

Harding Kwong Roberts Hagler Reinisch

Lewis's
**Medical-
Surgical
Nursing**

Assessment and Management
of Clinical Problems

Eleventh Edition



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Lewis's Medical-Surgical Nursing

Assessment and Management of Clinical Problems

ELEVENTH EDITION

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Dedication

**To the Profession of Nursing and to the Important People
in Our Lives**

Mariann

*My husband Jeff, our daughters Kate and Sarah, and my parents,
Mick and Mary.*

Jeff

*My parents, Raymond and Virginia, thank you for believing in me
and providing me the opportunity to become a nurse.*

Dottie

*My husband Steve and my children Megan, E.J., Jessica, and
Matthew, who have supported me through four college degrees and
countless writing projects; and to my son-in-law Al, our grandsons
Oscar and Stephen, and my new daughter-in-law Melissa.*

Debbie

*My husband James, our children Matthew, Andrew, Amanda, and
Diana, and our granddaughter Emma.*

Courtney

To future nurses and the advancement of health care globally.

Preface

The eleventh edition of *Lewis's Medical-Surgical Nursing: Assessment and Management of Clinical Problems* incorporates the most current medical-surgical nursing information in an easy-to-use format. This textbook is a comprehensive resource containing the essential information that students need to prepare for class, examinations, clinical assignments, and safe and comprehensive patient care. The text and accompanying resources include many features to help students learn key medical-surgical nursing content, including patient and caregiver teaching, gerontology, interprofessional care, cultural and ethnic considerations, patient safety, genetics, nutrition and drug therapy, evidence-based practice, and much more.

To address the rapidly changing practice environment, all efforts were directed toward building on the strengths of the previous editions while delivering this more effective new edition. To help students and faculty members focus on the most important concepts in patient care, most chapters open with a conceptual focus that introduces students to the common concepts shared by patients experiencing the main exemplars discussed in the chapter. This edition features more body maps and has many new illustrations. Lengthy diagnostic tables in the assessment chapters have been separated into specific categories, including radiologic studies and serology studies. The previously combined visual and auditory content is now in separate chapters focusing on the assessment and management of vision and hearing disorders. New Promoting Population Health boxes address strategies to improve health outcomes.

For a text to be effective, it must be understandable. In this edition,

great effort has been put into improving the readability and lowering the reading level. Students will find more clear and easier-to-read language, with an engaging conversational style. The narrative addresses the reader, helping make the text more personal and an active learning tool. The language is more positive. For example, particular side effects and complications are referred to as *common*, as opposed to *not uncommon*.

International Classification for Nursing Practice (ICNP) nursing diagnoses, one of the terminologies recognized by the American Nurses Association, are used throughout the text and ancillary materials. The language is similar to that of NANDA-I. ICNP nursing diagnoses are used in many facilities worldwide to document nursing care in electronic health records. By introducing students to the ICNP nursing diagnoses, students will learn a more shared vocabulary. This should translate into the more accurate use of diagnostic language in clinical practice across healthcare settings.

Contributors were selected for their expertise in specific content areas; one or more specialists in a given subject area have thoroughly reviewed each chapter to increase accuracy. The editors have undertaken final rewriting and editing to achieve internal consistency. The comprehensive and timely content, special features, attractive layout, full-color illustrations, and student-friendly writing style combine to make this the textbook used in more nursing schools than any other medical-surgical nursing textbook.

Organization

Content is organized into 2 major divisions. The first division, Sections 1 through 3 ([Chapters 1](#) through [16](#)), discusses general concepts related to the care of adult patients. The second division, Sections 4 through 13 ([Chapters 17](#) through [68](#)), presents nursing assessment and nursing management of medical-surgical problems. At the beginning of each chapter, the Conceptual Focus helps students focus on the key concepts and integrate concepts with exemplars affecting different

body systems. Learning Outcomes and Key Terms assist students in identifying the key content for that chapter.

The various body systems are grouped to reflect their interrelated functions. Each section is organized around 2 central themes: assessment and management. Chapters dealing with assessment of a body system include a discussion of the following:

1. A brief review of anatomy and physiology, focusing on information that will promote understanding of nursing care
2. Health history and noninvasive physical assessment skills to expand the knowledge base on which treatment decisions are made
3. Common diagnostic studies, expected results, and related nursing responsibilities to provide easily accessible information

Management chapters focus on the pathophysiology, clinical manifestations, diagnostic studies, interprofessional care, and nursing management of various diseases and disorders. The nursing management sections are presented in a consistent format, organized into assessment, nursing diagnoses, planning, implementation, and evaluation. To emphasize the importance of patient care in and across various clinical settings, nursing implementation of all major health problems is organized by the following levels of care:

1. Health Promotion
2. Acute Care
3. Ambulatory Care

Special Features

The 6 competencies for registered nursing practice identified by QSEN serve as the foundation of the text and are highlighted in the core content, case studies, and nursing care plans.

- **New! Nursing Management** tables and boxes focus on the actions nurses need to take to deliver safe, quality, effective patient care.
- **New! Diagnostic Studies** tables focus on the specific type of study, such as interventional, serologic, or radiologic, with more detailed information on interpreting results and associated nursing care.
- **Cultural and ethnic health disparities** content and boxes in the text highlight risk factors and important issues related to the nursing care of various ethnic groups. A special Culturally Competent Care heading denotes cultural and ethnic content related to diseases and disorders. [Chapter 2](#) (Health Equity and Culturally Competent Care) discusses health status differences among groups of people related to access to care, economic aspects of health care, gender and cultural issues, and the nurse's role in promoting health equity.
- **Interprofessional care** is highlighted in special Interprofessional Care sections in all management chapters and Interprofessional Care tables throughout the text.
- **Focused Assessment boxes** in all assessment chapters provide brief checklists that help students do a more practical "assessment on the run" or bedside approach to assessment. They can be used to evaluate the status of previously identified health problems and monitor for signs of new problems.
- **Safety Alert boxes** highlight important patient safety issues and focus on the National Patient Safety Goals.
- **Pathophysiology Maps** outline complex concepts related to diseases in a flowchart format, making them easier to understand.
- **Patient and caregiver teaching** is an ongoing theme throughout the text. [Chapter 4](#) (Patient and Caregiver Teaching) emphasizes the increasing importance and prevalence of patient management of chronic illnesses and conditions and the role of the caregiver in patient care.

- **New! Conceptual Focus** at the beginning of each chapter helps students focus on the key concepts and integrate concepts with exemplars affecting different body systems.
- **Gerontology and chronic illness** are discussed in [Chapter 5](#) (Chronic Illness and Older Adults) and included throughout the text under Gerontologic Considerations headings and in Gerontologic Differences in Assessment tables.
- **Nutrition** is highlighted throughout the textbook. Nutritional Therapy tables summarize nutritional interventions and promote healthy lifestyles in patients with various health problems.
- **New! Promoting Population Health boxes** present health care goals and interventions as they relate to specific disorders, such as diabetes and cancer, and to health promotion, such as preserving hearing and maintaining a healthy weight.
- **Extensive drug therapy** content includes Drug Therapy tables and concise Drug Alerts highlighting important safety considerations for key drugs.
- **Genetics content** includes:
 - Genetics in Clinical Practice boxes that summarize the genetic basis, genetic testing, and clinical implications for genetic disorders that affect adults
 - A genetics chapter that focuses on practical application of nursing care as it relates to this important topic
 - Genetic Risk Alerts in the assessment chapters, which call attention to important genetic risks
 - Genetic Link headings in the management chapters, which highlight the specific genetic bases of many disorders
- **Gender Differences** boxes discuss how women and men are affected differently by conditions such as pain and hypertension.
- **Check Your Practice boxes** challenge students to think critically, analyze patient assessment data, and implement the

appropriate intervention. Scenarios and discussion questions are provided to promote active learning.

- **Complementary & Alternative Therapies boxes** expand on this information and summarize what nurses need to know about therapies such as herbal remedies, acupuncture, and yoga.
- **Ethical/Legal Dilemmas boxes** promote critical thinking for timely and sensitive issues that nursing students may deal with in clinical practice—topics such as informed consent, advance directives, and confidentiality.
- **Emergency Management tables** outline the emergency treatment of health problems most likely to require emergency intervention.
- **Nursing care plans** on the Evolve website focus on common disorders or exemplars. These care plans incorporate ICNP nursing diagnoses, Nursing Interventions Classification (NIC), and Nursing Outcomes Classification (NOC) in a way that clearly shows the linkages among NIC, NOC, and nursing diagnoses and applies them to nursing practice.
- Coverage on delegation and prioritization includes:
 - Specific topics and skills related to delegation and the nurse's role in working with members of the interprofessional team, which are detailed in Nursing Management tables.
 - Delegation and prioritization questions in case studies and Bridge to NCLEX Examination Questions.
 - Nursing interventions throughout the text, listed in order of priority.
 - Nursing diagnoses in the nursing care plans, listed in order of priority.
- **Assessment Abnormalities tables** in assessment chapters alert the nurse to commonly encountered abnormalities and their possible etiologies.
- **Nursing Assessment tables** summarize the key subjective and

objective data related to common diseases. Subjective data are organized by functional health patterns.

- **Health History tables** in assessment chapters present key questions to ask patients related to a specific disease or disorder.
- **Evidence-based practice** is covered in Applying the Evidence boxes and evidence-based practice-focused questions in the case studies. Applying the Evidence boxes use a case study approach to help students learn to use evidence in making patient care decisions.
- **Informatics boxes and content** in [Chapter 4](#) (Patient and Caregiver Teaching) reflect the current use and importance of technology as it relates to patient self-management.
- **Bridge to NCLEX® Examination Questions** at the end of each chapter are matched to the Learning Outcomes and help students learn the important points in the chapter. Answers are provided just below the questions for immediate feedback, and rationales are provided on the Evolve website.
- **Case Studies** with photos bring patients to life. Management chapters have case studies at the end of the chapters. These cases help students learn how to prioritize care and manage patients in the clinical setting. Unfolding case studies are included in each assessment chapter, and case studies that focus on managing care of multiple patients are included at the end of each section. Discussion questions with a focus on prioritization, delegation, and evidence-based practice are included in all case studies. Answer guidelines are provided on the Evolve website.

Learning Supplements for Students

- The handy **Clinical Companion** presents approximately 200 common medical-surgical conditions and procedures in a concise, alphabetical format for quick clinical reference.

Designed for portability, this popular reference includes the essential, need-to-know information for treatments and procedures in which nurses play a major role. An attractive and functional four-color design highlights key information for quick, easy reference.

- An exceptionally thorough **Study Guide** contains over 500 pages of review material that reflect the content found in the textbook. It features a wide variety of clinically relevant exercises and activities, including NCLEX-format multiple choice and alternate format questions, case studies, anatomy review, critical thinking activities, and much more. It features an attractive four-color design and many alternate-item format questions to better prepare students for the NCLEX examination. An answer key is included to provide students with immediate feedback as they study.
- The **Evolve Student Resources** are available online at <http://evolve.elsevier.com/Lewis/medsurg> and include the following valuable learning aids organized by chapter:
 - Printable **Key Points** summaries for each chapter.
 - 1000 NCLEX examination **Review Questions**.
 - **Answer Guidelines** to the case studies in the textbook.
 - **Rationales for the Bridge to NCLEX® Examination Questions** in the textbook.
 - 55 **Interactive Case Studies** with state-of-the-art animations and a variety of learning activities, which provide students with immediate feedback. Ten of the case studies are enhanced with photos and narration of the clinical scenarios.
 - Customizable **Nursing Care Plans** for over 60 common disorder or exemplars.
 - **Conceptual Care Map Creator**.
 - **Audio glossary** of key terms, available as comprehensive alphabetical glossary and organized by chapter.

- **Fluids and Electrolytes Tutorial.**
- **Content Updates.**
- More than just words on a screen, **Elsevier eBooks** come with a wealth of built-in study tools and interactive functionality to help students better connect with the course material and their instructors. In addition, with the ability to fit an entire library on one portable device, students have the ability to study when, where, and how they want.

Teaching Supplements for Instructors

- The **Evolve Instructor Resources** (available online at <http://evolve.elsevier.com/Lewis/medsurg>) remain the most comprehensive set of instructor's materials available, containing the following:
 - **TEACH for Nurses Lesson Plans** with electronic resources organized by chapter to help instructors develop and manage the course curriculum. This exciting resource includes:
 - Objectives
 - Pre-class activities
 - Nursing curriculum standards
 - Student and instructor chapter resource listings
 - Teaching strategies, with learning activities and assessment methods tied to learning outcomes
 - **Case studies** with answer guidelines
 - The **Test Bank** features over 2000 NCLEX examination test questions with text page references and answers coded for NCLEX Client Needs category, nursing process, and cognitive level. The test bank includes hundreds of prioritization, delegation, and multiple patient questions. All

alternate-item format questions are included. The ExamView software allows instructors to create new tests; edit, add, and delete test questions; sort questions by NCLEX category, cognitive level, nursing process step, and question type; and administer and grade online tests.

- The **Image Collection** contains more than 800 full-color images from the text for use in lectures.
- An extensive collection of **PowerPoint Presentations** includes over 125 different presentations focused on the most common diseases and disorders. The presentations have been thoroughly revised to include helpful instructor notes/teaching tips, unfolding case studies, illustrations and photos not found in the book, new animations, and updated audience response questions for use with iClicker and other audience response systems.
- Course management system.
- Access to all student resources listed above.
- The **Simulation Learning System (SLS)** is an online toolkit that helps instructors and facilitators effectively incorporate medium- to high-fidelity simulation into their nursing curriculum. Detailed patient scenarios promote and enhance the clinical decision-making skills of students at all levels. The SLS provides detailed instructions for preparation and implementation of the simulation experience, debriefing questions that encourage critical thinking, and learning resources to reinforce student comprehension. Each scenario in the SLS complements the textbook content and helps bridge the gap between lecture and clinical. The SLS provides the perfect environment for students to practice what they are learning in the text for a true-to-life, hands-on learning experience.

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We sincerely hope that this book will assist both students and clinicians in practicing truly professional nursing.

Mariann M. Harding

Jeffrey Kwong

Dottie Roberts

Debra Hagler

Courtney Reinisch

Concepts Exemplars

Acid–Base Balance

Chronic Kidney Disease

Diarrhea

Metabolic Acidosis

Metabolic Alkalosis

Respiratory Acidosis

Respiratory Alkalosis

Cellular Regulation

Anemia

Breast Cancer

Cervical Cancer

Colon Cancer

Endometrial Cancer

Head and Neck Cancer

Leukemia

Lung Cancer

Lymphoma

Melanoma

Prostate Cancer

Clotting

Disseminated Intravascular Coagulopathy

Pulmonary Embolism

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SECTION ONE

Concepts in Nursing Practice

OUTLINE

1. Professional Nursing
2. Health Equity and Culturally Competent Care
3. Health History and Physical Examination
4. Patient and Caregiver Teaching
5. Chronic Illness and Older Adults

Professional Nursing

Mariann M. Harding

LEARNING OUTCOMES

1. Describe professional nursing practice in terms of domain, definitions, and recipients of care.
2. Compare the different scopes of practice available to professional nurses.
3. Describe the role of critical thinking skills and using the nursing process to provide patient-centered care.
4. Apply the SBAR procedure and effective communication techniques in the clinical setting.
5. Explore the role of the professional nurse in delegating care to licensed practical/vocational nurses and unlicensed assistive personnel.
6. Discuss the role of integrating safety and quality improvement processes into nursing practice.
7. Evaluate the role of informatics and technology in nursing practice.
8. Apply concepts of evidence-based practice to nursing practice.

KEY TERMS

advanced practice registered nurse (APRN), p. 2
case management, p. 7
clinical pathways, p. 9
clinical reasoning, p. 8
critical thinking, p. 8
delegation, p. 9
electronic health records (EHRs), p. 13
evidence-based practice (EBP), p. 13
interprofessional team, p. 8
nursing, p. 2
nursing process, p. 4
SBAR (Situation-Background-Assessment-Recommendation), p. 9
serious reportable event (SRE), p. 10
telehealth, p. 8

Conceptual Focus

Care Competencies
Leadership
Professional Identity

Caring is the essence of nursing.

Jean Watson

© <http://evolve.elsevier.com/Lewis/medsurg/>

This chapter presents an overview of professional nursing practice, discussing the wide variety of roles and responsibilities that nurses fulfill to meet society's health care needs. This overview includes several key concepts that are part of competent nursing practice.

These include safety, quality, informatics, and collaboration.

Professional Nursing Practice

Domain of Nursing Practice

Nursing practice today consists of a wide variety of roles and responsibilities necessary to meet society's health care needs. As a nurse, you are the frontline professional of health care (Fig. 1.1). You can practice in virtually all health care settings and communities. You have never been more important to health care than you are today. As a nurse, you (1) offer skilled care to those recuperating from illness or injury, (2) advocate for patients' rights, (3) teach patients to manage their health, (4) support patients and their caregivers at critical times, and (5) help them navigate the complex health care system. Although many nurses work in acute care facilities, nurses also practice in long-term care, home care, community health, public health centers, schools, and ambulatory or outpatient clinics. Wherever you practice, recipients of your care include individuals, families, groups, or communities.

The American Nurses Association (ANA) states that the authority for nursing practice is based on a contract with society that acknowledges professional rights and responsibilities, as well as mechanisms for public accountability.¹ The knowledge and skills that make up nursing practice are based on society's expectations and needs. Nursing practice continues to evolve according to society's health care needs and as knowledge and technology expand. This chapter introduces concepts and factors that affect professional nursing practice.



FIG. 1.1 Nurses are frontline professionals of health care. (© Michael Jung/iStock/Thinkstock.)

Definitions of Nursing

Well-known definitions of nursing show that the basic themes of health, illness, and caring have existed since Florence Nightingale described nursing. Following are 2 such examples:

- Nursing is putting the patient in the best condition for nature to act (Nightingale).²
- The nurse's unique function is to aid patients, sick or well, in performing those activities contributing to health or its recovery (or to peaceful death) that they would perform unaided if they had the necessary strength, will, or knowledge—and to do this in such a way as to help them gain independence as rapidly as possible (Henderson).³

In 1980 the ANA defined **nursing** as “the diagnosis and treatment of human responses to actual and potential health problems.”¹ In this context, your care of a person with a fractured hip would focus on the patient's response to impaired mobility, pain, and loss of independence. The 2010 edition of the ANA's *Nursing: A Social Policy Statement* provided a new definition of nursing that reflects the continuing evolution of nursing practice:

*Nursing is the protection, promotion, and optimization of health and abilities, prevention of illness and injury, alleviation of suffering through the diagnosis and treatment of human response, and advocacy in the care of individuals, families, communities, and populations.*¹

Nursing's View of Humanity

A person has physiologic (or biophysical), psychologic (or emotional), sociocultural (or interpersonal), spiritual, and environmental components or dimensions. In this book, we consider a person to be in constant interaction with a changing environment. A person is composed of interrelated dimensions and not separate entities. Thus a problem in 1 dimension may affect 1 or more of the other dimensions. A person's behavior is meaningful and oriented toward fulfilling needs, coping with stress, and developing one's self. However, at times a person needs help to meet these needs, cope successfully, or develop his or her unique potential.

Scope of Nursing Practice

The essential core of nursing practice is to deliver holistic, patient-centered care. It includes assessment and evaluation, giving a variety of interventions, patient and family teaching, and being a member of the interprofessional health care team.

The extent that nurses engage in their scope of practice depends on their educational preparation, experience, role, and state law. To enter practice, a nurse must complete an accredited program and pass an examination verifying that the nurse has the knowledge necessary to provide safe care. Entry-level nurses with associate or baccalaureate degrees are prepared to function as generalists. At this level, nurses provide direct health care and focus on ensuring coordinated and comprehensive care to patients in a variety of settings. Nurses work collaboratively with other health care providers to manage the needs of persons and groups.

With experience and continued study, nurses may specialize in a specific practice area. Certification is a formal way for nurses to obtain professional recognition for having expertise in a specialty area. A variety of nursing organizations offer certification in nursing specialties.⁴ Certification usually requires a certain amount of clinical experience and successful completion of an examination. Recertification usually requires ongoing clinical experience and continuing education. Common nursing specialties include critical care, women's health, geriatric, medical-surgical, perinatal, emergency, psychiatric/mental health, and community health nursing.

Additional formal education and experience can prepare nurses for advanced practice. An **advanced practice registered nurse (APRN)** is a nurse educated at the master's or doctoral level, with advanced education in pathophysiology, pharmacology, and health assessment and expertise in a specialized area of practice. APRNs include clinical nurse specialists, nurse practitioners, nurse midwives, and nurse anesthetists. APRNs play a vital role in the health care delivery system. In addition to managing and delivering direct patient care, APRNs have roles in leadership, quality improvement, evidence-based practice, and informatics.

The doctor of nursing practice (DNP) degree is a practice-focused terminal nursing degree. With raising the educational preparation for APRNs to the doctoral level, nursing is at the same level as other health professions that offer practice doctorates (e.g., pharmacy [PharmD], physical therapy [DPT]). Nurses with a research-focused doctorate (PhD) typically are used in health care settings as nurse faculty, clinical experts, researchers, and health care system executives.

Standards of Professional Nursing Practice

To guide nurses in how to perform professionally, the ANA defined Standards of Professional Nursing Practice. There are 2 parts, Standards of Practice and Standards of Professional Performance.⁵ The Standards of Practice describe a competent level of nursing care, based on the nursing process. The Standards of Professional Performance describe behavioral competencies expected of a nurse. You are following the performance standards when you practice ethically and use evidence-based practice. Communicating effectively and staying competent in practice are important. You must be able to work in collaboration with other interprofessional team members, patients, and caregivers.

Influences on Professional Nursing Practice

Expanding Knowledge and Technology

Ever-changing technology and rapidly expanding clinical knowledge add to the complexity of health care. The increased treatment, diagnostic, and care options available are changing care delivery and extending patients' lives. Discoveries in genetics are changing the way we think about diseases such as cancer and heart disease. For example, genetic information guides breast cancer screening. If a woman has cancer, this information allows for treatment and drug