using the principles of surgical asepsis, nurses need to remember that they are trying to prevent infections. For more information on infection control, see Box 34.19.

Patient Preparation. Because surgical asepsis necessitates exact techniques, the nurse must have the patient's cooperation. Therefore, the nurse must prepare the patient before any procedure. Some patients may fear moving or touching objects during a sterile procedure, but others may try to assist. Nurses need to explain how a procedure is to be performed and what the patient can do to avoid contaminating sterile items, including the following:

- Avoid sudden movements of body parts covered by sterile drapes.
- Refrain from touching sterile supplies, drapes, or the nurse's gloves and gown.
- Avoid coughing, sneezing, or talking over a sterile area.

to prevent its transmission. The home environment does not always lend itself to infection prevention—often you must help patients adapt according to the resources available to maintain hygienic techniques. However, patients in a home care setting generally have a lower risk of infection than do patients in a hospital because they have less exposure to resistant organisms and undergo fewer invasive procedures.

Surgical Asepsis. Surgical asepsis, or sterile technique, requires precautions different from those of medical asepsis. Surgical asepsis includes procedures used to eliminate all microorganisms, including spores, from an object or area. In surgical asepsis, an area or object is

BOX 34.18 PATIENT TEACHING

Infection Control

Objective

- Patient will perform self-care using proper infection-control techniques.

Teaching Strategies

- Instruct patient to clean equipment using soap and water and to disinfect it with an appropriate disinfectant.
- Demonstrate proper hand hygiene, explaining that it should be done before and after all treatments and when infected body fluids are contacted.
- Inform patient of the signs and symptoms of wound infection.
- For patients who receive tube feedings at home, explain the importance of following instructions regarding how long formula can be prepared ahead of time and left unrefrigerated. Tell patient that contaminated enteral feedings can cause infections. Teach patient to care for the feeding bag and tubing as per the organization's protocol.
- Instruct patient to place contaminated dressings and other disposable items containing infectious body fluids in impervious plastic bags and to place needles in a puncture-proof and leak-proof container, such as an empty bleach bottle with the opening taped shut or a coffee can with the lid taped closed. Glass containers should not be used. Ensure that the patient knows to contact the local municipality or public health department before disposing of contaminated items (Provincial Infection Control Network of British Columbia [PICNet], 2014).
- Instruct patient (or family) to separate noticeably soiled linen from other laundry, wash it in water that is as hot as the fabric will tolerate, add 250 mL of bleach to detergent, and set the dryer temperature as high as the fabric will allow.

Evaluation

- Ask patient or family member to describe techniques used to reduce the transmission of infection.
- Ask patient to demonstrate select techniques.
- Ask patient to explain the risks for infection, based on the condition.

After patients are at home, nurses need to educate them about infection and techniques to prevent or control its spread, and nurses need to determine patients' adherence to infection-control practices. Family members caring for patients must be involved in the teaching plan. Patients and family members should be taught a common-sense approach to controlling and preventing infection. Topics to address in a teaching session include the following:

- The patient's susceptibility to infection
- The chain of infection, with specific reference to the means of transmission
- Hygienic practices that minimize organism growth and spread, emphasize hand hygiene
- Preventive health care (e.g., proper diet, immunizations, and exercise)
- The proper methods for handling and storage of food
- An awareness of family members who are at risk for acquiring infection

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BOX 41.3 EVIDENCE-INFORMED PRACTICE

Preventing and Responding to Dehydration in Older Persons*

Evidence Summary

- Dehydration is the most common fluid and electrolyte challenge in older persons and has a very high mortality rate (Minnaee, 2021).
- Older persons are at increased risk of illness and death from dehydration, overhydration, and salt overload.
- Reduced thirst sensation and diminished appetite contribute to dehydration in older persons. Older people also have diminished capacity to correct volume losses.
- Chronic dehydration contributes to constipation in older persons.
- Adequate hydration in older persons is recommended for the prevention of falls, possibly related to hypotension or postural hypotension.
- Dehydration is a risk factor for delirium. The risk for delirium can be reduced as much as 20% with each additional glass of water consumed (El-Sharkawy et al., 2015a).
- Signs and symptoms of dehydration can be easily confused with normal aging processes; therefore, assessment requires knowledge, skill, and commitment to acting on signs and symptoms.

Nursing Practice Guidelines

- Calculating fluid requirements should take into consideration individual characteristics, including weight, gender, environmental factors, physical activity, and comorbidities, such as renal and cardiac disease.
- Because older persons are more susceptible to dehydration and have a higher rate of mortality from dehydration, early detection of infection and disorders in fluid balance is very important (Shepherd, 2013).
- Identify risk factors for each older person from the following: age over 70 years, female, high or low body mass index, recent hospitalization, new admission to long-term care, situations causing increased insensible loss (pyrexia), decreased access or ability to request fluids, and situations causing decreased intake, such as swallowing disorder (dysphagia), physical frailty, and decreased sentience. Previous malnutrition, dehydration, polypharmacy, and having more than three medical conditions are significant risk factors.
- Establish an assessment, monitoring, and evaluation tool for identifying risk factors for older persons when initiating a caregiving relationship (e.g., on admission to long-term care; with home assessment of older persons; routine health care visits).
- Assessment of hydration status should include physiological measures (urine colour, blood pressure, pulse, and respiration) as well as observed intake patterns and treatments. Recommend blood testing to determine the cause and severity in suspected dehydration.
- Maintain fluid intake through documented planning using the nursing process in home, long-term care, and hospital settings, offering fluids every 1.5 hours (Minnaee, 2021) to meet a daily fluid intake goal. Caffeinated beverages can be offered, in addition to water.
- Educate older persons and their family and friends on the importance of hydration.
- Diarrhea and vomiting are key causes of dehydration in older persons. Evaluate acute losses such as diarrhea and vomiting.
- Attend more diligently to fluid balance in the context of medical issues such as diabetes, with the use of diuretics, with decreased cognitive level or functional status, and with reduced level of consciousness.
- Minimize fasting for diagnostics and procedures (Minnaee, 2021).
- Ensure availability of adequate fluids, including water, tea, coffee, milk, and other beverages, throughout the day and assist persons who are unable to access their own fluids. Replenish and refresh fluids through the day.
- Advocate for adequate staffing levels in long-term care and acute care facilities, as inadequate staffing is closely linked to increased mortality (Shepherd, 2013).
- Promote audits of hydration practices and barriers or obstacles in health care settings and identify benchmarks for improved practice.
- Ongoing management consists of daily fluid goals, comparing current intake with physiological needs, and monitoring actual consumption of fluids and fluid-rich foods.
- Incorporate the offer of fluids, hot or cold, into regular rounds, socializing, and

*Dehydration is defined variably. Shepherd (2013) defines dehydration as

text and Tables 41.3 and 41.4 for exploration of dehydration and toxicity.

that place patients at high risk for fluid, electrolyte, and acid–base alterations. When obtaining a medical history, it is important to review any allergies. Treatment for fluid, electrolyte, and acid–base imbalances may involve exposure to latex in equipment and supplies. With newborns and infants, the nurse needs to assess the mother for known latex allergy to prevent inadvertent exposure to latex sensitization.

Burns. The burned patient can lose body fluids by many routes. The greater the body surface burned, the greater the fluid loss. Burns can result in a plasma-to-interstitial fluid shift. Plasma and interstitial fluids are also lost as burn exudate. Water vapour and heat are lost in proportion to the amount of skin that is burned away, increasing insensible losses. Blood leaks from damaged capillaries, adding to the loss of intravascular fluid volume. Sodium and water shift into the cells, further compromising ECF volume (Lewis et al., 2023). Cell damage is accompanied by a loss of serum proteins, and a release of potassium into the intravascular fluid.

Respiratory disorders. Many alterations in respiratory function predispose the patient to respiratory acidosis. For example, pneumonia or sedative overdose interferes with the elimination of carbon dioxide due to hypoventilation. As the carbon dioxide continues to build up in

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branes caused by the presence of desaturated hemoglobin in capillaries, is a late sign of hypoxia. The presence or absence of cyanosis is not a reliable measure of oxygenation status. Central cyanosis, observed in the tongue, soft palate, and conjunctiva of the eye, where blood flow is high, indicates hypoxemia. Peripheral cyanosis, seen in the extremities, nail beds, and earlobes, is often a result of vasoconstriction and stagnant blood flow. Cyanosis may be best observed in racially-tinted persons by assessing mucous membranes and nailbeds (MedBroc Plus, 2021). Hypoxia is a life-threatening condition. Untreated, it can produce cardiac dysrhythmias that result in death. Hypoxia is managed by administration of oxygen and treatment of the underlying cause, such as airway obstruction.

NURSING KNOWLEDGE BASE

Developmental Factors

According to the Canadian Association of Schools of Nursing (CASN, 2022), foundational knowledge of human development expanding over the lifespan is an essential domain to consider when developing a plan of care. The developmental stage of the patient and the normal aging process can affect tissue oxygenation.

Infants and Toddlers. Infants and toddlers are at risk for upper respiratory tract infections as a result of frequent exposure to other children and exposure to second-hand smoke. In addition, during the teething process, some infants develop nasal congestion, which encourages bacterial growth and increases the potential for respiratory tract infection. Upper respiratory tract infections are usually not dangerous, and infants or toddlers recover with little difficulty.

School-Aged Children and Adolescents. School-aged children and adolescents are exposed to respiratory infections and respiratory

Older Persons. The cardiac and respiratory systems undergo changes throughout the aging process (Box 40.4). These changes are associated with calcification of the heart valves, SA node, and costal cartilages. The arterial system develops atherosclerotic plaques. Osteoporosis leads to changes in the size and shape of the thorax.

The trachea and large bronchi become enlarged from calcification of the airways. The alveoli enlarge, decreasing the surface area available for gas exchange. The number of functional cilia is reduced, causing a decrease in the effectiveness of the cough mechanism, putting the older person at increased risk for respiratory infections (Touhy et al., 2019). Ventilation and transfer of respiratory gases decline with age because the lungs are unable to expand fully, leading to lower oxygenation levels.

Lifestyle Risk Factors

Lifestyle modifications that influence cardiopulmonary functioning are frequently difficult because a patient is being asked to change a habit or behaviour that may be enjoyed, such as cigarette smoking or eating certain foods; however, these changes can be achieved with encouragement, support, and time (Box 40.5). Risk factor modification is important and includes smoking cessation, weight reduction, a low-cholesterol and low-sodium diet, management of hypertension, and moderate exercise. Although it may be difficult to change long-term behaviour, assisting patients with healthy behaviours can slow or halt the progression of cardiopulmonary diseases.

Poor Nutrition. Nutrition affects cardiopulmonary function in several ways. Severe obesity decreases lung expansion, and the increased body weight increases oxygen demands to meet metabolic needs. The malnourished patient may experience respiratory muscle wasting, resulting in decreased muscle strength and respiratory excursion. Cough

BOX 40.4 FOCUS ON OLDER PERSONS

Changes to Cardiac and Respiratory Systems

- Cardiac problems differ from other chronic conditions in that, when they become acute, symptoms worsen rapidly and necessitate hospitalization, whereas other chronic conditions can be managed in the home (Touhy et al., 2019).
- In existing or developing atherosclerosis or hypertension, there may be increased consequences for older persons (Touhy et al., 2019).
- Mental status changes are often the first signs of respiratory problems and may include forgetfulness and irritability.
- Older persons may not complain of dyspnea until it affects the activities of daily living that are important to them.
- Changes in the older person's cough mechanism may lead to retention of pulmonary secretions, airway plugging, and atelectasis, if cough suppressants are not used with caution.
- Age-related changes in the structure of the chest and muscle strength can affect the older person's ability to cough, thus putting them at increased risk for respiratory infections (Touhy et al., 2019).
- For older persons who are sedentary, a compromised immune system may lead to respiratory complications. It is encouraged that older persons receive an annual influenza immunization and a single pneumococcal vaccine (Touhy et al., 2019).

BOX 40.5 FOCUS ON PRIMARY HEALTH CARE

Positive Lifestyle Practices for Cardiopulmonary Health Promotion

As part of a primary health care focus, it is important to educate young to older persons about the following lifestyle practices that promote cardiopulmonary health:

- Maintain ideal body weight.
- Eat a low-fat, low-salt, low-sugar, calorie-appropriate diet.
- Engage in regular aerobic exercise 30 to 60 minutes daily.
- Use stress-reduction techniques.
- Reduce exposure to secondary infections.
- Do not smoke.
- Avoid exposure to second-hand smoke and other pollutants.
- Using recreational drugs (e.g., cannabis, cocaine, opioids) can increase the risk of stroke and of developing heart disease.
- Limit the use of alcohol.
- Have annual visits with a health care provider.
- Monitor blood pressure.
- Monitor cholesterol and triglyceride levels.
- Request an annual influenza vaccine, especially if at risk for development of influenza.
- Request a pneumococcal vaccine, if appropriate.

Adapted from Heart and Stroke Foundation of Canada. (2022). *Lifestyle risk factors.* https://www.heartandstroke.ca/stroke/risk-and-prevention/lifestyle-risk-factors

Evidence-Informed Practice boxes provide examples of recent state-of-the-science guidelines for nursing practice.

Focus on Older Persons boxes prepare you to address the special needs of older persons.

Focus on Primary Health Care boxes draw attention to principles of primary health care and their application.

SKILL 39.2 PERFORMING NAIL AND FOOT CARE

Delegation Considerations

The skill of nail and foot care for the nondiabetic patient can be delegated to a registered or an unregulated care provider; however, this skill should not be delegated if the patient is diabetic. It is important to discuss the following:

- That nail clipping must be performed by the nurse
- Any special considerations for patient positioning

Equipment

- Wash basin
- Basin liners
- Washcloth and bath towel
- Nail clippers (the patient's)
- Emery board or nail file
- Unscented lotion
- Disposable bath mat
- Paper towels
- Disposable gloves

PROCEDURE

STEPS	RATIONALE
1. Identify patients at risk for foot or nail conditions:	• Certain conditions increase the likelihood of foot or nail problems.
A. Older person	• Poor vision, lack of coordination, or inability to bend over contributes to difficulty in performing foot and nail care. Normal physiological changes of aging also result in nail and foot conditions (Mudrea et al., 2018).
B. Diabetes mellitus	• Vascular changes associated with diabetes mellitus reduce blood flow to peripheral tissues. Breaks in skin integrity place a diabetic patient at high risk for a skin infection. Meticulous foot assessment and care reduce the diabetic patient's risk of debilitating foot conditions (Dehncozian & Beckman, 2020).
C. Heart failure or renal disease	• Both conditions can increase tissue edema, particularly in dependent areas (e.g., feet). Edema reduces blood flow to neighbouring tissues.
D. Cerebrovascular accident (stroke)	• The presence of residual foot or leg weakness or paralysis results in altered walking patterns. An altered gait pattern increases friction and pressure on feet.
2. Assess patient's knowledge of foot and nail care practices.	• Det
3. Ask patients about whether they use nail polish and polish remover frequently.	• Ch
4. Assess patient's ability to care for nails or feet; consider visual alterations, fatigue, and musculoskeletal weakness.	• Det of
5. Assess types of home remedies (e.g., aloe vera, herbal preparations) that the patient uses.	• Sor exp
A. Over-the-counter chemical preparations to remove corns or calluses	• Ch
B. Cutting or shaving of corns or calluses with razor blade or scissors	• Cut inc
C. Use of oval corn pads	• Cus sou
D. Application of adhesive tape	• The tap
6. Assess type of footwear worn by patients. Are socks worn? Are shoes tight or ill fitting? Are garters or knee-high nylons worn? Is footwear clean?	• Sor pro rec mo
7. Observe patient's walking gait. Have the patient walk down a hall or in a straight line (if able).	• Sto ank
8. Assist an ambulatory patient to sit in a bedside chair. Help a bed-bound patient to a supine position with head of the bed elevated. Place a disposable bath mat on the floor under the patient's feet or place a towel on the mattress.	• Sitt fee

SKILL 39.2 PERFORMING NAIL AND FOOT CARE—cont'd

STEPS	RATIONALE
9. Obtain a health care provider's order for cutting nails if agency policy requires it.	• The patient's skin may be accidentally cut. Certain patients are more at risk for infection, depending on their medical condition.
10. Explain the procedure to the patient, including the fact that proper soaking requires several minutes.	• The patient must be willing to place their fingers and feet in the basin for 10–20 minutes. Patient may become anxious or fatigued.
CRITICAL DECISION POINT: *Patients with diabetes do not soak hands and feet. Soaking increases their risk of infection due to maceration of the skin.*	
11. Perform hand hygiene. Arrange equipment on an overbed table.	• Reduces transmission of microorganisms. Ease access to equipment prevents delays.
12. Fill wash basin with warm water. Test water temperature.	• Warm water softens nails and thickened epidermal cells, reduces inflammation of the skin, and promotes local circulation. Proper water temperature prevents burns.
13. Place basin on bath mat or towel.	• Avoids spills; this maintains safety of the care provider and the patient.
14. Fill emesis basin with warm water, and place basin on paper towels on overbed table.	• Warm water softens nails and thickened epidermal cells.
15. Pull curtain around the bed or close the room door (if desired).	• Maintaining the patient's privacy reduces anxiety.
16. Inspect all surfaces of the fingers, toes, feet, and nails. Pay particular attention to areas of dryness, inflammation, or cracking. Also inspect the areas between toes, heels, and soles of feet.	• The integrity of feet and nails determines the frequency and level of hygiene required. Heels, soles, and sides of the feet are prone to irritation from ill-fitting shoes.
CRITICAL DECISION POINT: *Patients with peripheral vascular disease or diabetes mellitus, older persons, and patients whose immune system is suppressed may require nail care from a specialist to reduce the risk of infection.*	
17. Assess colour and temperature of toes, feet, and fingers. Assess capillary refill. Palpate radial and ulnar pulses of each hand and dorsalis pedis pulses of feet (see Chapter 33).	• Assesses the adequacy of blood flow to extremities. Peripheral vascular disease can contribute to poor wound healing. Patients who are immunocompromised or who have neuropathy or peripheral vascular disease are at increased risk of foot infections (Diabetes Canada, 2023).
18. Instruct patient to place their fingers in the emesis basin and place arms in a comfortable position. Assist patient in placing their feet in the basin.	• Prolonged positioning can cause discomfort unless normal anatomical alignment is maintained. • Patients with muscular weakness may have difficulty positioning their feet.
19. Allow patient's feet and fingernails to soak for 10–20 minutes (unless the patient has diabetes). Rewarm water after 10 minutes.	• Softening of corns, calluses, and cuticles ensures easy removal of dead cells and easy manipulation of cuticles.
20. Clean gently under the fingernails with an orange stick or the wooden end of a cotton-tipped swab while fingers are immersed (see Step 20 illustration). Remove fingers from the emesis basin, and dry thoroughly.	• The orange stick removes debris under nails that harbours microorganisms. Thorough drying impedes fungal growth and prevents maceration of the tissues.
21. Using nail clippers, clip fingernails straight across and even with the tops of fingers (see Step 21 illustration). Using a file, shape the nails straight across. If patient has circulatory problems, do not cut the nail; only file the nail.	• For infection-control purposes, use the patient's own nail clippers. Cutting straight across prevents splitting of the nail margins and the formation of sharp nail spikes that can irritate lateral nail margins. Filing prevents cutting the nail too close to the nail bed.
22. Push cuticle back gently with a wet facecloth. Thoroughly dry the hands.	• Reduces incidence of inflamed cuticles. Thorough drying impedes fungal growth and prevents maceration of the tissues.

STEP 20 Clean fingernails with the end of a cotton-tipped swab or an orange stick.

STEP 21 Using nail clippers, trim nails straight across.

Nursing Skills are presented in a clear, two-column format that includes Steps and Rationales to help you learn how and why a skill is performed.

Delegation Considerations guide you in delegating tasks to assistive personnel.

Critical Decision Points alert you to critical steps within a skill to ensure safe and effective patient care.

SKILL 35.2 ADMINISTERING OPHTHALMIC MEDICATIONS—cont'd

STEPS	RATIONALE
16. With the tissue or cotton swab below the lower lid, gently press downward with your thumb or forefinger against the bony orbit.	• Exposes the lower conjunctival sac. Retraction against the bony orbit prevents pressure and trauma to the eyeball and prevents your fingers from touching the eye.
17. Ask the patient to look at the ceiling and explain the steps to the patient.	• Retracts the sensitive cornea up and away from the conjunctival sac and reduces stimulation of the blink reflex.
A. Instill the eye drops: (1) With your dominant hand resting on the patient's forehead, hold the filled medication eyedropper or the ophthalmic solution applicator/unit 1–2 cm above the conjunctival sac (see Step 17A(1) illustration).	• Prevents accidental contact of the eyedropper with eye structures, reducing risk of injury to the eye and transfer of infection to dropper. Ophthalmic medications are sterile.

STEP 17A(1) Hold the eyedropper above the conjunctival sac.

(2) Instill the prescribed number of medication drops into the conjunctival sac.	• The conjunctival sac normally holds one or two drops, which provides even distribution of medication across the eye.
(3) If the patient blinks or closes their eye, or if the drops land on the outer lid margins, repeat this procedure.	• Medication must enter the conjunctival sac to be effective.
(4) After instilling the drops, ask the patient to close the eye gently.	•
(5) When administering medications that cause systemic effects, apply gentle pressure with your finger and a clean tissue on the patient's nasolacrimal duct for 30–60 seconds.	•
B. Instill eye ointment: (1) Ask the patient to look at the ceiling.	•
(2) Holding the ointment applicator above the lower lid margin, apply a thin stream of ointment evenly along the inner edge of the lower eyelid on the conjunctiva (see Step 17B(2) illustration) from the inner canthus to outer canthus.	•

STEP 17B(2) Apply ointment along the lower eyelid.

Clear, close-up **photos** and **illustrations** show you how to perform important nursing techniques.

SKILL 39.2 PERFORMING NAIL AND FOOT CARE—cont'd

STEPS	RATIONALE
33. Move the overbed table away from the patient.	• Provides easier access to the feet.
34. Put on disposable gloves, and scrub callused areas of the feet with a washcloth.	• Gloves help prevent transmission of fungal infection. Friction removes dead skin layers.
35. Clean gently under nails with an orange stick. Remove feet from basin, and dry them thoroughly.	• Removal of debris and excess moisture reduces chances of infection.
36. Clean and trim toenails using the procedures in Steps 21 and 22. Do not file the corners of toenails.	• For infection-control purposes, use the patient's own nail clippers. Shaping corners of toenails may damage tissues.
37. Apply lotion to feet and hands, and assist patient back to bed and into a comfortable position.	• Lotion lubricates dry skin by helping to retain moisture.
38. Remove disposable gloves and place in a receptacle. Clean and return the equipment and supplies to the proper place. Dispose of soiled linen in a hamper. Perform hand hygiene.	• Reduces the transmission of infection.
39. Inspect the nails and surrounding skin surfaces after soaking and nail trimming.	• Determines the condition of skin and nails. Allows caregiver to note any remaining rough nail edges.
40. Ask patient to explain or demonstrate nail care.	• Evaluates patient's level of learning techniques.
41. Observe patient's walk after toenail care.	• Evaluates the level of comfort and mobility achieved.

UNEXPECTED OUTCOMES	RELATED INTERVENTIONS
Inflammation and tenderness of cuticles and surrounding tissues	• Repeated soakings may be needed to relieve inflammation and loosen layers of cells from calluses or corns. • Patients with diabetes or peripheral vascular disease may require referral to a podiatrist. • Antifungal cream may be needed.
Localized areas of tenderness on foot, with calluses or corns at points of friction	• Change in footwear may be needed. • Refer to a podiatrist.
Appearance of ulcer between toes or other pressure areas on foot	• Notify health care provider. • Refer to a podiatrist. • Increase frequency of foot assessment and hygiene.

RECORDING AND REPORTING

- Document the procedure and any observations (e.g., breaks in the skin, inflammation, ulcerations) on the patient's record sheets using the forms provided by your agency or facility.
- Report any breaks in the skin or ulcerations to the person in charge or to the health care provider. These breaks are serious in patients with diabetes, peripheral vascular disease, and illnesses that impair circulation. Special foot care treatments may be needed.

CARE IN THE COMMUNITY CONSIDERATIONS

- If the patient has diabetes or decreased peripheral circulation, alternative therapies or foot soaking should be carried out only after consulting with a health care provider.
- An alternative therapy would be moleskin applied to areas of the feet that are experiencing friction—this is less likely to cause pressure than corn pads. Spot adhesive bandages can guard against friction, but they do not have padding to protect against pressure.
- If the patient is ambulatory, instruct them to soak their feet in a bathtub.
- If the patient's mobility is limited, a large basin or pan can be used for soaking.

affects the health and integrity of tissues of the feet and should be advised to use the following guidelines in a routine foot and nail care program:

Inspect the feet daily, including the tops and soles of the feet, the heels, and the areas between the toes. Use a mirror to help inspect the feet thoroughly or ask a family member to check daily.

Patients with diabetes mellitus should receive a thorough foot examination at least once a year. Patients with one or more high-risk foot conditions should be evaluated more frequently and referred to a specialist as necessary.

Wash the feet daily using lukewarm water; *do not soak the feet.* If there is reduced sensation, a bath thermometer can be used at home to test the water temperature. Thoroughly dry the feet and in between toes.

Do not cut corns or calluses or use commercial removers. Consult a physician, podiatrist, or certified foot nurse.

If the feet perspire excessively, apply a nonallergenic foot powder.

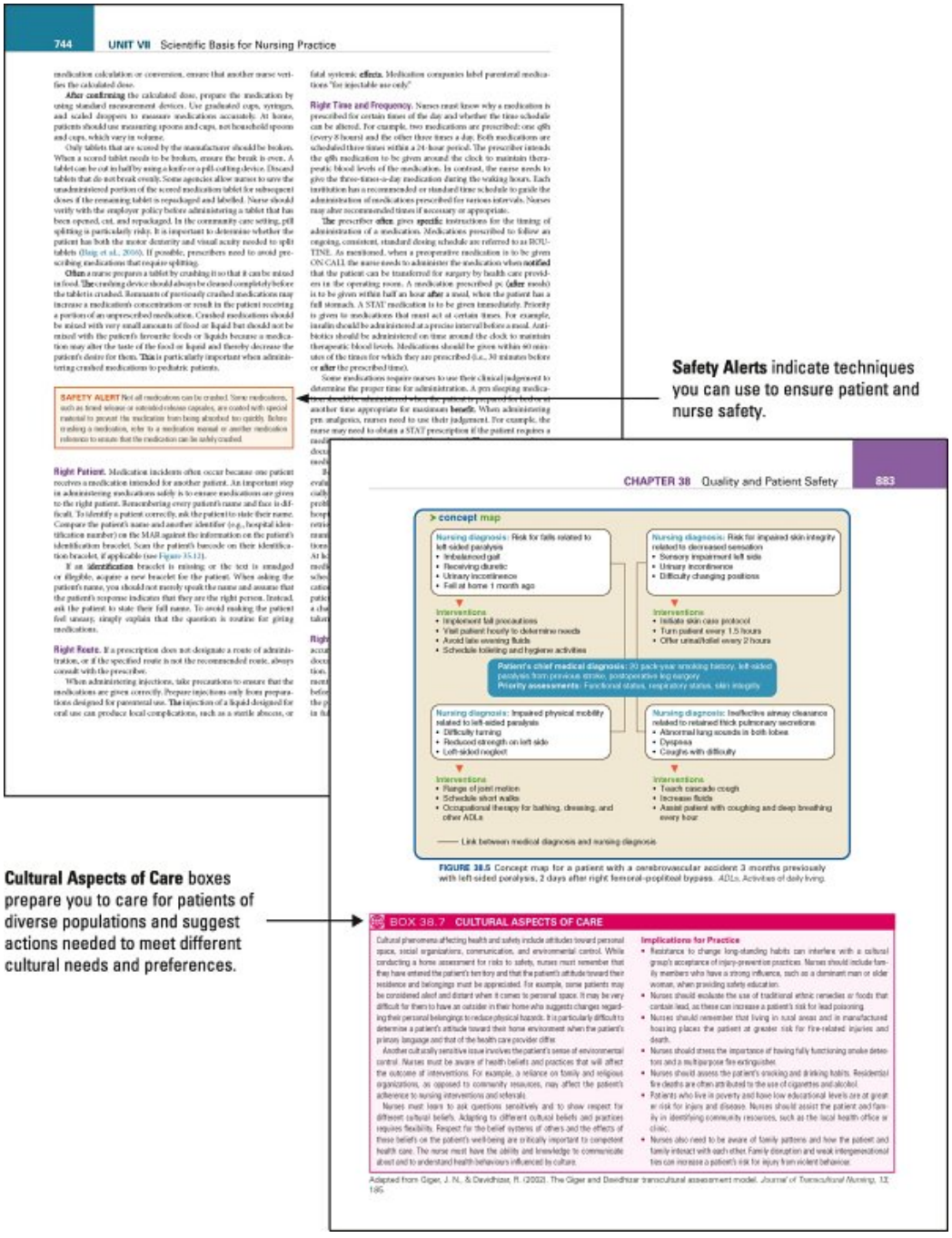
If dryness is noted along the sides of the feet, rub a nonallergenic lotion gently into the skin, wiping off any excess. *Do not apply lotion between the toes, as excessive moisture can result in infection.*

Trim the toenails straight across and square; do not use scissors. Consult a podiatrist as needed.

Do not use over the counter preparations or home remedies. Consult a physician, podiatrist, or certified foot nurse.

Recording and Reporting sections provide guidelines for what to chart and report with each skill.

Home Care Considerations explain how to adapt skills for the home setting.



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medication calculation or conversion, ensure that another nurse verifies the calculated dose.

After confirming the calculated dose, prepare the medication by using standard measurement devices. Use graduated cups, syringes, and scaled droppers to measure medications accurately. At home, patients should use measuring spoons and cups, not household spoons and cups, which vary in volume.

Only tablets that are scored by the manufacturer should be broken. When a scored tablet needs to be broken, ensure the break is even. A tablet can be cut in half by using a knife or a pill-cutting device. Discard tablets that do not break evenly. Some agencies allow nurses to save the unadministered portion of the scored medication tablet for subsequent doses if the remaining tablet is repackaged and labelled. Nurse should verify with the employer policy before administering a tablet that has been opened, cut, and repackaged. In the community care setting, pill splitting is particularly risky. It is important to determine whether the patient has both the motor dexterity and visual acuity needed to split tablets (Baig et al., 2016). If possible, prescribers need to avoid prescribing medications that require splitting.

Often a nurse prepares a tablet by crushing it so that it can be mixed in food. The crushing device should always be cleaned completely before the tablet is crushed. Remnants of previously crushed medications may increase a medication's concentration or result in the patient receiving a portion of an unprescribed medication. Crushed medications should be mixed with very small amounts of food or liquid but should not be mixed with the patient's favourite foods or liquids because a medication may alter the taste of the food or liquid and thereby decrease the patient's desire for them. This is particularly important when administering crushed medications to pediatric patients.

SAFETY ALERT Not all medications can be crushed. Some medications, such as timed release or extended release capsules, are coated with special material to prevent the medication from being absorbed too quickly. Before ordering a medication, refer to a medication manual or another medication reference to ensure that the medication can be safely crushed.

Right Patient. Medication incidents often occur because one patient receives a medication intended for another patient. An important step in administering medications safely is to ensure medications are given to the right patient. Remembering every patient's name and face is difficult. To identify a patient correctly, ask the patient to state their name. Compare the patient's name and another identifier (e.g., hospital identification number) on the MAR against the information on the patient's identification bracelet. Scan the patient's barcode on their identification bracelet, if applicable (see Figure 35.12).

If an **identification** bracelet is missing or the text is smudged or illegible, acquire a new bracelet for the patient. When asking the patient's name, you should not merely speak the name and assume that the patient's response indicates that they are the right person. Instead, ask the patient to state their full name. To avoid making the patient feel unsure, simply explain that the question is routine for giving medications.

Right Route. If a prescription does not designate a route of administration, or if the specified route is not the recommended route, always consult with the prescriber.

When administering injections, take precautions to ensure that the medications are given correctly. Prepare injections only from preparations designed for parenteral use. The injection of a liquid designed for oral use can produce local complications, such as a sterile abscess, or fatal systemic **effects.** Medication companies label parenteral medications "For injectable use only."

Right Time and Frequency. Nurses must know why a medication is prescribed for certain times of the day and whether the time schedule can be altered. For example, two medications are prescribed: one q8h (every 8 hours) and the other three times a day. Both medications are scheduled three times within a 24-hour period. The prescriber intends the q8h medication to be given around the clock to maintain therapeutic blood levels of the medication. In contrast, the nurse needs to give the three-times-a-day medication during the waking hours. Each institution has a recommended or standard time schedule to guide the administration of medications prescribed for various intervals. Nurses may alter recommended times if necessary or appropriate.

The prescriber **often** gives **specific** instructions for the timing of administration of a medication. Medications prescribed to follow an ongoing, consistent, standard dosing schedule are referred to as ROUTINE. As mentioned, when a preoperative medication is to be given ON CALL the nurse needs to administer the medication when **notified** that the patient can be transferred for surgery by health care providers in the operating room. A medication prescribed pc (**after** meals) is to be given within half an hour **after** a meal, when the patient has a full stomach. A STAT medication is to be given immediately. Priority is given to medications that must act at certain times. For example, insulin should be administered at a precise interval before a meal. Antibiotics should be administered on time around the clock to maintain therapeutic blood levels. Medications should be given within 60 minutes of the times for which they are prescribed (i.e., 30 minutes before or **after** the prescribed time).

Some medications require nurses to use their clinical judgement to determine the proper time for administration. A pre-sleeping medication should be administered when the patient is prepared for bed or at another time appropriate for maximum **benefit.** When administering pre-analgesics, nurses need to use their judgement. For example, the nurse may need to obtain a STAT prescription if the patient requires a

Safety Alerts indicate techniques you can use to ensure patient and nurse safety.

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concept map

Nursing diagnosis: Risk for falls related to left-sided paralysis
- Intubated/oral gait
- Receiving diuretic
- Urinary incontinence
- Fell at home 1 month ago

Interventions
- Implement fall precautions
- Visit patient hourly to determine needs
- Avoid late evening fluids
- Schedule toileting and hygiene activities

Nursing diagnosis: Risk for impaired skin integrity related to decreased sensation
- Sensory impairment left side
- Urinary incontinence
- Difficulty changing positions

Interventions
- Initiate skin care protocol
- Turn patient every 1.5 hours
- Offer urinal/toilet every 2 hours

Patient's chief medical diagnosis: 30 pack-year smoking history, left-sided paralysis from previous stroke, postoperative leg surgery
Priority assessments: Functional status, respiratory status, skin integrity

Nursing diagnosis: Impaired physical mobility related to left-sided paralysis
- Difficulty turning
- Reduced strength on left side
- Left-sided neglect

Interventions
- Range of joint motion
- Schedule short walks
- Occupational therapy for bathing, dressing, and other ADLs

Nursing diagnosis: Ineffective airway clearance related to retained thick pulmonary secretions
- Abnormal lung sounds in both lobes
- Dyspnea
- Coughs with difficulty

Interventions
- Teach cascade cough
- Increase fluids
- Assist patient with coughing and deep breathing every hour

—— Link between medical diagnosis and nursing diagnosis

FIGURE 38.5 Concept map for a patient with a cerebrovascular accident 3 months previously with left-sided paralysis, 2 days after right femoral-popliteal bypass. ADLs, Activities of daily living.

Cultural Aspects of Care boxes prepare you to care for patients of diverse populations and suggest actions needed to meet different cultural needs and preferences.

BOX 38.7 CULTURAL ASPECTS OF CARE

Cultural phenomena affecting health and safety include attitudes toward personal space, social organizations, communication, and environmental control. While conducting a home assessment for risks to safety, nurses must remember that they have entered the patient's territory and that the patient's attitude toward their residence and belongings must be appreciated. For example, some patients may be considered aloof and distant when it comes to personal space. It may be very difficult for them to have an outsider in their home who suggests changes regarding their personal belongings to reduce physical hazards. It is particularly difficult to determine a patient's attitude toward their home environment when the patient's primary language and that of the health care provider differ.

Another culturally sensitive issue involves the patient's sense of environmental control. Nurses must be aware of health beliefs and practices that will affect the outcome of interventions. For example, a reliance on family and religious organizations, as opposed to community resources, may affect the patient's adherence to nursing interventions and referrals.

Nurses must learn to ask questions sensitively and to show respect for different cultural beliefs. Adapting to different cultural beliefs and practices requires flexibility. Respect for the belief systems of others and the effects of these beliefs on the patient's well-being are critically important to competent health care. The nurse must have the ability and knowledge to communicate about and to understand health behaviours influenced by culture.

Implications for Practice
- Resistance to change long-standing habits can interfere with a cultural group's acceptance of injury-prevention practices. Nurses should include family members who have a strong influence, such as a dominant man or older woman, when providing safety education.
- Nurses should evaluate the use of traditional ethnic remedies or foods that contain lead, as these can increase a patient's risk for lead poisoning.
- Nurses should remember that living in rural areas and in manufactured housing places the patient at greater risk for fire-related injuries and death.
- Nurses should stress the importance of having fully functioning smoke detectors and a multipurpose fire extinguisher.
- Nurses should assess the patient's smoking and drinking habits. Residential fire deaths are often attributed to the use of cigarettes and alcohol.
- Patients who live in poverty and have low educational levels are at greater risk for injury and disease. Nurses should assist the patient and family in identifying community resources, such as the local health office or clinic.
- Nurses also need to be aware of family patterns and how the patient and family interact with each other. Family disruption and weak interpersonal ties can increase a patient's risk for injury from violent behaviour.

Adapted from Giger, J. N., & Davidhizar, R. (2002). The Giger and Davidhizar transcultural assessment model. *Journal of Transcultural Nursing, 13*, 185.

Procedural Guideline boxes provide streamlined, step-by-step instructions for performing basic skills.

Case Study boxes tell a real-life story concerning one or more topics in the chapter.

BOX 41.12 PROCEDURAL GUIDELINE

Removing a Short-Peripheral Intravenous Catheter (PIVC)

Delegation Considerations

The skill of removing a PIVC may be delegated to other health care providers if they have had appropriate education, it is within their governing body scope of practice, and it is approved by employer policy. The skill of removing a PIVC cannot be carried out by an unregulated care provider (UCP). The nurse instructs the UCP to report the following immediately:

- Report to the nurse any bleeding at the site after catheter has been removed.
- Report any complaints of pain by the patient or observation of redness at the site.

Equipment

- Clean gloves
- Sterile 5 × 5–cm (2 × 2–inch) or 10 × 10–cm (4 × 4–inch) gauze sponge or small adhesive dressing
- Tape

Procedure

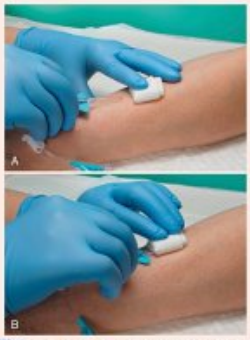
1. Key assessments prior to removal of PIVC include identifying if the patient is on any anticoagulant or antiplatelet therapy or has a disorder that causes slow clotting.
2. Review accuracy and completeness of health care provider's prescription for discontinuation of PIVC, if required.
3. Perform hand hygiene and collect equipment.
4. Identify patient using at least two identifiers (e.g., name and birthday or name and medical record number) according to employer policy. Compare identifiers with information on patient's medication administration record (MAR) or medical record.
5. Perform hand hygiene and apply clean gloves. Palpate catheter site through intact dressing.
6. Assess patient's understanding of the reason for PIVC removal.
7. Explain procedure to patient before you remove the catheter.
8. If PIVC is connected to an administration set, turn administration set roller clamp to "off" position or turn electronic infusion device (EID) off and roller clamp to "off" position.
9. Carefully remove PIVC dressing as per Skill 41.4.

Critical Decision Point: Never use scissors to remove the tape or dressing because you may accidentally cut the catheter.

10. Place clean, sterile gauze above insertion site and, using your dominant hand, withdraw catheter using a slow, steady motion and keeping the hub parallel to skin (see Step 10 illustration).

Critical Decision Point: Do not raise or lift catheter before it is completely out of the vein, to avoid trauma or hematoma formation.

11. Apply pressure to site for a minimum of 30 seconds until bleeding has stopped. If patient has increased clotting, maintain pressure until hemostasis occurs.



STEP 10 PIVC removal: **A,** Apply pressure and cover site. **B,** Remove catheter. From Cobbett, S. L., Perry, A.G., Potter, P. A., et al. (Eds.). (2020). *Canadian clinical nursing skills & techniques*. Elsevier. Photo courtesy Patrick Cobbe.)

Blood administration tubing with a 70- to 260-micron filter is used, and the nurse needs to determine if the tubing is appropriate for the EID when using one. When priming blood administration tubing, 0.9% normal saline must be used to prevent hemolysis, or breakdown of RBCs. Timing of blood transfusion is extremely important. The infusion is begun within 30 minutes of accessing the blood component

BOX 13.1 CASE STUDY

The Application of Nursing Knowledge to Policy Leadership: Addressing Indigenous-Specific Racism in Health Care

On June 19, 2020, allegations of Indigenous-specific racism in health care in British Columbia (BC) went public when the Minister of Health announced the launch of an independent investigation (Government of British Columbia, 2020). The investigation initially focused on reports of a racist game being played in emergency departments. It was then expanded to broadly encompass reports and experiences of racism in health care from both Indigenous peoples and non-Indigenous people. Led by Mary Ellen Turpel-Lafond, the investigation resulted in the publication of the *In Plain Sight* report (Turpel-Lafond, 2020). In it, Turpel-Lafond documents the stories of Indigenous peoples who have faced racism and discrimination in the health care system and makes recommendations for action to address Indigenous-specific racism.

In Plain Sight is the most recent of many such reports on Indigenous-specific racism and the resilience of Indigenous peoples experiencing genocide, discrimination, and the ongoing impacts of colonialism. Reports by the Truth and Reconciliation Commission of Canada (2015), the National Inquiry into Missing and Murdered Indigenous Women and Girls (Buller, 2019), and the Public Inquiry Commission on Relations Between Indigenous Peoples and Certain Public Services in Quebec (Viens, 2019) are all examples of the intersecting testimonies and recommendations now guiding anti-racism work in health care. As BC health organizations attempted to respond to the recommendations in the *In Plain Sight* report, the need for a systematic analysis of the diverse recommendations emerged to guide decision makers in effectively enacting anti-racism work.

In response to this need, two nurse leaders in a regional health authority were commissioned to undertake a systematic analysis of recommendations from six intersecting reports, using the *In Plain Sight* report as the reference point. Initial analysis identified for decision makers the ways in which recommendations aligned and diverged between reports. In charting the full landscape for potential policy action, this analysis enabled decision makers, including Indigenous nurse executives, to make reasoning out of the recommendations within each report and to make decisions on key areas for immediate action. Secondary analysis, including the development of a logic model, matched recommendations to governance layers, drawing clear lines of accountability and responsibility among interlocking parts of the health system. For example, recommendations that had legislative requirements were aligned to the provincial government's task force rather than to a health authority. This has prevented duplication of effort and supported decision makers in communicating clearly to staff and communities what expectations and responsibilities are within their areas of authority.

As a further measure of its success, the analysis supported the rapid development of an anti-racism strategy for the provincial health authorities and was escalated to the Ministry of Health as a knowledge resource. Critically, the work of these two nurse leaders enabled a major change in the BC health system: instead of asking Indigenous peoples what colonial health systems should do to provide better patient care, health system leaders began to align with and respond to what Indigenous peoples had named for decades. This work has not only supported project coordination, but also cultivated a sense of possibility and strengthened relationships that are the foundation for truth and reconciliation.

BOX 13.2 Entry-Level Registered Nurse Competencies Related to Nursing Leadership Roles

Recently developed national **entry-level competencies** for registered nurses in Canada relate specifically to the roles of collaborator, coordinator, and leader (British Columbia College of Nurses and Midwives [BCCNM], 2020). The role of coordinator of care is becoming increasingly complex as nurses provide leadership at the point of care, ensuring that people receive the right care or service from the provider. Nurses in coordinator roles navigate people's experiences of health and illness transitions across institutional and community-based sectors of care, a role that involves complex consultations and information exchanges (BCCNM, 2020). This role also requires the enactment of competencies related to collaboration, as it involves leading and supporting teams (MacKinnon et al., 2018). Other roles for which nursing students must develop competencies include the role of collaborator and advocate, whereby nurses work with others to advocate and support health equity for all and human rights (BCCNM, 2020). Specific competencies associated with the role of leader appear below.

Leader

Registered nurses are leaders who influence and inspire others to achieve optimal health outcomes for all.

Competencies:

6.1 Acquires knowledge of the Calls to Action of the Truth and Reconciliation Commission of Canada.
6.2 Integrates continuous quality improvement principles and activities into nursing practice.
6.3 Participates in innovative client-centred care models.
6.4 Recognizes the impact of organizational culture and acts to enhance the quality of a professional and safe practice environment.
6.5 Participates in creating and maintaining a healthy, respectful, and psychologically safe workplace.
6.6 Demonstrates self-awareness through reflective practice and solicitation of feedback.
6.7 Takes action to support culturally safe practice environments.
6.8 Uses and allocates resources wisely.
6.9 Provides constructive feedback to promote professional growth of other members of the health care team.
6.10 Demonstrates knowledge of the health care system and its impact on client care and professional practice.
6.11 Adapts practice to meet client care needs within a continually changing health care system.

Adapted from British Columbia College of Nurses and Midwives (BCCNM). (2020). *Entry-level competencies for registered nurses* (pp. 10–11). https://www.bccnm.ca/Documents/competencies_requisite_skills/RN_entry_level_competencies_275.pdf

Historically, nursing leadership often meant clinical operational management, where nurses held responsibility for the day-to-day delivery of patient care, upholding standards of professional practice, and stewarding health care resources through financial management (Hibberd et al., 2006). Today, **nursing leadership** also refers to management in clinical operations, but it extends much further to include leadership in knowledge creation through research, policy advocacy and development in governance contexts, executive leadership in executive teams and boards of directors, health care quality leadership in quality improvement and assurance, education as nurse educators and professors, and so much more (Marcellus et al., 2018). To meet the needs of communities and populations, nurse leaders in every domain

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SUMMARY

The Canadian health care system will require significant restructuring to meet the complex needs of a diverse population and in response to local and global challenges. In this context, nursing's contributions to health and health care in Canada range from providing direct care to actively participating in the reformation processes, as well as maintaining a continuous presence in the pursuit of equitable access for all patient groups. Nursing has been instrumental in the advancement of nursing practice, interdisciplinary practices, and collaborative efforts for the betterment of society (Turale & Kunaviktikul, 2019). In the future, we must assert our roles as critical stakeholders, partners, and providers within the emerging health care system.

KEY CONCEPTS

- Medicare is a key component of Canada's social safety net.
- All levels of government play a major role in co-funding national health insurance and setting health care policy in accordance with the *Canada Health Act*.
- The *Canada Health Act* articulates the five principles of our national health insurance system—public administration, comprehensiveness, universality, portability, and accessibility—and forbids extra billing and user fees.
- Health care services are provided in institutional, community, and home settings; across all age groups; and for individual, family, group, and community populations.
- The five levels of health care are promotive, preventive, curative, rehabilitative, and supportive.
- Escalating costs, technological innovations, and consumer expectations challenge the health care system in efforts to deliver innovative, efficient, and quality care.
- Equality, equity, access, interdisciplinary approaches, communication, and continuity of care challenge the health care system.
- The primacy of PHC and home care align with the reforming health care environment and cost effectiveness.
- Successful health promotion and disease prevention programs help patients acquire healthier lifestyles and achieve optimal quality of life.
- Sufficient, diverse, and qualified human health resources are essential for a culturally competent workforce attending to a culturally safe Canadian health care system.
- Enhancing the health of the Indigenous population in Canada is a significant challenge to society and to the health care system.
- Nurses must continually seek out information and evidence to remain responsive to providing quality, culturally competent, and safe care.

CRITICAL THINKING EXERCISES

1. Debate the following challenges facing the Canadian health care system: escalating costs, privatization, continuity of care, regionalization/centralization, and digital health.
2. Consider and describe how the economy and technology have changed the Canadian health care system. What are the implications for nursing? For patients and families?
3. Referring to the case study at the beginning of the chapter, describe the types of health care services, safety issues, interprofessional competencies, and technological supports that might play a part in W.W.'s postsurgical care.

Answers to Critical Thinking Exercises appear on the Evolve website.

REVIEW QUESTIONS

Review Questions 1 to 10 relate to the case study at the beginning of the chapter.

1. During a community health placement, a nursing student interacts with W.W., who tells the student about his upcoming hip replacement surgery. W.W. explains that he went to the preassessment clinic and that they connected him with community services such as Meals on Wheels, home care, and an outpatient physiotherapist. The nursing student understands that these services are important aspects of:
   a. Acute care
   b. Primary health care
   c. Primary care
   d. Ambulatory care
2. During W.W.'s preoperative assessment, the nurse explains the various roles of the interprofessional team members who will be involved in his care after his hip replacement. Which of the following team members would the nurse most likely indicate will be a part of the interprofessional team? *(Select all that apply.)*
   a. Occupational therapist
   b. Physiotherapist
   c. Pharmacist
   d. Translator
   e. Medical-surgical nurse
3. W.W.'s hip replacement surgery is considered medically necessary in order for W.W. to maintain a good quality of life. The _____ currently ensures that Canadians do not have to pay out of pocket for medically necessary procedures.
   a. Canada Health Act

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6. Connecting W.W. with appropriate community-based health services is important because: *(Select all that apply.)*
   a. Community-based services can help to prevent unnecessary and costly hospitalizations.
   b. Community-based services ensure that W.W. can recover at home.
   c. Community-based services can be used instead of hospitalization.
   e. Community-based services are an important element of primary health care.
   e. Community-based services enable W.W. to age in place.
7. W.W. tells the nursing student that he has waited for a long time for this surgery and does not feel that the long wait time was acceptable. W.W. asks the nursing student if anything is being done to address surgical wait times. The nursing student tells W.W. that the following agencies have made efforts to reduce wait times, reduce duplication of tests, and support coordination of care: *(Select all that apply.)*
   a. Canada eHealth
   b. Canadian Institute for Health Information
   c. Canada Health Infoway
   d. Canadian Institutes for Health Research
   e. Consumers' Association of Canada
8. W.W. asks his nurse practitioner why his hip replacement surgery was covered, but his prescription glasses are not. The nurse practitioner explains that there are some health services that are generally not covered under the publicly funded health care system. Some of these noninsured services include: *(Select all that apply.)*
   a. Dental services
   b. Home care
   c. Medical transportation
   d. Medical equipment and appliances (i.e., wheelchairs, prostheses)
   e. Prescription drugs (outside of hospital)
9. During his hospital stay, W.W. notices that the postoperative surgical unit is often short-staffed. W.W. expresses his concerns about this to the unit manager. This has been one of several similar complaints over the past 6 months, prompting management to request a brief report from the nurse manager on a human resources plan for the next 5 years. Which of the following statements best represent the factors that should be mentioned?
   a. We should be working with our aging nurses to transition them out of full-time work, allowing younger nurses to be mentored into their vacated positions and increasing the number of nurses we are educating.
   b. With all the workplace injuries, we should be hiring an occupational therapist or there will soon be no nurses working.
   c. We will soon be able to replace nurses with robots and technology, so that is where we should be investing.
   d. We are not educating enough nurses, so we may have to recruit from international pools to fill positions.
   e. There are too many variables to be able to predict what will be needed in 5 years, so the best we can do is try to keep the nurses we have.
10. Two months after his hip replacement surgery, W.W. has a minor fall. W.W. is not injured after this incident, but he realizes that he needs to further improve his mobility to return to his previous level of function. W.W. expresses his concern to his nurse practitioner, who refers him to a physiotherapist. This is an example of which level of care?
    a. Level 1: Health Promotion
    b. Level 2: Disease and Injury Prevention
    c. Level 3: Diagnosis and Treatment
    d. Level 4: Rehabilitation
    e. Level 4: Supportive Care

ANSWERS: 1. a, c, d; 2. a, b, c, e; 3. a; 4. a, b, d, e; 5. a, d, e; 6. a, b, c, e; 7. a, c, d; 8. a, b, c, d, e; 9. a, b, c, d, e; 10. c

Rationales for the Review Questions appear on the Evolve website.

RECOMMENDED WEBSITES

Canada Health Infoway: https://www.infoway-inforoute.ca
A not-for-profit corporation created by Canada's first ministers to foster and accelerate development and adoption of digital health innovations across all groups.

Canadian Foundation for Healthcare Improvement: https://www.cfhi-fcass.ca/Home.aspx
This site addresses initiatives of the Foundation to advance promising innovations across health care organizations to improve patient care, health outcomes, and efficiencies.

Canadian Institute of Health Information: https://www.cihi.ca
A not-for-profit organization seeking to improve the health care system and the health of Canadians by providing timely and essential health information.

Canadian Patient Safety Institute: https://www.patientsafetyinstitute.ca
This institute was established to build and advance a safer health care system for Canadians. It reports on activities in leadership across health sectors and health care systems, highlights promising practices, and raises awareness with stakeholders and the public about patient safety.

Canadian Public Health Association: https://www.cpha.ca
A national not-for-profit association seeking excellence in public health nationally and internationally and seeking universal and equitable access to basic health-sustaining conditions.

Health Canada: https://www.hc-sc.gc.ca
This website provides links to information about the Canadian health care system, such as the *Canada Health Act* legislation, the federal budget, and federal reports.

REFERENCES

A full reference list is available on the website for this book at https://evolve.elsevier.com/Canada/Potter/fundamentals/

Review Questions at the end of each chapter help you review and evaluate what you have learned. Answers and rationales are provided at the back of the book.

Key Concepts appear at the end of each chapter to help you review important content.

Recommended Websites provide up-to-date online resources and are annotated to give you some information about each website.

Critical Thinking Exercises encourage you to think creatively and effectively to apply essential content.

Preface to The Instructor

The future of nursing in Canada in a globalized world is dynamic, interconnected, and ever-changing. Our planet's natural systems are changing, which will require all of us to act on the global challenges they present to safeguard the health of our most vulnerable people and of future generations. It is imperative that our student nurses are prepared to have the necessary foundational knowledge of our planet as it relates to their professional nursing practice. The nurses of tomorrow will continue to need to provide evidence-informed nursing practice in order to address the myriad of global and planetary health challenges while maintaining and improving the health of Canadians. Professional nursing practice requires (a) critical thinking and critical reasoning, (b) the ability to collaborate and communicate with diverse clients/patients and the interprofessional team, (c) patient/client advocacy, (d) excellence in clinical decision making, and (e) client/patient and community teaching within a broad spectrum of health services. Moreover, nursing practice will involve engaging in the translation and mobilization of knowledge as well as in leadership development and advocating for health policy change at the local, national, and global levels. *Potter and Perry's Canadian Fundamentals of Nursing* is specifically designed for students at all levels of undergraduate nursing programs. The text provides comprehensive coverage of fundamental nursing concepts, knowledge, research, and skills that are essential to informing nursing practice.

The seventh edition of *Potter and Perry's Canadian Fundamentals of Nursing* has been extensively revised, updated, and thoroughly edited to feature inclusive language that reflects Canada's diverse and multicultural populations, the most current evidence and issues, and future directions for nursing in Canada. All chapters have been written or revised so that they reflect Canadian standards, traditions, research, and practice.

The authors and contributors of the text recognize and acknowledge the diverse histories of the first peoples of the lands now referred to as Canada. It is recognized that individual communities identify themselves in various ways; within this text, the term *Indigenous* is used to refer to all First Nations, Aboriginal, Inuit, Métis, and non-status people within Canada. We also recognize that knowledge and language concerning sex, gender, and identity are fluid and continually evolving. The language and terminology presented in this text endeavour to be inclusive of all people and reflect what is, to the best of our knowledge, current at the time of publication.

Potter and Perry's Canadian Fundamentals of Nursing includes content covering the entire scope of primary, secondary, tertiary, rehabilitative, and end-of-life care. The focus is on the central role of primary health care in all areas of nursing practice. Emphasis is also placed on evidence-informed practice in skills and care plans to foster understanding of how research findings should guide clinical decision making. First-person accounts, in the form of case studies, of issues that have arisen in nursing practice are designed to engage the nursing student's attention and encourage more detailed reading and understanding.

This textbook is the result of the combined efforts of many expert nursing scholars who are committed to excellence. As in our previous editions, we have continued to use expert contributors from across Canada to provide a national perspective. All contributors approached the revisions with enthusiasm and worked hard to ensure that the content is current and reflects the Canadian health care system, Canadian health and social organizations, and uniquely Canadian health care issues in a globalized world. Reviewers scrutinized the chapters and made many helpful suggestions. We appreciate the conscientiousness and commitment of all these dedicated scholars.

Classic Features

- **Comprehensive** coverage and readability of all fundamental nursing content are provided.
- **Full-colour** text is used to enhance visual appeal and instructional value, with many of the images updated.

- **Case Study** boxes present first-person accounts of issues in relation to chapter content.
- **Primary health care and health promotion** issues are discussed throughout the text.
- **Chronic Illness** boxes pertain uniquely to the Canadian health care system.
- **Research Highlight** boxes are integrated throughout the text to provide current and applicable nursing research studies and explain the implications for daily nursing practice.
- **Patient Teaching** boxes highlight patient/client education, listing teaching objectives, strategies, and evaluation for clinical topics throughout the text.
- **Evidence-informed practice** is discussed throughout the text.
- **Evidence-Informed Practice** boxes provide examples of recent state-of-the-science guidelines for nursing practice.
- **Nursing principles** specific to older persons are addressed throughout the text.
- **Nursing Care Plans** guide students in how to conduct an assessment and analyze the defining characteristics that indicate nursing diagnoses. The plans include Nursing Interventions Classification (NIC) and Nursing Outcomes Classification (NOC) labels to familiarize students with this important nomenclature. The evaluation sections of the plans show students how to determine the expected outcomes and evaluate the results of care.
- **Concept Maps** demonstrate the relationships among nursing assessment, diagnosis, planning, intervention, and evaluation.
- **Procedural Guideline** boxes provide step-by-step instructions and photos on how to perform basic skills.
- **End-of-chapter Review Questions** assist students in critically reviewing what they have learned and are based on the case study presented at the beginning of each chapter. Answers and rationales are provided on the Evolve website.
- The annotated **Recommended Websites** section at the end of each chapter directs the student to current resources.
- The **Laboratory Values** appendix (Appendix A) is a concise, up-to-date source of current laboratory values for use in clinical practice.

- Expert contributors and reviewers from across Canada have provided a national perspective.

Updated Features

- Each chapter begins with a case study relating to the chapter topic, and end-of-chapter clinical-judgement review questions refer to this case study.
- Language has been updated in all chapters to address cultural and gender diversity and inclusivity.
- **Health and Wellness (Chapter 1)** has been updated to include concepts of health-in-all policies, identity politics, and systemic racism.
- **The Development of Nursing in Canada (Chapter 3)** has been updated to include discussion about decolonizing health care and racism in nursing education and practice.
- A **NEW** chapter, **Practical Nursing in Canada (Chapter 5)**, has been added to provide important information on this nursing role in Canada.
- A revised and updated **Critical Thinking in Nursing Practice (Chapter 7)** was moved into the Foundations Unit of the book to reflect the importance of critical thinking as a foundational skill in nursing practice.
- **Evidence-Informed Practice (Chapter 8)** was updated to include the evidence from systematic reviews as it applies to evidence-informed practice.
- **Global and Planetary Health (Chapter 11)** has been fully updated and expanded, with emphasis on the interconnectedness of the health of humans, other species, and the physical environment related to planetary health; the global COVID-19 pandemic; sustainable development goals (SDGs); environmental sustainability; climate change; climate justice; environmental racism; critical perspectives (health equity, intersectionality, political economy, transnationalism, and relational theory and ethics); immigration; transnationalism; interdisciplinary collaboration; and competencies in global and planetary health.

- **Nursing Leadership and Collaborative Practice (Chapter 13)** has been updated to include a focus on health equity, shared governance, and wellness for nurses.
- **Nursing Informatics and Canadian Nursing Practice (Chapter 17)** has been updated and expanded to discuss “digital health,” the use of digital technologies to improve health, as well as consumer health informatics.
- **Family Nursing (Chapter 20)** and **Young to Middle Adulthood (Chapter 24)** have been updated and expanded to fully discuss issues relating to gender identity and gender diversity.
- **Sex, Gender, and Sexuality (Chapter 28)** has been fully updated and expanded, using language from the Canadian LGBTQ2 Secretariat, with added discussion about barriers to access to care and experiences of discrimination among gender minority groups. The chapter also includes information about education and skill-training programs to help student nurses become more aware of potential implicit biases toward LGBTQ2 patients.
- **Spirituality in Health and Health Care (Chapter 29)** has been fully updated and expanded to address diversity and expectations that nurses need to be conversant with and responsive to within a range of spiritual and religions identities. The links between religion or spirituality and positive health outcomes, as well as spiritualty for different age groups in the life journey, are addressed, along with developing and maintaining spirituality as a nurse.
- **Pain Assessment and Management (Chapter 32)** has been updated to focus on pain assessment and management as a multidimensional process. It includes new discussion about the opioid epidemic and stewardship, as well as use of cannabinoids for pain management.
- **Health Assessment and Physical Examination (Chapter 33)** has been expanded to include a new section on telehealth and virtual patient care.
- **Medication Administration and Management (Chapter 35)** has been significantly updated with new Canadian guidelines, revised discussion about scope of practice, medication dose responses, role

of authorized prescribers, and medication safety, with revised skills and many new photographs.
- **Cardiopulmonary Functioning and Oxygenation (Chapter 40)** has been updated to include the new terminology for acute coronary syndrome and revised skills.
- **Fluid, Electrolyte, and Acid–Base Balances (Chapter 41)** has been updated to include more discussion about physiological processes, updated emphasis on teamwork and collaboration, more information about safety, and more specific discussion about types of vascular access devices, including updating of related skills.
- **Nutrition (Chapter 43)** includes information from the new *Canada's Food Guide*, and new discussion about diet culture, the Canadian Obesity Guidelines, health promotion and disease prevention, as well as additional case studies and skills.
- **References** have been thoroughly updated throughout the text to include the latest Canadian research and practice standards, such as the best nursing practice guidelines of Health Canada, Public Health Agency of Canada, Statistics Canada, the Canadian Nurses Association (CNA), and the Canadian Association of Schools of Nursing (CASN). References have been organized by chapter and are available on the Evolve website.

Learning Supplements for Students

- The **Evolve Student Resources** are available online at http://evolve.elsevier.com/Canada/Potter/fundamentals/ and include the following valuable learning aids, organized by asset:
  - Case Studies
  - Concept Map Creator
  - Content Updates
  - Examination Review Questions
  - Glossary
  - Key Points
  - Skills Performance Checklists
  - Tutorial – Calculations
  - Tutorial – Fluids and Electrolytes

    - Video Clips
- ***Sherpath:*** Sherpath Book-Organized collections offer digital lessons, mapped chapter-by-chapter to the textbook, so the reader can conveniently find applicable digital assignment content. Sherpath features convenient teaching materials that are aligned with the textbook, and the lessons are organized by chapter for quick and easy access to invaluable class activities and resources.

Teaching Supplements for Instructors

- The **Evolve Instructor Resources** (available online at http://evolve.elsevier.com/Canada/Potter/fundamentals/) are a comprehensive collection of the most important tools instructors need, including the following:
    - **TEACH for Nurses Lesson Plans** focus on the most important content from each chapter and provide innovative strategies for student engagement and learning. These new lesson plans provide teaching strategies that integrate textbook content with activities for pre-class, in-class, online, group, clinical judgement, and interprofessional collaboration, all correlated with RN-NGN Clinical Judgement Model and PN Clinical Judgement Skills competencies.
    - The revised **Test Banks** (one for RN-level and one for PN-level students) contain more than 1 300 multiple-choice questions with text page references and answers coded for NCLEX competencies and cognitive level for RN students, and CPRNE and REx-PN competencies and cognitive level for PN students. The ExamView software allows instructors to create new tests; edit, add, and delete test questions; sort questions by category, cognitive level, and question type; and administer and grade online tests.
    - Revised **PowerPoint Presentations** include over 1 500 slides for use in lectures.
    - The **Image Collection** contains more than 1 100 illustrations from the text for use in lectures.