Preface

In *Toward 2020: Visions of Nursing,* Villeneuve and MacDonald (2006) foresee a dramatic change in the future for nurses, their roles, and the care they will provide.[1]

Scarce funding and the longer life expectancy of Canadians will increase the current shift of financial and human resources for health care from hospital to community settings. The primary health care system will broaden: self-care and patient-led care will be the norm. Nurses will be part of an expanding interprofessional health team. Together with physicians, allied health workers, and human-service workers, nurses will provide holistic care within a shared-care model. The demands on the nursing profession will be greater than ever before. Therefore, nurse educators should do their best to equip students to meet the challenges of the evolving practice of nursing.

Within the context of the current and future health care system, the second edition of the Canadian version of the Kozier et al.'s *Fundamentals of Canadian Nursing: Concept, Process, and Practice* is intended to prepare undergraduate nursing students as they embark on their nursing careers. This textbook provides students with a fundamental understanding of what is required for contemporary professional nursing practice in Canada. Building on the first edition, we have placed more emphasis on needed *skills* such as communication, critical thinking, decision making, use of the nursing process, development of interpersonal relationships, teaching, leading and managing change, use of technology, application of primary health care principles, and engaging in collaborative practice. And we have devoted more attention to important *concepts* such as caring, wellness, health promotion, disease prevention, complementary and alternative health modalities, rural health, multiculturalism, growth and development, nursing theories, nursing informatics, nursing research and education, ethics, accountability, and advocacy. Furthermore, throughout the text, we have highlighted basic nursing care for clients across the life span from hospital to community settings in the culturally diverse Canadian health care system. In all areas, we have integrated the most recent literature and best-practice guidelines .

Nurses provide care in all settings. In this text, the term *client* is used in a broad and general context. More specifically, those living in the community are described as *clients*; those in the hospital are *patients*, and those living in long-term care facilities are *residents*.

Contributors from across Canada were invited to help make this edition relevant to all Canadian nurses. This book has become a vehicle for us to share our knowledge, experiences, and expertise, and to help prepare the future generation of nurses. Every effort has been made to preserve the spirit of the original text prepared by the U.S. authors. Based on feedback from reviewers, faculty, and students using the text, extensive changes have been made in this edition to reflect the latest research and best nursing practice for Canadian nurses. This edition also has a significant increase in new photos to illustrate key concepts. And the presentation of clinical skills has been reorganized for increased clarity. We have done our best to ensure that the level of specificity and readability is appropriate for beginning nursing students. We believe this text will provide a strong foundation for advanced nursing studies.

Pedagogical Approach

Primary Health Care, *Critical Thinking*, *Nursing Process*, and *Lifespan* are themes that frame our pedagogical approach to student learning, and we have threaded throughout the book. These themes, defined below, guide the provision of client-centered care:

Primary Health Care is a philosophy and an approach to providing the best care possible through health promotion, intersectoral cooperation, public participation, appropriate technology, and accessibility. According to Health Canada, primary health care (PHC) is "essential (promotive, preventive, curative, rehabilitative, and supportive) care that focuses on preventing illness and promoting health. … It includes all services that play a part in health, such as income, housing, education, and environment."[2]

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[1] Villeneuve, M., & MacDonald, J. (2006). *Toward 2020: Visions for Nursing.* Ottawa, ON: Canadian Nurses Association.

[2] Health Canada. (2006). *About PHC*, p.10. Retrieved January 10, 2008, from http://www.hc-sc.gc.ca/hcs-sss/prim/about-apropos/index_e.html#1.

The five principles of PHC are:

- *Accessibility*—essential health care universally available to all clients in an acceptable and affordable way, regardless of geographical location.
- *Public participation*—clients participate in making decisions about their own health.
- *Health promotion*—activities that aim to empower clients to understand what determines their health and develop skills to improve and maintain their health and well-being.
- *Appropriate technology*—technology and modes of care appropriately adapted to the community's social, economic, and cultural development.
- *Intersectoral cooperation*—multidisciplinary health activities that aim at improving economic and social development.

Critical Thinking is essential for safe and competent nursing practice. It is a cognitive process that includes creativity, problem solving, and decision making. Nurses use critical thinking to make reasoned and informed decisions as they implement interventions in the practice setting. They make reliable observations, reason inductively and deductively, draw sound conclusions, make valid inferences, differentiate fact from opinion, evaluate the information sources, clarify concepts, and select appropriate actions.

Nursing Process is a systematic approach to clinical reasoning where the nurse will assess, analyze, plan, implement, and evaluate client care. Its purposes are to identify a client's health status (actual or potential health problems or needs or strengths), to establish plans to meet the identified needs, and to deliver specific nursing interventions to meet those needs. The nursing process is cyclical: it follows a logical sequence, but more than one component may be involved at any one time.

Life Span refers to the period from conception to death. The developmental stages are continuous, predictable, and orderly, and are influenced by maturational, environmental, and genetic factors. Erikson described the following eight stages of development throughout lifespan:

Infancy	0–1.5 years	trust and mistrust
Early childhood	1.5–3 years	autonomy vs. shame and doubt
Late childhood	3–5 years	initiative vs. guilt
School age	6–12 years	industry vs. inferiority
Adolescence	12–20 years	identity vs. role confusion
Young adulthood	18–25 years	intimacy vs. isolation
Adulthood	25–64 years	generativity vs. stagnation
Maturity	65–death	integrity vs. despair

Chapter Organization and Content

For this Second Canadian edition, we have reordered some of the chapters, added a brand new one (*Chapter 19: Older Adults*), and thoroughly revised the others. Several chapters were entirely rewritten, including *Chapter 30: Safety*, *Chapter 32: Infection Prevention Control*, and *Chapter 33: Skin Integrity and Wound Care*.

This textbook is divided into 7 units. The following description highlights the key concepts presented and summarizes some of the significant changes that were made for this edition.

Unit 1—The Foundation of Nursing in Canada (Chapters 1–6) introduces the nature of the nursing profession, from the history of nursing to its current practice, education, and research. We expanded on the licensed (registered) practical nurses, and registered psychiatric nurses in *Chapter 1: Historical and Contemporary Nursing Practice*. The educational preparation and programs for various nursing programs have been broadened and updated in *Chapter 2: Nursing Education*. *Chapter 3: Research and Evidence-Informed Practice* has a new section on critiquing research. A new table for comparison of nursing theories has been added in *Chapter 4: Nursing Theories and Conceptual Frameworks*. *Chapter 5: Ethics, Values and Advocacy* includes the top ten ethical concerns of Canadians and a discussion of the new Code of Ethics from the Canadian Nurses Association. . There is more emphasis in *Chapter 6: Accountability and Legal Aspects of Nursing* on advocacy, accountability, and privacy legislation as required by the nursing discipline. Here we also stress evidence-informed practice and nursing outcomes.

Unit 2—Contemporary Health Care in Canada (Chapters 7–15) describes health care practice in the today's multicultural environments. Basic concepts of health, illness, and wellness have been expanded in *Chapter 7*. *Chapter 8: Health Promotion* has an updated section on the historical development of health promotion in Canada. Political leadership and issues such as wait times are discussed in *Chapter 9: The Canadian Health Care System*. There is also more attention given to diverse and vulnerable clients (such as aboriginal and immigrant populations) with an emphasis on best practices for culturally safe care in *Chapter 10: Culture Care*. This new edition thoroughly updates the discussion of nursing care for individuals in *Chapter 11* and families in *Chapter 12*. The previously separate chapter on Home Care Nursing is now included as part of *Chapter 13: Community Health Nursing*, which now also includes the 2003 Standards for Canadian Community Health Nursing Practice. More emphasis has been placed on Northern nursing in *Chapter 14: Rural Health and Remote nursing*. *Chapter 15: Complementary and Alternative Health Modalities* now has more contemporary holistic care practices, with an emphasis on the role of the nurse.

Unit 3—Lifespan and Developmental Stages (Chapters 16–19) describes clients' various developmental stages and their specific health needs throughout the lifespan. In updating chapters in this unit, we added new concept maps to illustrate the major developmental theories. And as mentioned above, we created a new chapter, *Chapter 19: Older Adults*, to reflect the growing health needs of the aging population.

Unit 4—Integral Aspects of Nursing (Chapters 20–26) describes the fundamental nursing tools required for practice, including critical thinking and decision making, caring and communication, nursing process, documenting and reporting, teaching and learning, and leading and managing change. These tools provide a foundation for the fundamental skills chapters presented in the remaining units of the text. *Chapter 22* presents the nursing process, which forms the main framework for the basic management of patient care. NANDA taxonomy is used throughout this book with a new appendix listing the 2007–2008 NANDA-approved nursing diagnoses. *Chapter 24: Nursing Informatics and Technology* updates the use of computers in nursing and distinguishes among the various types of electronic patient records. This chapter also highlights the use of NurseONE portal for nursing information. Contemporary change theories, managing the millennium generation, and the leadership roles in nursing are new to *Chapter 26: Leading and Managing and Delegating*.

Unit 5—Nursing Assessment and Clinical Skills (Chapters 27–35) provides fundamental knowledge to guide the provision of care described in the remainder of the book. *Chapter 27: Health Assessment* and *Chapter 28: Vital Signs* prepare students with an understanding of assessment techniques, procedures, and normal findings throughout the lifespan. These chapters include the most recent Canadian screening guidelines for a range of prevalent and significant illnesses affecting our nation. The latest Canadian Hypertension Education Program guidelines for blood pressure measurement and monitoring are also included. The remaining chapters in this Unit focus on integral components of care in relation to hygiene, safety, medication administration, infection prevention and control, skin integrity and wound care, pain management, and caring for perioperative clients. As mentioned above, *Chapter 30: Safety*, *Chapter 32: Infection Prevention Control*, and *Chapter 33: Skin Integrity and Wound Care* have been completely rewritten. And the other chapters have been thoroughly revised. Significant changes and important updates have been made with regard to Health Canada infection prevention and control guidelines, immunization guidelines, general safety issues throughout the lifespan, patient safety within the health-care sector, Safer Healthcare Now! Initiatives, the classification of pressure ulcers using the latest 2007 National Pressure Advisory Panel revisions that include 6 (rather than 4) stages of pressure ulcers, Canadian Association of Wound Care guidelines, medication administration procedures that incorporate the Institute for Safe Medication Practice guidelines, the latest "10 Rights" of medication administration (increased from 5), and current pain assessment tools and pain management approaches.

Unit 6—Promoting Physiological Health (Chapters 36–43) discusses such physiologic concepts as sensory perception; rest and sleep; activity and exercise, nutrition; fecal elimination; urinary elimination; fluid, electrolytes, and acid-base balance; and oxygenation and circulation. *Chapter 36: Sensory Perception* highlights the links between medications and sensory perceptions, and the implications for patient safety. Rest and sleep as part of normal development and health (as well as illness) are discussed in *Chapter 37: Rest and Sleep*. The latest Canadian guidelines for activity and exercise and a significant discussion on the safety of nurses in caring for immobile patients augment *Chapter 38: Activity and Exercise*. Eating Well with Canada's Food Guide, and a discussion on obesity trends in Canadians, trans-fat updates, and the latest recommendations in monitoring nutritional health are highlighted in *Chapter 39: Nutrition*. *Chapter 40: Fecal Elimination* and *Chapter 41: Urinary Elimination* provide the most recent guidelines to ensure healthy fecal and urinary elimination patterns, including the care of client with altered function. More scientific and biological detail is provided in *Chapter 42: Oxygenation and Circulation* and Chapter 43: Fluid, Electrolyte, and Acid-Base Balance to ensure that nurses can better understand the complexities that can arise in these areas when caring for clients. Safer Healthcare Now! recommendations for preventing ventilator-associated pneumonia, closed airway suction, and continuous positive airway pressure (CPAP) augment this chapter.

Unit 7—Promoting Psychosocial Health (Chapters 44–48) covers a wide range of areas that affect one's health. Self Concept, sexuality, spirituality, stress and coping, loss, grieving, and dying are all areas that a nurse should consider to care effectively for a client. *Chapter 45: Self-Concepts* has new discussions of locus of control content and the importance of congruence of self-appraisal. *Chapter 45: Sexuality* strengthens and updates the material on breast health, prostate examination, HIV, Hepatitis B, and other STIs. *Chapter 46: Spirituality* examines spiritual care in both health and illness and considers the meanings of spiritual health in the 21st century. Lifespan considerations of stress and coping are emphasized in *Chapter 47: Stress and Coping*. Issues around nutrition and hydration of the dying patient as well as pain management and home care at the time of death are highlighted in *Chapter 48: Loss, Grieving, and Dying*.

Four new **Appendices** are provided near the end of the book. They summarize important information about vital signs, normal laboratory values, formulae, and NANDA nursing diagnoses to help students access important facts and terms in a user-friendly manner. The book ends with a robust **Index** in which key terms and the pages on which they are defined are boldfaced for easy reference.

Special Features in the Chapters

We have carefully prepared special features to facilitate learning and to highlight the 4 themes that form the framework for this edition—namely, *Primary Health Care*, *Critical Thinking*, *Nursing Process*, and *Lifespan*. Complete lists of many of these individual types of special features are provided following this Preface.

Objectives are listed at the beginning of each chapter to outline skills and knowledge to be learned.

Key Terms are boldfaced where they are defined in the body of the text. They are also listed near the end of each chapter and are boldfaced for easy reference in the Index.

An **Evidence-Informed Practice** box in each chapter highlights current evidence that informs nursing practice and relates relevant Canadian research to the nursing profession and its clinical practice. Systematic reviews are included where appropriate.

Evidence-Informed Practice

How Can Employers Promote Empowerment for New Graduate Nurses?

The nursing shortage and projected retirement of nurses in the next few years have resulted in the need for enhanced recruitment and retention of nurses. A high priority among healthcare organizations is the development of strategies to improve working conditions and to provide a supportive environment for new graduate nurses.

A predictive, nonexperimental survey design investigated factors that promote empowerment among new graduate nurses (Cho, Laschinger, & Wong, 2006). This study tested the relationships among structural empowerment, six areas of work life, emotional exhaustion, and organizational commitment. Structural empowerment measured employees' perceptions of access to opportunity, information, support, and resources. The six areas of work life included workload, control, rewards, community, fairness, and values. Emotional exhaustion measured how often an individual experienced feelings of disengagement and burnout in his or her work. Organizational commitment measured the psychological link between the employee and the organization.

The researchers found that structural empowerment had a positive effect on the areas of work life and a negative effect on emotional exhaustion. They concluded that increasing access to job flexibility, strong interpersonal relationships, information, support, and learning opportunities are potential strategies to retain new graduate nurses.

NURSING IMPLICATIONS: This study suggests the importance of a positive work environment to ensuring commitment of new graduates and resulting retention of staff. The following strategies would contribute:

- Use multiple communication techniques: regular staff meetings, forums, electronic messages, brown bag lunches, and written updates.
- Use support staff to reduce nursing time spent on non-nursing tasks.
- Provide orientation, emotional support, assistance, and collaborative learning opportunities.
- Give new graduates opportunities for leadership roles and involvement in decision making.
- Offer choices and alternatives for flexibility in jobs (job sharing, innovative scheduling).
- Build strong interpersonal relationships through team building and mentoring programs.

Source: Based on "Workplace Empowerment, Work Engagement and Organizational Commitment of New Graduate Nurses," by J. Cho, H. K. S. Laschinger, and C. Wong, 2006, *Canadian Journal of Nursing Leadership, 19*(3), pp. 43–60.

A **Case Study** in each chapter presents an actual or hypothetical scenario that is applicable to Canadian nursing. The *critical thinking questions* in each Case Study guide students to reflect on one or more of the following themes: primary health care, nursing process, lifespan, and critical thinking. Suggested answers are available on the MyNursingLab (www.mynursinglab.com)

Case Study 21

You are the nursing student assigned to care for Mr. Manasovitz, a 45-year-old man, who will be returning from the recovery room after undergoing the removal of a mass from his abdomen. While you are preparing his room for his return, the nurse and physician arrive to talk with Mrs. Manasovitz about her husband's surgery. The physician explains that the mass was malignant and invasive. Mr. Manasovitz is a candidate for chemotherapy, but his prognosis is guarded because of the extent of the tumour growth. Mrs. Manasovitz looks away, closes her eyes, and only nods her head "yes." As the physician leaves, the nurse approaches Mrs. Manasovitz, sits next to her, and puts her arm around Mrs. Manasovitz, who begins to cry. The nurse uses a soothing voice to tell Mrs. Manasovitz that it is okay to cry and provides assurance by remaining with her. The two of them sit in silence until Mrs. Manasovitz is able to express her feelings. The nurse listens attentively. Later, the nurse offers to get a cup of coffee for Mrs. Manasovitz and offers to assist her at this difficult time.

Critical Thinking Questions

1. Interpret Mrs. Manasovitz's nonverbal behaviour in response to the news about her husband's surgery.
2. Evaluate the nurse's response to Mrs. Manasovitz on the basis of the concepts of caring and comforting.
3. Why is it important for the nurse to effectively communicate with Mrs. Manasovitz at this time?
4. The nurse was described as listening attentively to Mrs. Manasovitz. Cite actions that portray attentive listening.
5. Think about your past experiences when you or a family member has been ill. What relationship characteristics did you most value on the part of the nurse caring for you?

After working through these questions, go to the MyNursingLab at **http://www.mynursinglab.com** to check your answers.

A **Nursing and Canadian Society** box found in selected chapters presents facts about the Canadian society and their implications for nursing.

Nursing and Canadian Society

Fact	Implications for Nursing Practice
1960: The Canadian Bill of Rights barred discrimination by federal agencies on the grounds of race, national origin, colour, religion or gender. 1961: Changes to Canada's Immigration Act meant that fewer immigrants were European and the mix of source countries shifted to nations in southern Europe, Asia, and the West Indies.	These rights are legally protected. Nurses must have knowledge of the ethnic and cultural makeup of the Canadian population and use that knowledge to provide culturally competent and safe care.
1969: The Official Languages Act was enacted to protect minority language rights.	Clients have the right to have health care services provided in either official language in any part of Canada.
1971: The federal government announced its policy of multiculturalism.	People are encouraged to retain their cultural beliefs and practices, rather than being assimilated into the mainstream culture. This means that nurses need to be culturally sensitive and incorporate appropriate measures into health-care assessment and delivery.
1982: The Canadian Charter of Rights and Freedoms considered multiculturalism to be constitutional and protected equality rights without discrimination (in particular based on race, national or ethnic origin, colour, religion, gender, age, or mental or physical disability). Section 27 explicitly stated that the Charter will be interpreted in a manner consistent with the preservation and enhancement of the multicultural heritage of Canadians; by virtue of this section of the Charter, Canada became a constitutional multicultural stage.	The Charter entrenches equality rights without discrimination, again obligating nurses to provide culturally competent and safe care grounded in respect for the self and client.
1982: The Canada Act replaced the British North America Act as Canada's constitution and also recognized the three main groups of Aboriginal peoples in Canada: First Nations, Metis, and Inuit.	This policy acknowledged the rights of the Aboriginal peoples in Canada. Nurses must have knowledge of and respect for the customs and beliefs of Metis, First Nations, and Inuit, and integrate that knowledge into the provision of culturally safe care.
1986: The Employment Equity Act was established to achieve equality in the workplace so that no persons would be denied employment opportunities or benefits for reasons unrelated to ability; it established the principle that employment equity means more than treating persons in the same way but also requires special measures and the accommodation of differences; it identified four groups thought to experience disadvantage in employment: women, Aboriginal peoples, persons with disability, and persons in a visible minority (Canadian Human Rights Commission, n.d.).	This policy recognizes the challenges faced by Aboriginal peoples and other groups in seeking and maintaining employment, and hence the impact of unemployment on poverty and self-esteem. In assessing, planning, and providing care, it is the nurse's responsibility to consider the impact of poverty and self-esteem on the health and well-being of all peoples, especially those identified in the Act.
Previous censuses have shown that the Aboriginal population is growing much faster than the total population. Given the younger age of the Aboriginal population, this trend is expected to continue (Statistics Canada, 2008d).	This rapid increase in the Aboriginal populations will have an impact on health-care services for both the young and older adults.
Approximately two-fifths of the Canadian population have one origin other than British, French, or Aboriginal.	The fact that the Canadian population is increasing in diversity has implications for how nurses incorporate the changes in practice needed to address this diversity. The importance of culture is highlighted in the fact that this topic is listed in the 2006 Canadian Nurses Association (CNA) *Blueprint for the Registered Nurse Examination*, which parallels nursing competencies and standards of practice.

A **Reflect on Primary Health Care** box engages students to reflect on the clinical application of one or more of the five principles of primary health care in relation to chapter-specific topics.

REFLECT ON PRIMARY HEALTH CARE

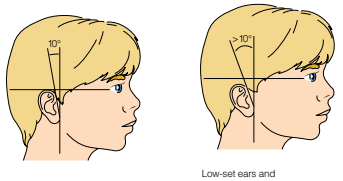
Health promotion is a principle of primary health care. Nurses adopt the primary health care approach to provide promotive, preventive, curative, rehabilitative, and supportive or palliative care to their clients. The focus of their care is on preventing illness and promoting health. In promoting the health of individuals, families, group, and communities, nurses must help their clients understand factors that determine their health and develop effective skills to improve and maintain their own health and well-being. Consider how you can work with your clients and interdisciplinary health-care providers to provide health-promotion services that are culturally sensitive and accessible to your clients. Also, examine whether the educational material is written in a language and at a level that can be understood by clients from another culture.

Numerous **Skill** boxes throughout the book provide step-by-step directions, along with rationales, for a wide range of clinical topics. Each skill includes a purpose statement, an assessment focus, a list of equipment, and an evaluation focus. Reference to infection prevention and control issues for each skill has been integrated. For this edition, we have highlighted the rationales by the use of colour. We have also included more Photos and Figures, and we label them by circled red numbers to make the presentation easier to follow.

SKILL 27.7

ASSESSING THE EARS AND HEARING (*continued*)

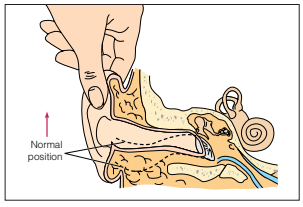
ASSESSMENT	NORMAL FINDINGS	DEVIATIONS FROM NORMAL
Auricles 6. **Inspect the auricles for colour, symmetry of size, and position.** To inspect position, note the level at which the superior aspect of the auricle attaches to the head in relation to the eye.	Colour same as facial skin; symmetrical; auricle aligned with outer canthus of eye, about 10° from vertical (see 1)	Bluish colour of earlobes (e.g., cyanosis); pallor (e.g., frostbite); excessive redness (inflammation or fever); asymmetry; low-set ears (associated with a congenital abnormality, such as Down syndrome)
7. **Palpate the auricles for texture, elasticity, and areas of tenderness.** Gently pull the auricle upward, downward, and backward. Fold the pinna forward (it should recoil). Push in on the tragus. Apply pressure to the mastoid process.	Mobile, firm, and not tender; pinna recoils after it is folded	Lesions (e.g., cysts); flaky, scaly skin (e.g., seborrhea); tenderness when moved or pressed (may indicate inflammation or infection of external ear)
External Ear Canal and Tympanic Membrane 8. **Use an otoscope to inspect the external ear canal for cerumen, skin lesions, pus, and blood.** • Attach a speculum to the otoscope. Use the largest diameter that will fit the ear canal without causing discomfort. **Rationale:** *This achieves maximum vision of the entire ear canal and tympanic membrane.* • Tip the client's head away from you, and straighten the ear canal. For an adult, straighten the ear canal by pulling the pinna up and back (see 2). **Rationale:** *Straightening the ear canal facilitates vision of the ear canal and the tympanic membrane.*		



Normal alignment

Low-set ears and deviation in alignment

1 **Alignment of ears**



2 **Straightening the ear canal of an adult by pulling the pinna up and back**

Lifespan Considerations boxes indicate how nursing care should be adapted for infants, children, adolescents, and older adults.

Lifespan Considerations

Applying Bandages and Binders

Children and older adults need special considerations when the nurse is applying a bandage or binder:

CHILDREN

- Allow the child to help with the procedure by holding supplies, opening boxes, counting turns, and so on.
- If a young client is apprehensive, demonstrate the procedure on a doll or stuffed animal.
- Encourage the child to decorate the bandage.
- Teach the caregivers to apply bandages and binders safely.

OLDER ADULTS

- Older clients may need extra support during the procedure, especially if arthritis, contractures, or tremors are present.
- Avoid constricting the client's circulation with a tight bandage or binder. Observe skin and bony prominences frequently for signs of impaired circulation. The risk for skin breakdown increases with age.

Home Care Considerations boxes guide students to consider client issues for successful home recovery and living.

Home Care Considerations

Sterile Field

Creating a sterile field is essential in many procedures conducted in the home:

- Clean and wipe dry a flat surface for the sterile field.
- Keep pets and uninvolved small children out of the area when setting up for and performing sterile procedures.
- Dispose of all soiled materials in a waterproof bag. Check with the agency as to how to dispose of medical refuse.
- Remove all instruments from the home or other setting in which others might accidentally find them. *New or used instruments can be sharp or capable of causing injury. Used instruments may transmit infection.* Check with the agency for instructions on cleansing of reusable supplies and disposal of single-use instruments.
- If appropriate, teach the client and family members the principles and rationale underlying use of using a sterile field.

Clinical Alerts provide students with tips on nursing responsibilities and precautions, along with the underlying rationales, when caring for clients in various clinical situations.

CLINICAL ALERT

Whenever mercury-in-glass thermometers are encountered, the nurse should recommend their immediate replacement with less hazardous thermometers and their safe disposal.

Clinical Manifestations list the signs and symptoms in bullet format to give students a quick and easy reference to key manifestations of illness.

Clinical Manifestations

Physiological Indicators of Stress

When a person is experiencing stress, he or she can also experience the following physiological changes:

- Pupils dilate to increase visual perception when serious threats to the body arise.
- Diaphoresis (sweat production) increases to control elevated body heat caused by increased metabolism.
- Heart rate and cardiac output increase to transport nutrients and byproducts of metabolism more efficiently.
- Skin is pallid because of constriction of peripheral blood vessels, an effect of norepinephrine.
- Sodium and water retention increase because of the release of mineralcorticoids, which increases blood volume.
- Rate and depth of respirations increase because of dilation of the bronchioles, promoting hyperventilation.
- Urinary output decreases.
- Mouth may be dry.
- Peristalsis of the intestines decreases, resulting in possible constipation and flatus.
- For serious threats, mental alertness improves.
- Muscle tension increases to prepare for rapid motor activity or defence.
- Blood sugar increases because of release of glucocorticoids and gluconeogenesis.

A **Sample Care Plan** in selected chapters provides assessment data, nursing diagnoses, client goals, desired outcomes, and *nursing intervention* (known as *therapeutic plan* in Quebec) relevant to the scenario presented in the chapter. Rationales for all nursing actions are included..

Sample Care Plan for Altered Bowel Elimination

ASSESSMENT DATA

Nursing Assessment

Mrs. Emma Brown is 78 years old. She has been a widow for 9 months. She lives alone in a low-income housing complex for older people. Her two children live with their families in a city approximately 240 km away. She always enjoyed cooking for her family; however, now that she is alone, she does not cook for herself. As a result, she has developed irregular eating patterns and tends to prepare soup-and-toast meals. She gets little exercise and has bouts of insomnia since her husband's death. For the past month, Mrs. Brown has been having a problem with constipation. She states she has a bowel movement about every 3 to 4 days and her stools are hard and painful to excrete. Mrs. Brown decides to attend the health fair sponsored by the housing complex and seeks assistance from the public health nurse.

Physical Examination

Height: 162 cm
Weight: 65 kg
Temperature: 36.2°C
Pulse: 82 bpm
Respirations: 20/min
Blood pressure: 128/74 mm Hg

Active bowel sounds, abdomen slightly distended

Diagnostic Data

CBC: Hgb 108 g/L

Urinalysis negative

Nursing Diagnosis

Constipation related to low-fibre diet and inactivity (as evidenced by infrequent, hard stools; painful defecation; abdominal distension)

Client Goals

Mrs. Brown will (1) establish a regular pattern of bowel elimination, (2) develop and maintain an exercise program, and (3) initiate nutritional alterations that will enhance regular bowel elimination.

Desired Health Outcomes

1. Increases daily fluid intake to 2000 mL unless contraindicated
2. Includes fibre in at least one meal per day
3. Walks for 20 minutes at least three times per week
4. Verbalizes relief of constipation by the second week

NURSING INTERVENTIONS AND SELECTED ACTIVITIES WITH RATIONALE* *[IN ITALICS]*

Constipation and Impaction Management

• Identify factors (e.g., medications, activity level, diet) that can cause or contribute to constipation.	*Assessing causative factors is an essential first step in teaching and planning for improved bowel elimination.*
• Encourage increased fluid intake, unless contraindicated.	*Sufficient fluid intake is necessary for the bowel to absorb sufficient amounts of liquid and promote proper stool consistency.*
• Evaluate her medication profile for gastrointestinal side effects.	*Constipation is a common side effect of many drugs, including opioid analgesics and antacids.*
• Teach Mrs. Brown how to keep a food diary.	*An appraisal of food intake will help identify whether Mrs. Brown is eating a well-balanced diet and consuming adequate amounts of fluid and fibre. Excessive meat or refined food intake will produce small, hard stools.*

(continue)

Practice Guidelines provide clear succinct summaries of correct and incorrect clinical actions.

PRACTICE GUIDELINES 30.1

Preventing Falls in Health-Care Agencies

Guidelines	Rationales
On admission, orient clients to their surroundings and explain the call system. Encourage the client to use the call bell to request assistance. Ensure that the bell is within easy reach.	Familiarity with surroundings increases awareness of risks and resources; access to help when required is important to ensure safety. Informing clients that help is eagerly available will help reduce reluctance to ask for assistance.
Perform a fall-risk assessment by using a standardized tool, such as the Morse Fall Scale or STRATIFY (St. Thomas Risk Assessment Tool in Falling Elderly Inpatients) (Oliver, Britton, Seed, Martin, & Hopper, 1997).	Previous history of falls is predictive of future falls; risk assessment can identify modifiable factors that will determine relevant, client-specific, fall-prevention strategies.
Assess the client's ability to ambulate and transfer. Provide walking aids and assistance as required. Consult with other members of the health-care team, such as physical and occupational therapists, to help address mobility issues.	Mobility risks increase the risk of falls. Environmental resources can buffer client deficits, such as a walker providing stability. Interprofessional collaboration results in a sharing of expertise to augment the quality of patient care.
Closely supervise clients at risk for falls, especially at night.	Clients are at increased risk of falling at night because of possible disorientation, poor lighting, and effects of sleeping aids.
Place bedside tables and overbed tables near the bed or chair (but avoid obstructing movement). Keep the environment tidy; in particular, keep light cords from underfoot and furniture out of the way.	Easy access to personal supplies will prevent the client from overreaching, which can cause loss of balance with a resultant fall. Any clutter can cause imbalance and a possible fall.
Always keep hospital beds in the low position and the wheels locked when not providing care.	Clients can move in or out of bed easily. If a fall occurs, it will be from the lowest height.

continued

Health Promotion Guidelines provide guidelines for promoting the health of clients at various stages of their development.

Health-Promotion Guidelines for Older Adults

The following are important to the health of older adults:

HEALTH TESTS AND SCREENING

- Routine physical examination (annually for females; every 2 to 3 years or as directed by health-care provider for males)
- Immunizations as recommended, such as a tetanus booster every 10 years, pneumococcal vaccinations, and annual influenza vaccine
- Regular dental assessments (e.g., yearly)
- Tonometry for signs of glaucoma and examination for other eye disease every 2 to 3 years or annually, if indicated
- Testicular and breast self-examination monthly
- Screenings for cardiovascular disease (e.g., blood pressure measurement; electrocardiogram and cholesterol test, as directed by the health-care provider)
- Screenings for colorectal, breast, cervical, uterine, ovarian, and prostate cancers
- Screening for tuberculosis every 2 years

SAFETY

- Home safety measures to prevent falls, fire, burns, scalds, and electrocution
- Motor vehicle safety reinforcement, especially when driving at night
- Precautions to prevent pedestrian accidents
- Education about medications

NUTRITION AND EXERCISE

- Importance of a well-balanced diet with fewer calories to accommodate lower metabolic rate and decreased physical activity
- Importance of sufficient amounts of vitamin D and calcium to prevent osteoporosis
- Regular program of moderate exercise to maintain joint mobility, muscle tone, and bone calcification

ELIMINATION

- Importance of adequate roughage in the diet, adequate exercise, and at least 1500 mL of fluid daily to prevent constipation

SOCIAL INTERACTIONS

- Intellectual and recreational pursuits
- Personal relationships that promote discussion of feelings, concerns, and fears
- Assessment of risk factors for abuse and neglect
- Availability of social community centres, programs, and support groups for older adults

Three types of Teaching boxes are presented throughout the book. **Teaching: Clinical** boxes discuss teaching with regard to the learning needs of the individual client. **Teaching: Home Care** boxes describe teaching directed specifically to facilitating self-care, monitoring problems, understanding medication effects, performing prescribed therapies, and altering lifestyle patterns for clients living in their home. **Teaching: Wellness** boxes describe teaching directed specifically to providing wellness or health promotion information to help clients live healthier lives.

TEACHING: CLINICAL

Teaching Tools for Children

The use of the following teaching aids can help focus children's attention:

- *Visits.* Visiting the hospital and treatment rooms; seeing people dressed in uniforms, scrub suits, protective gear.
- *Dress-up.* Touching and dressing up in the clothing they will see and wear.
- *Colouring books.* Using colouring books to prepare for treatments, surgery, or hospitalization; shows what rooms, people, and equipment will look like.
- *Storybooks.* Storybooks describe how the child will feel, what will be done, and what the place will look like. Parents can read these stories to children several times before the experience. Younger children like this repetition.
- *Dolls.* Practising procedures on dolls or teddy bears that they will later experience gives a sense of mastery of the situation. Custom dolls are often available for inserting tubes and giving injections, for example.
- *Puppet play.* Puppets can be used in role-play situations to provide information and show the child what the experience will be like; they help the child express emotions.
- *Health fairs.* Health fairs can educate children about their bodies and ways to stay healthy. Fairs can focus on high-risk problems that children face, such as accidents and poisoning, and on other topics identified in the community as a concern.

TEACHING: HOME CARE

Environmental Management

The way the client takes care of an infection after going home is important. The nurse can help by teaching the client how to do it correctly:

- Discuss injury proofing the home to prevent the possibility of further tissue injury (e.g., use of padding, handrails, removal of hazards).
- Explore ways to control the environmental temperature and airflow (especially if client has an airborne pathogen).
- Determine the advisability of visitors and family members in close proximity to the client.
- Describe ways to manipulate the bed, the room, and other household facilities.

INFECTION CONTROL

- Based on assessment of client and family knowledge, teach proper hand hygiene (e.g. before handling foods, before eating, after toileting, before and after any required home care treatment, and after touching any body substances, such as wound drainage) and related hygiene measures to all family members.
- Promote nail care: keep fingernails short, clean, and well manicured to eliminate rough edges or hangnails, which can harbour microorganisms.
- Instruct not to share personal care items, such as toothbrush, washcloths, and towels, and describe the rationale of how infections can be transmitted from shared personal items.
- Discuss antimicrobial soaps and effective disinfectants.
- Ensure access to and proper use of gloves and other barriers as indicated by the type of infection or risk.
- Discuss the relationship among hygiene, rest, activity, and nutrition in the chain of infection.
- Instruct about proper administration of medication.
- Instruct about cleaning reusable equipment and supplies. Use soap and water, and disinfect with a chlorine bleach solution.

INFECTION PREVENTION

- Teach the client and family members how to avoid infections.
- Suggest techniques for safe food preservation and preparation (e.g., wash raw fruits and vegetables before eating them, refrigerate all opened and unpackaged foods).
- Remind to avoid coughing, sneezing, or breathing directly on others. Cover the mouth and nose with a tissue or the sleeve to prevent the transmission of airborne microorganisms.
- Inform of the importance of maintaining sufficient fluid intake to promote urine production and output. This helps flush the bladder and urethra of microorganisms.
- Emphasize the need for proper immunizations of all family members.

WOUND CARE

- Teach the client and family the signs of wound healing and of wound infection and why monitoring of the wound is important.
- Delineate the factors that promote wound healing.
- Explain the proper technique for changing the dressing and disposing of the soiled one. Reinforce need to place contaminated dressings and other disposable items containing body fluids in moisture-proof plastic bags.
- Advise to put used needles in a puncture-resistant container with a screw-top lid. Label so as not to discard in the garbage.

REFERRALS

- Provide appropriate information regarding how to access community resources, home care agencies, sources of supplies, and community or public health departments for immunizations.

TEACHING: WELLNESS

Preventing Transmission of STIs

Clients need to know how to prevent STIs:

- Talk openly with partners about how to have safe sex and honestly discuss any history of an STI.
- Use condoms in all sexual relationships.
- Abstain from sexual activity with a partner *known* to have or *suspected* of having an STI.
- Report to a health-care facility for examination whenever in doubt about possible exposure or when signs of an STI are evident.
- When an STI is diagnosed, notify all partners and encourage them to seek treatment.
- Consider the use of vaccinations now available for hepatitis B and human papillomavirus (HPV).
- Women should have regular Pap tests for the early detection of STI-related cervical cell changes.

Three types of Assessment boxes are provided throughout the book. **Assessment: Home Care** boxes give guidelines to assess the needs of clients or families or caregivers and tFo consider the available community resources for discharge and home-care planning. **Assessment: Interview** boxes provide examples of interviewing questions to help elicit relevant assessment data from the client. **Assessment: Developmental Guidelines** boxes provide critical assessment questions relevant to [run on]the growth and developmental needs of the client.

ASSESSMENT: HOME CARE

Nutrition

Before discharging clients, nurses need to assess their nutrition needs and any problems:

CLIENT AND ENVIRONMENT

- *Self-care abilities:* Assess the ability to feed self, to purchase food, and to prepare meals.
- *Adaptive feeding aids required:* Determine the need for special drinking cups, plates, or feeding utensils (see feeding aids later in chapter).
- *Instructional needs:* Consider nutritional requirements (e.g., *Eating Well with Canada's Food Guide*, dietary guidelines, special diet); adaptive aids available; recommended lifestyle variations; and management of enteral or parenteral nutrition.
- *Physical environment:* Assess for the adequacy of water, electricity, refrigeration, and telephone facilities; and for the presence of a clean, secure area to store and set up enteral or parenteral equipment, as needed.
- *Abilities to manage enteral or parenteral nutrition* (discussed later in chapter): Assess for the cognitive abilities to manage procedures and follow a prescribed schedule; the adequacy of manual dexterity to open sterile packages and handle equipment; the adequacy of visual acuity to read numbers on syringes and pumps; the ability to prepare formulas; and the ability to evaluate the status of the enteral or parenteral access device and report problems.

FAMILY

- *Caregiver availability, skills, and willingness:* Assess for primary and secondary persons able to assist with food purchase, meal preparation, and feeding and who are able to comprehend and administer special diets or the enteral or parenteral nutrition required.
- *Family role changes and coping*: Consider the effect on parenting and spousal roles, financial resources, and social roles.
- *Alternative potential primary or respite caregivers:* Assess, for example, other family members, volunteers, church members, paid caregivers, or housekeeping services, available community respite care (adult daycare, senior centres), and so on.

COMMUNITY

- *Current knowledge, use, and experience with community resources*: Determine the familiarity with nutritional counselling services; home health agencies for enteral or parenteral nutrition support; dietitian or nutritionist for planning appropriate meals for prescribed diet, planning ways to include ethnic food preferences into the diet, and providing written meal plans; medical equipment and supply sources; financial assistance services; support and educational services, such as the following:
  - Weight-management programs (e.g., Weight Watchers, Curves)
  - Dietitians of Canada for information on all nutrition topics
  - Health Canada
  - Meals on Wheels

ASSESSMENT: INTERVIEW

Preoperative Assessment Data

The following information must be gathered in the nursing history before surgery:

- *Current health status.* Essential information includes general health status and the presence of any chronic diseases, such as diabetes or asthma, that may affect the client's response to surgery or anaesthesia. Note any physical limitations that may affect the client's mobility or ability to communicate after surgery, as well as any prostheses, such as hearing aids or contact lenses.
- *Allergies.* Include allergies to prescription and nonprescription drugs, food allergies, and allergies to tape, latex, soaps, or antiseptic agents. Some food allergies indicate a potential reaction to drugs or substances used during surgery or diagnostic procedures; for example, an allergy to seafood alerts the nurse to a potential allergy to iodine-based dyes or soaps commonly used in hospitals; people who are allergic to foods, such as kiwi, banana, avocados, and chestnuts, may also have an allergy to latex in what is called latex-food syndrome.
- *Medications.* List all current medications (prescribed and OTC). It may be vital to maintain a blood level of some medications (e.g., anticonvulsants) throughout the surgical experience; others, such as anticoagulants or Aspirin, increase the risks of surgery and anaesthesia and need to be discontinued several days before surgery. It is important to include in the list any herbal remedies the client currently takes.
- *Previous surgeries and anaesthetic history.* Previous surgical and anaesthetic (general and local) experiences can influence the client's physical and psychological responses to surgery or may reveal unexpected responses to anaesthesia, such as cardiac arrest or malignant hyperthermia crisis.
- *Mental status.* The client's mental status and ability to understand and respond appropriately can affect the entire perioperative experience. Note any developmental disabilities, mental health problems, history of dementia, or excessive anxiety related to the procedure.
- *Understanding of the surgical procedure and anaesthesia.* The client should have a good understanding of the planned procedure and what to expect during and after surgery, as well as the expected outcome of the procedure.
- *Smoking.* Smokers may have more difficulty clearing respiratory secretions after surgery, increasing the risk of postoperative complications, such as pneumonia and atelectasis. Smoking also results in reduced oxygen-carrying capacity, increasing the risk of hypoxemia and delayed wound healing. Nicotine stimulates the surgical stress response, leading to increased workload for the heart.
- *Alcohol and other mind-altering substances.* Use of substances that affect the central nervous system, liver, or other body systems can affect the client's response to anaesthesia, surgery, and postoperative recovery.
- *Coping.* Clients with a healthy self-concept who have successfully employed appropriate coping mechanisms in the past are better able to deal with the stressors associated with surgery.
- *Social resources.* Determine the availability of family or other caregivers as well as the client's social support network. These resources are important to the client's recovery, particularly for the client undergoing same-day or short-stay surgery.
- *Cultural and spiritual considerations.* Culture and spirituality influence the client's response to surgery; respecting cultural and spiritual beliefs and practices can reduce preoperative anxiety and improve recovery.

ASSESSMENT: DEVELOPMENTAL GUIDELINES

The Infant

In these five developmental areas, does the infant do the following?

1. PHYSICAL DEVELOPMENT

- Demonstrate physical growth (weight, length, head and chest circumference) within the normal range
- Manifest appropriately sized fontanelles for age
- Exhibit vital signs within normal range for age

2. MOTOR DEVELOPMENT

- Perform gross and fine motor milestones within the normal range for age
- Exhibit reflexes appropriate for age

3. SENSORY DEVELOPMENT

- Follow a moving object within normal range for age
- Respond to sounds, such as talking or clapping hands

4. PSYCHOSOCIAL DEVELOPMENT

- Interact appropriately with parent through body movements and vocalizations

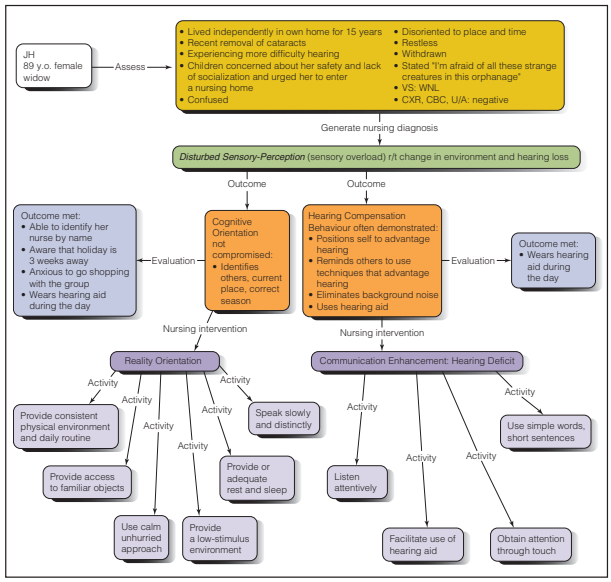
5. DEVELOPMENT IN ACTIVITIES OF DAILY LIVING

- Eat and drink appropriate amounts of breast milk, formula, or solid foods
- Exhibit an elimination pattern within normal range for age
- Exhibit rest and sleep patterns appropriate for age

Sample **Concept Maps** show the schematic relationships of various concepts and elements of the nursing process and nursing care plans.

CONCEPT MAP

Sensory Perceptual Disturbances



Chapter Highlights near the end of each chapter summarize the key points presented.

CHAPTER HIGHLIGHTS

- Definitions of *family* should include shifting social norms in family structure and each family's mode of describing themselves.
- Nursing care of families is based on relational practices that involve family members in care, respond to their concerns, provide them with information, and/or offer emotional support.
- Family expectations of health-care providers can include a desire for access to information about diagnosis and treatment, a trust that their ill family member will receive good care and be treated compassionately, the recognition of their own involvement in care, and preparation for their roles at home.
- The genogram inquiry helps the nurse demonstrate a concern for all family members, to document relevant information about those involved in the health situation, to appreciate developmental transitions in the family, and to begin to understand family relationships.
- The ecomap inquiry helps the nurse understand sources of family support or stress by tracing external connections to employment, health-care services, and recreational and religious communities.
- Reflective questions invite family members to think differently about themselves, health and illness concerns, and options for addressing concerns.
- Illness narratives help nurses more fully understand the reciprocal influences between health and the family and can assist families to make sense of the illness experience.
- Commendations acknowledge and convey respect for family capability and strengths.
- Families vary in their desire to be directly involved in caregiving activities, and some may need encouragement to take a respite from prolonged caregiving.
- Nurses can evaluate nursing care of families by reflecting on their efforts to invite family questions and concerns, by involving family members in decision making, and by asking the family directly about their experience of the family–nurse relationship.

Near the end of each chapter, **Assess Your Learning** presents ten multiple-choice questions to help reinforce concepts and clinical application. These questions are modeled on those in the Canadian Registered Nurses Examination (CRNE). In fact, an actual CRNE question from the 4th edition of the *Canadian Registered Nurses Exam Prep Guide* is included in many chapters. For each question, we have provided the following on the MyNursingLab (www.mynursinglab.com):

- The correct answer
- An explanation that guides students through the decision-making process for the most appropriate answer or nursing action.
- The relevant *nursing competency category* form the 4 categories provided in the CRNE *Prep Guide*.
- The question type (i.e., Knowledge or Application)

ASSESS YOUR LEARNING

1. The individual who has strong feelings of independence is meeting which of the following levels within Maslow's hierarchy of needs?
   a. Self-actualization
   b. Self-esteem
   c. Love and belonging
   d. Closeness

2. The way an individual interprets the environment can be considered part of which of the following dimensions of individuality?
   a. Self-identity
   b. Total character
   c. Perceptions
   d. Values

3. Mr. Greer, who has metastatic cancer of the liver and is severely jaundiced, asks you to assist him in planning a cruise 9 months in the future. You assess that he is using a coping mechanism. You remember that one purpose of coping mechanisms is to do which of the following?
   a. Protect the person
   b. Provide feedback
   c. Stimulate the endocrine system
   d. Change society

4. Developmental theories are useful because they do which of the following?
   a. Provide a basis for comparison with the individual characteristics
   b. Provide a set of rules for structuring individual care
   c. Focus on year-by-year changes in the individual
   d. Are not affected by the situation the individual is experiencing

5. When a father prepares to leave for work in the morning, his 3-year-old son starts to cry and scream. The father picks him up and delays leaving for a while. The child's behaviour most reflects which part of the family system?
   a. Input
   b. Throughput
   c. Output
   d. Feedback

6. Maslow would identify which of the following as belonging on the first (lowest, bottom) level of his hierarchy of needs?
   a. Ability to move around
   b. Recognition as a member of a peer group
   c. Feelings of independence
   d. Safety from physical harm

7. Baljit, a student nurse, has recently learned about the use of holistic thinking in nursing. When interviewing a client, which of the following rationales will he use in planning his questions?
   a. Individual processes are detached from each other.
   b. The reason for consulting the health professional is of primary importance.
   c. Each individual is more than the sum of his or her parts.
   d. The individual and the immediate environment are the focus of care.

8. Mr. Hannah, 28 years old, has been HIV positive for 5 years. Recently, he has been admitted to the hospital with a confirmed diagnosis of *Pneumocystis carinii* [now known as *Pneumocystis jirovecii*]. Mr. Hannah tells the nurse that he notices people seem to avoid coming into his room and that he is lonely. What strategy should the nurse use to provide support to the client?
   a. Explain to him the reason he is isolated is due to his susceptibility to infections.
   b. Explain to him that people do not come in to his room because they are afraid of getting HIV.
   c. Ask him if any of his family can come to the hospital to keep him company.
   d. Spend time talking with him during and between care activities.

9. Sarah, your friend, is trying to make some changes to her lifestyle. You support her by giving positive feedback because positive feedback does what?
   a. Inhibits change
   b. Stimulates change
   c. Maintains homeostasis
   d. Regulates change

10. Which of the following best describes psychological homeostasis or emotional well-being?
    a. It is inherited from parents.
    b. It is dependent on a person's role in family life.
    c. It is acquired or learned from living and interacting with others.
    d. It is totally independent from a person's culture.

After working through these questions, go to the MyNursingLab at ***http://www.mynursinglab.com*** *to check your answers and see explanations.*

Each chapter concludes with an annotated list of **Suggested Readings**, an annotated list of useful **Weblinks**, and a list of **References**.

ADDITIONAL RESOURCES AND SUPPLEMENTS

Aside from the robust MyNursingLab (www.mynursinglab.com) described at the front this book, we have provided the following additional resources and supplements to support the new edition.

Clinical Reference Card

Each copy of the book is accompanied by a 6-page laminated Clinical Reference Card, which is intended to serve as handy reference when engaged in clinical work The contents include brief summaries of such topics as the normal ranges of vital signs for various age groups, common laboratory values, the pain scale, the Glasgow Coma Scale, and the framework for head-to-toe assessment. The last section consists of an erasable notes section where students can customize the Card for their own use by jotting down key points or data that they want to remember.

Instructor's Resource CD-ROM

An Instructor's Resource CD-ROM provides instructors with the following supplements to aid in presenting classes, fostering class discussion, creating tests, and encouraging learning: An **Instructor's Manual**, which includes answers to all the questions in the book, along with other material to help design classes

PowerPoint Slides, which illuminate and build upon key concepts in the text.

Image Library, which provides electronic files of all the Figures, Photos, and Tables in the book.

A new computerized **Testbank** in 2 formats: **Pearson TestGen** and **Pearson MyTest**. Both formats are powerful programs that enable instructors to view and edit existing questions, create new questions, and generate quizzes, tests, exams, or homework. TestGen and MyTest also allow

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