LIPPINCOTT

MANUAL OF NURSING PRACTICE

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Eleventh Edition

SANDRA M. NETTINA, MSN, ANP-BC
Nurse Practitioner and Founder
Prime Care House Calls
West Friendship, Maryland

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Dedicated to the nurses who teach, educate, mentor, precept, and support new and future nurses. Whether you are a paid educator or a natural role model who assists with clinical training in addition to all your other duties, you are needed and appreciated.

The art of nursing must be experienced and nurtured within students and recent graduates. Quality care is not gleaned from science alone. Our profession depends on all those who have followed in the footsteps of the Lady with the Lamp…

to improve the health of individuals and the quality of health care.

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PREFACE

The world's ever-changing technology and health care systems have challenged nurses more than ever over the past 10 years. I firmly believe, however, that to improve health we cannot forget the past. Fundamental tasks such as nursing assessment and documentation are more important than ever. Care of the patient from hospital to home and across all settings is essential to reduce cost and improve outcomes. Health care today must mirror the past, with the patient at center, in the home, or transitioning to home, in one's own family and community system, rather than as a mere cog in the wheel of a large health care system.

Following the publication of the *Lippincott Manual of Nursing Practice*, 10th edition, I moved my clinical practice into the home health arena, with the firm belief that this is where I could use my 40 years of nursing experience to make the greatest difference in people's health and quality of life. While I exclusively provide medical care in the home and assisted living facilities, I am active in coordination of care for the patient across settings. While a major focus is prevention of hospital admission, I am alert for care needs that become greater than even a highly skilled home health team can meet. When a patient is admitted, I stay involved to help with the transition to rehabilitation settings and back to home. When a patient at home needs more supervision or assistance with activities of daily living than can be provided, I assist with the transition to a long-term care setting. This is what nurses do, whatever the patient needs, and our skills can be used in all settings.

Now I present the 11th edition of the *Lippincott Manual of Nursing Practice* with that focus. This manual is meant to guide students and nurses across all care settings, to provide whatever the patient needs, according to established standards of practice, but not forgetting the caring interactions that nurses do so well.

ORGANIZATION

This new edition continues to follow a basic outline format for easy readability and access of information. The subheadings continue to follow a medical model—Pathophysiology and Etiology, Clinical Manifestations, Diagnostic Evaluation, Management, and Complications—and a nursing process model—Nursing Assessment, Nursing Diagnoses, Nursing Interventions, Community and Home Care Considerations, Patient Education and Health Maintenance, and Evaluation: Expected Outcomes. Medical model information is presented because nurses need to understand the medical disorder, diagnostic workup, and treatment that are the basis for nursing care. The nursing process section provides a practical overview of step-by-step nursing care for almost any patient scenario.

This edition is divided into five parts to present a comprehensive reference for all types of nursing care. Part One discusses the role of the nurse in the health care delivery system. It comprises chapters on Nursing Practice and the Nursing Process, Standards of Care and Ethical and Legal Issues, Health Promotion and Preventative Care, and Genetics and Health Applications.

Part Two encompasses medical–surgical nursing. General topics are presented in Unit I, including Adult Physical Assessment, Intravenous Therapy, Perioperative Nursing, Cancer Nursing, and Care of the Older Adult or Adult with Disability. Units II through XII deal with body system function and dysfunction and the various disorders seen in adult medical and surgical nursing.

Part Three covers Maternity and Neonatal Nursing. Chapters include Maternal and Fetal Health, Nursing Management during Labor and Delivery, Care of the Mother and Newborn during the Postpartum Period, and Complications of the Childbearing Experience. Chapters reflect the routine childbearing experience as well as frequently encountered high-risk situations and problems that may arise for the mother as well as the infant.

Part Four focuses on Pediatric Nursing. Chapters are divided into two units. One unit covers General Practice Considerations, comprising Pediatric Growth and Development, Pediatric Physical Assessment, Pediatric Primary Care, and Care of the Sick or Hospitalized Child. The other unit contains chapters based on body systems to describe the various disorders and corresponding nursing care seen in pediatric nursing.

Part Five discusses Psychiatric Nursing. Entries follow the *Diagnostic and Statistical Manual of Mental Disorders*, Fifth Edition, classification of mental illness. Treatments and nursing management for each are discussed.

Sandra M. Nettina, MSN, ANP-BC

NEW TO THIS EDITION

New and Expanded Material

Information has been added to or extensively updated throughout chapters in these areas:

Chapter 1—new section on transitional care, the concept of ensuring coordination and continuity of care when a patient moves from one care setting to another.

Chapter 3—updated U.S. Preventive Services Task Force screening guidelines

Chapter 4—introduction of precision health care

Chapter 5—streamlined to highlight the most frequently used nursing assessment techniques

Chapter 6—IV therapy extensively updated

Chapter 8—survivorship care added

Chapter 10—extensive updating

Chapter 11—extensive updating

Chapter 12—extensive updating

Chapter 13—extensive updating

Chapter 15—extensive updating

Chapter 19—extensive updating

Chapter 20—eating disorders section expanded

Chapter 23—magnetic resonance imaging screening, hormonal treatment

Chapter 25—American Diabetic Association updates

Chapter 29—extensive updating

Chapter 34—extensive updating

Chapter 36-38—extensive updating with emphasis on improving outcomes

Chapter 42—expanded information

Chapter 45—new medications and treatment information

Chapter 46—new medications and treatment information

Chapter 47—risk factors for eustachian tube dysfunction

Chapter 53—extensive updating on pediatric immunodeficiency and other disorders

Chapter 57—reclassification of disorders according to DSM 5

You will find updated information on diagnostic tests and medical care for almost every entry. Nursing care has also been updated to reflect new treatments and best practice information.

Transitional Care

Added to this edition is the concept of transitional care, or ensuring coordination and continuity of care when a patient moves from one care setting to another, as in moving from an inpatient setting to home, or across health states such as from curative to palliative care or from pediatric care to adult care. The purpose is to provide support during the transition and improve health outcomes. At every episode of transition, there are critical nursing assessment, intervention, and education opportunities to help facilitate the transition. In each chapter, we have included a new logo item, Transitional Care Alert, which highlights important nursing care in specific transitions.

Graphics

To streamline the book, we have removed Procedure Guidelines from the print edition. Important points from the procedures have been added to text, and Procedure Guidelines can be found in online editions. Many new figures, boxes, and tables have been added or updated.

It has been my pleasure preparing the 11th edition of the *Lippincott Manual of Nursing Practice* for you. I hope that it will serve you well in providing patient care across all settings.

Sandra M. Nettina, MSN, ANP-BC

ACKNOWLEDGMENTS

I would like to thank past and present reviewers and contributors and the entire Lippincott Williams & Wilkins team for their contribution to the *Lippincott Manual of Nursing Practice*, 11th edition. Lisa Marshall, developmental editor, has been instrumental in guiding and supporting me in this project. Lindsay Ries, editorial assistant, has been invaluable in directing the day-to-day logistics and activities behind the scenes. Bruce Hobart kept the chapters, and all of us involved, moving through production. Christine Nelson-Tuttle as my associate clinical editor provided complete oversight of the pediatric chapters and many other aspects of the project. Everyone involved has come to respect the enormity of the task and how each step affects the next. I am proud of our accomplishment.

LIPPINCOTT

MANUAL OF NURSING PRACTICE

PART ONE

NURSING PROCESS AND PRACTICE

1

Nursing Practice and the Nursing Process

NURSING PRACTICE

Basic Concepts in Nursing Practice

Since Florence Nightingale developed the first model for nursing education in 1873, the role of the professional nurse and nursing scope of practice has evolved. Emphasis now is focused on evidence-based nursing care and preventive health practices. Understanding basic concepts in nursing practice, such as roles of nursing, theories of nursing, licensing, and legal issues, helps enhance performance.

Definition of Nursing

1. Nursing is an art and a science.
2. Earlier emphasis focused on care of the sick patient; now, the promotion of health is stressed.
3. American Nurses Association (ANA) definition (1980): Nursing is the diagnosis and treatment of the human response to actual and potential health problems.

Roles of Nursing

Whether in a hospital-based or community health care setting, nurses assume three basic roles:

1. Practitioner—involves actions that directly meet the health care and nursing needs of patients, families, and significant others; includes staff nurses at all rungs of the clinical ladder, advanced practice nurses, and community-based nurses.
2. Leader—involves actions, such as deciding, relating, influencing, and facilitating, that affect the actions of others and are directed toward goal determination and achievement; may be a formal nursing leadership role or an informal role periodically assumed by the nurse. Leadership roles may occur outside the typical nurse–patient relationship, in areas of advocacy in health policy where the focus is on improving the health of large populations of people.
3. Researcher—involves actions taken to implement studies to determine the actual effects of nursing care to further the scientific base of nursing; may include all nurses, not just academicians, nurse scientists, and graduate nursing students.

Theories of Nursing

1. Nursing theories help define nursing as a scientific discipline of its own.
2. The elements of nursing theories are uniform: nursing, patient, environment, and health—also known as the *paradigm* or *model* of nursing.
3. Nightingale was the first nursing theorist; she believed the purpose of nursing was to put the patient in the best condition for nature to restore or preserve health.
4. Theories range from broad to limited in scope.
   a. Grand nursing theories are the broadest and most abstract; they pertain to all nursing situations but are limited in directing or explaining nursing care.
   b. Middle-range nursing theories bridge grand theory with nursing practice; they can generate theoretical research and nursing practice strategies.
   c. Nursing practice theories (microrange) are limited in scope; they provide framework for nursing interventions and predicted outcomes in specific nursing situations.
5. More recent nursing theorists include the following:
   a. Levine—nursing supports a patient's adaptation to change because of internal and external environmental stimuli.
   b. Orem—nurses assist the patient to meet universal, developmental, and health deviation self-care requisites.
   c. Roy—nurses manipulate stimuli to promote adaptation in four modes: physiologic, self-concept, role function, and interdependence relations.
   d. Leninger—model of transcultural nursing; nurses should provide culturally specific care.
   e. Pender—nurses promote healthy behavior through a preventive model of health care.
   f. Rogers—nurses promote harmonious interaction between the patient and environment to maximize health; both are four-dimensional energy fields.
6. In recent years, the priority of interprofessional care has resulted in many nursing research initiatives to utilize other health care theories not specifically designated as nursing theorists.

Nursing in the Health Care Delivery System

1. Technology, education, society values, demographics, and health care financing all have an impact on where and how nursing is practiced.
   a. As the population ages, chronic disease rates rise and health care utilization increases.
   b. Chronic diseases are responsible for 7 of 10 deaths each year, and treating people with chronic diseases accounts for 86% of health care costs in the United States.
   c. The World Economic Forum estimates that chronic diseases account for almost two thirds of all deaths worldwide—and 80% of these now occur in low- and middle-income countries. By 2030, more people in these countries will die from heart attacks and strokes than from infectious diseases.
2. Health promotion and prevention strategies such as immunizations, health education, and screening tests aimed at reducing the incidence of infectious disease, injuries, and chronic illness save health care dollars and improve well-being. Nurses are well prepared for implementing health promotion strategies.
3. A nursing faculty shortage may challenge the ability of nursing to meet the needs of the expanded patient population.
   a. US nursing schools turned away almost 70,000 qualified applicants from baccalaureate and graduate nursing programs in 2014 because of an insufficient number of faculty, clinical sites, classroom space, clinical preceptors, and budget constraints.
   b. Almost two thirds of the nursing schools report faculty shortages as a reason for not accepting all qualified applicants into baccalaureate programs.
4. Advanced practice nurses are utilized as primary care and acute care providers because of a shortage of physicians. The Institute of Medicine 2010 report "The Future of Nursing" called for removal of regulatory barriers so nurses could practice to the full extent of their education and scope of practice.

Advanced Practice Nursing

1. Registered professional nurses with advanced training, education, and certification are allowed to practice in expanded scope.
2. This includes nurse practitioners, nurse-midwives, nurse-anesthetists, and clinical nurse specialists.
3. Scope of practice and legislation vary by state.
   a. Clinical nurse specialists are included in advanced practice nurse (APN) legislation in at least 27 states (some of these include only psychiatric/mental health clinical nurse specialists).
   b. Nurse practitioners have some type of prescriptive authority in all 50 states and the District of Columbia.
   c. In most cases, nurse practitioners are now eligible for Medicare reimbursement across the United States at 85% of the physician fee schedule and are eligible for Medicaid reimbursement in most states.
   d. Many states give full practice authority to APNs through the board of nursing with no requirement for physician oversight or collaboration required.
4. Master's degree preparation is the current requirement for most APN roles; however, many certificate programs have trained APNs in the past 40 years. In addition, doctoral programs are becoming increasingly desired, with emphasis on the practice role of APNs.
5. In Canada and other countries, the growth of the number of APNs in practice has been slower than in the United States, except for midwives in many cases.

Licensing, Certification, and Continuing Education

1. Every professional registered nurse must be licensed through the state board of nursing in the United States to practice in that state or the College of Nursing to practice in a Canadian province.
2. Although the state primarily regulates and restricts practice, the framework for scope of practice actually depends on a four-tier hierarchy: (1) the ANA Scope and Standards for Nursing Practice, (2) the particular state Nurse Practice Act, (3) the facility policies and procedures where the nurse is practicing, and (4) the nurse with her or his individual self-determination and competencies. Indeed, it is the nurse's responsibility to maintain competency and practice within the appropriate scope.
3. Continuing education requirements vary depending on state laws, facility policies, and area of specialty practice and certification. Continuing education units can be obtained through a variety of professional nursing organizations and commercial educational services.
4. Many professional nursing organizations exist to provide education, certification, support, and communication among nurses; for more information, contact your state nurses' association, state board of nursing, or the ANA, 8515 Georgia Avenue, Suite 400, Silver Spring, MD 20910, 800-274-4ANA, *www.nursingworld.org*.
5. Nursing curriculum and the nursing role have expanded to meet the demands of an aging, chronically ill population, advanced technology in the acute care setting, and expanding preventive strategies and community-based care to promote a healthier population. A wide variety of certifications offered through the American Nurses Credentialing Center (*www.nursecredentialing.org*) acknowledge advanced preparation of nurse practitioners, clinical nurse specialists, home health nurses, case management nurses, and many other specialties.

Management/Leadership in Nursing

1. There is a need to transform the health care workplace to better provide optimal health care to all patients. The transformation of health care will require nurses educated and actively using interprofessional collaborative processes, translation of knowledge, and motivation into the highest level of nursing care performance.
2. The Doctor of Nursing Practice (DNP) was introduced in 2005 to ensure that nursing can meet the demands of the changing health care system with the highest level of scientific knowledge and practice expertise.
   a. The American Association of Colleges of Nursing has proposed that the DNP replace the master's degree as preparation for advanced practice nursing; however, this is still up for debate.
   b. There are almost 300 DNP programs in the United States and more than 100 developments.

3. A recent addition to the certification arena is that of the clinical nurse leader, which has a master's degree requirement. It is defined as a nursing generalist whose role is to improve the quality of nursing care. The clinical nurse leader provides direction at the point of care, collaborates with the health care team, provides risk assessment, and implements quality improvement strategies based on evidence-based practice.
4. Challenges will exist in translating educational concepts in management and leadership into effective and relevant practices used by individuals in health care teams.

Safe Nursing Care

Patient Safety

1. Adequate nursing staffing is essential to reduce nurses' dissatisfaction, burnout, and high turnover rates, as well as reduce patient mortality. Studies have linked inadequate staffing to increased patient mortality.
   a. A recent retrospective observation study at a Magnet hospital identified an average patient exposed to three nursing shifts with below staffing resulted in 6% higher risk of mortality than patients with no below-target mortality.
   b. The American Nursing Association campaign, "Safe Nursing Saves Lives," advocates that hospitals set staffing levels on each unit based on patient acuity, number of patient, nursing skills, support staff, and technology (*http://www.nursingworld.org/MainMenuCategories/ThePracticeofProfessionalNursing/NurseStaffing*).

EVIDENCE BASE Lee, S., & Scott, L. (2018). Hospital nurses' work environment characteristics and patient safety outcomes: A literature review. *Western Journal of Nursing Research*, *40*(1), 121–145.

2. The Institute of Medicine (IOM) of the National Academies has focused on deficient health care systems as the cause of medical errors that are preventable and result in more than 50% of adverse events and patient deaths. The IOM offers recommendations for improving systems and processes in health care organizations to ultimately improve patient safety. For more information, refer to the website *www.iom.edu*.
3. The Agency for Healthcare Research and Quality has compiled a wide array of patient safety literature as a resource for all types of health care providers and settings, available at *http://psnet.ahrq.gov/default.aspx*.
4. The Joint Commission is also committed to improving safety for patients in health care organizations. The National Patient Safety Goals were implemented in 2003 to help address specific concerns for patient safety by health care setting, including ambulatory care, long-term care, behavioral health care, home care, hospital, laboratory services, and office-based surgery. New goals are introduced yearly with suggested performance measures to meet the goals. These are available at *www.jointcommission.org/standards_information/npsgs.aspx*. See Box 1-1 for selected National Patient Safety Goals.

BOX 1-1 National Patient Safety Goals: Hospital Program*

Use at least two patient identifiers when providing care, treatment, and services.
Ensure the correct patient gets the correct blood when they get a blood transfusion.
Report critical results of tests and diagnostic procedures on a timely basis.
Label all medications, medication containers, and other solutions on and off the sterile field in perioperative and other procedural settings.
Reduce the likelihood of patient harm associated with the use of anticoagulant therapy.
Make improvements to ensure that alarms on medical equipment are heard and responded to in a timely manner.
Maintain and communicate accurate patient medication information.
Comply with either the current Centers for Disease Control and Prevention (CDC) hand hygiene guidelines or the current World Health Organization (WHO) hand hygiene guidelines.
Implement evidence-based practices to prevent health care–associated infections because of multidrug-resistant organisms in acute care hospitals.
Implement evidence-based practices to prevent central line–associated bloodstream infections.
Implement evidence-based practices for preventing surgical site infections.
Implement evidence-based practices to prevent indwelling catheter-associated urinary tract infections (CAUTI).
Identify patients at risk for suicide.
Conduct a preprocedure verification process.
Mark the procedure site.
A time-out is performed before the procedure.

**See www.jointcommission.org/assets/1/6/NPSG_EPs_Scoring_HAP_20110706.pdf for elements of performance. https://www.jointcommission.org/standards_information/npsgs.aspx.*

Personal Safety

1. Nurses may be at risk for personal harm in the workplace. The ANA has sponsored initiatives to improve nurses' personal safety. The Position Statement: Risk and Responsibility in Providing Nursing Care acknowledges that there may be limits to the personal risk a nurse can assume in providing care in any clinical setting.
2. The Centers for Disease Control and Prevention estimates that 380,000 health care workers are injured by needles and other sharps each year, increasing the risk of hepatitis B, hepatitis C, and human immunodeficiency virus. Nurses sustain the largest percentage of these injuries. The ANA's "Safe Needles, Save Lives" (*www.needlestick.org*) campaign was key in promoting the use of safety devices. Nurses and other health care workers are protected by the Needlestick Safety and Prevention Act (P.L. 106-430), which requires health care organizations to use needleless or shielded-needle devices, obtain input from clinical staff in the evaluation and selection of devices, educate staff on the use of safety devices, and have an exposure control plan.
3. The physical work environment, which includes patient-handling tasks such as manual lifting, transferring, and repositioning patients, can also place nurses at risk for musculoskeletal disorders such as back injuries and shoulder strains.

The ANA's "Handle with Care" campaign (*www.nursingworld.org/handlewithcare*) aims to prevent such injuries and to promote safe patient handling through the use of technology and assistive patient-handling equipment and devices.

Culturally Competent Care

EVIDENCE BASE Darnell, L., & Hickson, S. (2015). Cultural competent patient-centered nursing care. *Nursing Clinics of North America*, *50*(1), 99–108.

The changing demographics of the United States, Canada, the United Kingdom, and other countries bring a diverse array of individuals with varying cultures and beliefs into nursing practice. Nurses must provide culturally competent care by expanding their knowledge about different cultures. Cultural competence involves learning a new set of attitudes, behaviors, and skills to help the nurse provide care effectively in cross-cultural situations. See Box 1-2, Standards of Practice for Culturally Competent Nursing Care. The Transcultural Nursing Society (TCNS) was founded in 1975 by Madeleine Leininger with a focus on human caring. Culturally congruent and competent care results in improved health and well-being for people worldwide. TCNS offers a peer-reviewed evidence-based journal, educational courses, and many other resources to provide information about the values, beliefs, and traditions of various cultures (*www.tcns.org*). However, the nurse must always use caution and avoid generalizing and stereotyping patients. Culturally competent care begins with an individualized patient assessment, including the patient's own definition of health and expectations for care. Based on this assessment and application of a set of standards, the nurse can develop an individualized care plan.

THE NURSING PROCESS

The nursing process is a deliberate, problem-solving approach to meeting the health care and nursing needs of patients. It involves assessment (data collection), nursing diagnosis, planning, implementation, and evaluation, with subsequent modifications used as feedback mechanisms to promote the resolution of the nursing diagnoses. The process as a whole is cyclical, with the steps being interrelated, interdependent, and recurrent.

BOX 1-2 Transcultural Nursing Standards of Practice

1. **Social Justice:** Professional nurses shall promote social justice for all. The applied principles of social justice guide decisions of nurses related to the patient, family, community, and other health care professionals. Nurses will develop leadership skills to advocate for socially just policies.
2. **Critical Reflection:** Nurses shall engage in critical reflection of their own values, beliefs, and cultural heritage to have an awareness of how these qualities and issues can impact culturally congruent nursing care.
3. **Transcultural Nursing Knowledge:** Nurses shall gain an understanding of the perspectives, traditions, values, practices, and family systems of culturally diverse individuals, families, communities, and populations for whom they care, as well as knowledge of the complex variables that affect the achievement of health and well-being.
4. **Cross-Cultural Practice:** Nurses shall use cross-cultural knowledge and culturally sensitive skills in implementing culturally congruent nursing care.
5. **Health Care Systems and Organizations:** Health care organizations should provide the structure and resources necessary to evaluate and meet the cultural and language needs of their diverse clients.
6. **Patient Advocacy and Empowerment:** Nurses shall recognize the effect of health care policies, delivery systems, and resources on their patient populations and shall empower and advocate for their patients as indicated. Nurses shall advocate for the inclusion of their patient's cultural beliefs and practices in all dimensions of their health care when possible.
7. **Multicultural Workforce:** Nurses shall actively engage in the effort to ensure a multicultural workforce in health care settings. One measure to achieve a multicultural workforce is through strengthening of recruitment and retention effort in the hospital and academic setting.
8. **Education and Training:** Nurses shall be educationally prepared to promote and provide culturally congruent health care. Knowledge and skills necessary for ensuring that nursing care is culturally congruent shall be included in global health care agendas that mandate formal education and clinical training, as well as required ongoing, continuing education for all practicing nurses.
9. **Cross-Cultural Communication:** Nurses shall use culturally competent verbal and nonverbal communication skills to identify client's values, beliefs, practices, perceptions, and unique health care needs.
10. **Cross-Cultural Leadership:** Nurses shall have the ability to influence individuals, groups, and systems to achieve positive outcomes of culturally competent care for diverse populations.
11. **Policy Development:** Nurses shall have the knowledge and skills to work with public and private organizations, professional associations, and communities to establish policies and standards for comprehensive implementation and evaluation of culturally competent care.
12. **Evidence-Based Practice and Research:** Nurses shall base their practice on interventions that have been systematically tested and shown to be the most effective for the culturally diverse populations that they serve. In areas where there is a lack of evidence of efficacy, nurse researchers shall investigate and test interventions that may be the most effective in reducing the disparities in health outcomes.

Adapted with permission from Douglas, MK (2011). Standards of Practice for Culturally Competent Nursing Care: 2011 Update. The Journal of Transcultural Nursing, 22(4), 317–333. © 2011 Sage Publishing.

Steps in the Nursing Process

Assessment—systematic collection of data to determine the patient's health status and to identify any actual or potential health problems. (Analysis of data is included as part of the assessment. For those who wish to emphasize its importance, analysis may be identified as a separate step of the nursing process.)

Nursing diagnosis—identification of actual or potential health problems that are amenable to resolution by nursing actions.

Planning—development of goals and a care plan designed to assist the patient in resolving the nursing diagnoses.

Implementation—actualization of the care plan through nursing interventions or supervision of others to do the same.

Evaluation—determination of the patient's responses to the nursing interventions and of the extent to which the goals have been achieved.

Assessment

1. The nursing history.
   a. Subjective data obtained by interviewing the patient, family members, or significant other and reviewing past medical records.
   b. Provides the opportunity to convey interest, support, and understanding to the patient and to establish a rapport based on trust.
2. The physical examination.
   a. Objective data obtained to determine the patient's physical status, limitations, and assets.
   b. Should be done in a private, comfortable environment with efficiency and respect.

Nursing Diagnosis

EVIDENCE BASE Herdman, H., & Kamitsuru, S. (2018). *NANDA Nursing Diagnoses: Definitions and classifications, 2018–2020, 11th ed.* New York: Thieme.

1. The process of making a clinical judgment about experiences or responses to health problems or life processes, based on an individual, family, or community and done through patient assessment rather than picked from a list of medical diagnoses.
2. Used to determine the appropriate plan of care (ie, to select nursing interventions that will achieve desired outcomes).
3. Nursing diagnoses are based on the NANDA International taxonomy, which is a standardized nursing language that includes evidence-based definitions, defining characteristics, and etiologic factors.
   a. Nursing diagnoses continue to be developed and refined by NANDA International and the University of Iowa Center for Nursing Classification and Clinical Effectiveness.
   b. There are currently 235 nursing diagnoses grouped in 13 domains (see Box 1-3). Nursing diagnoses are listed throughout this book associated with medical diagnoses and other health conditions, but in reality, nursing diagnoses are formulated through individualized patient assessment.

Planning

See Nursing Care Plan 1-1 (page 7).

BOX 1-3 NANDA International Domains of Nursing

Health Promotion
Nutrition
Elimination and Exchange
Activity/Rest
Perception/Cognition
Self-Perception
Role Relationships
Sexuality
Coping/Stress Tolerance
Life Principles
Safety/Protection
Comfort
Growth/Development

EVIDENCE BASE De Carvalho, E., Eduardo, A., Romanzini, A., Simao, T., Zamarioli, C., Garguio, D., & Herdman, T. (2018). Correspondence between NANDA international nursing diagnoses and outcomes as proposed by the nursing outcomes classification. *International Journal of Nursing Knowledge*, *29*(1), 66–78.

1. Assign priorities to the nursing diagnoses. Highest priority is given to problems that are the most urgent and critical.
2. Establish goals or expected outcomes derived from the nursing diagnoses.
   a. Specify short-term, intermediate, and long-term goals as established by nurse and patient together.
   b. Goals should be specific, measurable, and patient-focused and should include a time frame.
   c. The Nursing Outcomes Classification developed by the University of Iowa College of Nursing Center is a comprehensive, standardized nursing language of outcomes used to evaluate the effects of nursing interventions. Each of the approximately 490 outcomes includes a list of indicators and is linked to NANDA I nursing diagnoses.
3. Identify nursing interventions as appropriate for goal attainment.
   a. An intervention is defined as any treatment, based on clinical judgment and knowledge, that a nurse performs to enhance patient/client outcomes.
   b. Include independent nursing actions as well as collaborative interventions based on medical orders.
   c. Should be detailed to provide continuity of care.
   d. Nursing Interventions Classification (NIC) is a standardized language describing treatments performed by nurses in all settings and specialties. More than 550 NIC interventions have been developed through the University of Iowa College of Nursing. NIC is organized into 30 classifications and 7 domains and includes physiologic and psychosocial interventions as well as interventions for illness prevention and treatment. NIC interventions serve a role in documentation, possibly coding, and reimbursement for nursing care in the future.
4. Formulate the nursing care plan. The nursing care plan may be a component of the interdisciplinary/collaborative care plan for the patient.
   a. Include nursing diagnoses, expected outcomes, interventions, and a space for evaluation.

NURSING CARE PLAN 1-1

Example of a Nursing Care Plan

Mr. John Preston, a 52-year-old businessperson, was admitted with chest pain; rule out myocardial infarction. He had experienced substernal chest pain and weakness in his arms after having lunch with a business associate. The pain had lessened by the time he arrived at the hospital. The nursing history revealed that he had been hospitalized 5 months previously with the same complaints and had been told by his physician to go to the emergency department if the pain ever recurred. He had been placed on a low-fat diet and had stopped smoking. Physical examination revealed that Mr. Preston's vital signs were within normal limits. He stated that he had feared he was having a "heart attack" until his pain subsided and until he was told that his electrocardiogram was normal. He verbalized that he wanted to find out how he could prevent the attacks of pain in the future. The physician's orders on admission included activity as tolerated, low-cholesterol diet, and nitroglycerin 0.4 mg (1/500 g) sublingually as needed.

NURSING DIAGNOSIS

Acute Pain related to angina pectoris/rule out myocardial ischemia

GOAL

Short-term: Relief of pain.
Intermediate: Inclusion of healthy lifestyle measures that decrease myocardial ischemia.
Long-term: Compliance with therapeutic regimen.

Expected Outcomes	Nursing Intervention	Critical Time*	Actual Outcomes (Evaluation)
• Blood pressure (BP), pulse (P), and respiration (R) will remain within normal limits.	Monitor BP, P, R q4h.	24 h	• BP: stable at 116 to 122/72 to 84 • P: stable at 68 to 82 • R: stable at 16 to 20
• Patient will remain free from chest pain.	Assess frequency of chest pain and precipitating events.	24 h	• Denies chest pain; able to walk length of hall, eat meals, and visit with family and friends without chest discomfort.
• Will tolerate dietary regimen. • Will not experience chest pain after meals. • Will maintain normal bowel elimination. • Will have intake of 1,500 to 2,000 mL fluid/day.	Encourage food and fluid intake that promotes healthy nutrition, digestion, and elimination and that does not precipitate chest pain: light, regular meals; foods low in cholesterol; 1,500 to 2,000 mL fluid/day.	24 h	• Denies chest pain after meals; no constipation or diarrhea; fluid intake 1,700 to 2,100 mL/day.
• Will identify foods low in cholesterol and those foods that are to be avoided. • Will select well-balanced diet within prescribed restrictions.	Request consultation with dietitian. Reinforce diet teaching.	48 h	• Dietitian reviewed diet restrictions with patient and wife; wife counseled in meal planning. Patient selects and eats a balanced diet consisting of foods low in cholesterol.
• Will identify activities and exercises that could precipitate chest pain: those that require sudden bursts of activity and heavy effort. • Will identify emotionally stressful situations; will explain the necessity for alternating periods of activity with periods of rest.	Encourage alterations in activities and exercise that are necessary to prevent episodes of anginal pain.	48 h	• Patient and wife have identified activities and situations that should be avoided; patient and wife have studied their usual daily routine and have made plans to alter the routine to allow for rest periods; teenage son has volunteered to assist with strenuous home maintenance chores.
• Will describe action, use, and correct administration of nitroglycerin.	Teach about nitroglycerin regimen.	24 h	• Patient has accurately stated action, use, and dosage of nitroglycerin; demonstrated correct administration.

**These times have not been standardized but are individualized according to the patient's needs.*

b. May use a standardized care plan—check off appropriate data and fill in target dates for expected outcomes and frequency and other specifics of interventions.
c. May use a protocol that gives specific sequential instructions for treating patients with a particular problem, including who is responsible and what specific actions should be taken in terms of assessment, planning, interventions, teaching, recognition of complications, evaluation, and documentation.
d. May use a care path or clinical pathway (also called *care map* or *critical pathway*) in which the nurse as case manager is responsible for outcomes, length of stay, and use of equipment during the patient's illness; includes the patient's medical diagnosis, length of stay allowed by diagnostic-related group (DRG), expected outcomes, and key events that must occur for the patient to be discharged by that date. Key events are not as specific as nursing interventions but are categorized by day of stay and who is responsible (nurse, physician, other health team member, patient, family).
e. May also use a computerized care plan that is based on assessment data and allows for the selection of nursing interventions and establishment of expected outcomes.
f. Nursing concept maps are similar and may be used to plan and prioritize care.

Implementation

1. Coordinate activities of patient, family, significant others, nursing team members, and other health team members.
2. Delegate specific nursing interventions to other members of the nursing team as appropriate.
   a. Consider the capabilities and limitations of the members of the nursing team.
   b. Supervise the performance of nursing interventions.
3. Record the patient's responses to nursing interventions precisely and concisely.

Evaluation

Determines the success of nursing care and the need to alter the care plan.

1. Collect assessment data.
2. Compare patient's actual outcomes to expected outcomes to determine to what extent goals have been achieved.
3. Include the patient, family, or significant other; nursing team members; and other health team members in the evaluation.
4. Identify alterations that need to be made in the goals and the nursing care plan.

Continuation of the Nursing Process

1. Continue all steps of the nursing process: assessment, nursing diagnosis, planning, implementation, and evaluation.
2. Continuous evaluation provides the means for maintaining the viability of the entire nursing process and for demonstrating accountability for the quality of nursing care rendered.

CARE ACROSS SETTINGS

Community and Home Health Concepts

The home care nurse functions in the home and community, outside the walls of health care facilities. The role is more independent, and the basic concepts of home health are different from hospital or outpatient nursing. With the emphasis on promoting patients quickly from the acute care settings to care in the home, descriptions and requirements for community health nurses have evolved. Theses nurses may work with one specific population based on care needs or developmental stages (wound care, pediatric patients) or care through all stages and nursing needs. Although some nurses focus on individual patients (and their families or support persons), some nurses focus on improving the overall health of an entire population of persons.

Roles and Duties of the Home Care Nurse

1. The home care nurse maintains a comprehensive knowledge base of the health of the patient.
2. The home care nurse performs an extensive evaluation of the patient's medical history, physical condition, psychosocial well-being, living environment, and support systems.
3. The home care nurse functions independently, recommending to the primary or specialty health care provider what services are needed in the home.
4. The home care nurse coordinates the services of other disciplines, such as physical therapy, occupational therapy, nutrition, and social work.
5. The home care nurse oversees the entire treatment plan and keeps the health care provider apprised of the patient's progress or lack of progress toward goals.
6. The home care nurse acts as a liaison between patient, family, caregivers, and the primary health care provider and other members of the health care team.
7. The home care nurse may function as supervisor of home health aides who provide direct daily care for the patient.
8. The home care nurse must honor the same patient rights as a health care facility.

Skills for Home Care Nursing

1. Good rapport building—to engage the patient, family, and caregivers in goal attainment.
2. Clear communication—to provide effective teaching to family and caregivers, to relate assessment information about the patient to the health care provider, and to share information with the home care team.
3. Flexibility—ability to care for a variety of patients in diverse home care settings with multiple health care conditions requiring nursing care.
4. Cultural competence—knowledge and appreciation of the cultural norms being practiced in the home. Cultural practices may affect family structure, communication, and decision-making in the home; health beliefs, nutrition, and alternative health practices; and spirituality and religious beliefs.
5. Accurate documentation—record keeping in home care is used for reimbursement of nursing services, accreditation and regulatory review, and communication among the home care team.

Reimbursement Issues

1. Skilled home health services are reimbursed by Medicare, Medicaid, and a variety of commercial insurances and managed care plans.
2. In recent years, many health care services have changed from reimbursement from volume-based reimbursement to more focus on outcomes.
3. Some patients are willing to pay out of pocket for additional services not covered by insurance because of the well-established

value of home care services compared with more expensive hospital and nursing home services.
4. Services are reimbursed by Medicare Part A if they meet the following criteria:
   a. Need is documented in a face to face visit by a health care provider; plan of care must be signed by a physician.
   b. Services are intermittent or needed on a part-time basis.
   c. The patient is homebound.
   d. The services required are skilled (need to be provided by a licensed nurse, physical therapist, or speech therapist or by an occupational therapist, social worker, or home health aide along with the service of a nurse).
   e. The services requested are reasonable and medically necessary.
5. The home health nurse must evaluate the case and ensure that these criteria apply. This information must be documented so reimbursement will not be denied.

Transitional Care

Transitional care is the concept of ensuring coordination and continuity of care when a patient moves from one care setting to another. This may include between settings such as acute care hospital to skilled nursing facility or from an inpatient setting to home. It may also occur across levels of care within a setting such as from an intensive care unit to general medical unit or across health states such as from curative to palliative care or from pediatric care to adult care. The purpose is to provide support during the transition and improve health outcomes.

1. Patients experiencing a care transition experience a period of vulnerability that may contribute to high rate of health care services with potential adverse outcomes.
2. Transitional care services are a set of actions, essentially time-limited, which are added to usual care or primary care services that are designed to ensure health care continuity and best possible outcomes for at-risk populations.
3. At-risk individuals, particularly the elderly and those with chronic disease, may experience physical, emotional, and behavioral barriers to receiving optimal quality and safe care.
4. Transitional care services include logistical arrangements, education of the patient and family, and coordination among the health professionals.
5. Current transitional care programs are designed to reduce 30-day hospital readmission rates to save health care system dollars.

Home Health Practice

The nursing process is carried out in home care as it is in other nursing settings. Patient interactions are structured differently than in the hospital because the nurse will interact with the patient intermittently and in the intimate home environment. Many procedures and nursing interventions are implemented in a similar manner as other nursing settings, as outlined in the rest of this book. Major concerns of the home care nurse are patient teaching, infection control, and safety maintenance.

The Home Care Visit

1. The initial home care visit should be preceded by information gathering and an introductory phone call to the patient.
2. Extensive assessment is carried out at the first visit, including complete medical and psychosocial history, physical examination, home environment assessment, nutritional assessment, medication review, and current treatment plan review.
3. Once assessment (gathered from multiple sources) is complete, nursing diagnoses are formed. The plan of care must be adaptable to the specific home dynamics.
4. Outcome planning (goal setting) is done with the patient, family, and caregivers involved.
5. The plan is implemented over a prescribed time period (the certified period of service). Interventions may be:
   a. Cognitive—involves patient teaching.
   b. Psychosocial—reinforces coping mechanisms, supports caregivers, and reduces stress.
   c. Technical—entails procedures, such as wound care and catheter insertion.
6. Evaluation is ongoing at every visit and by follow-up phone calls to adjust and refine the care plan and frequency of service.
7. Recertification for continued service, discharge, or transfer (to a hospital or nursing home) ultimately occurs.

Patient Teaching

1. Patient teaching is directed toward the patient, family, caregivers, and involved significant others.
2. Patient teaching is usually considered skilled and is therefore reimbursable. Topics may include the following:
   a. Disease process, pathophysiology, and signs and symptoms to monitor treatment.
   b. Administration of injectable medication or complex regimen of oral medications.
   c. Diabetic management for a patient newly diagnosed with diabetes.
   d. Wound or ostomy care.
   e. Catheterization.
   f. Gastrostomy and enteral feedings.
   g. Management of peripheral or central intravenous catheters.
   h. Use of adaptive devices for carrying out activities of daily living and ambulation.
   i. Transfer techniques and body alignment.
   j. Preparation and maintenance of therapeutic diet.
3. Barriers to learning should be evaluated and removed or compensated for.
   a. Environmental barriers, such as noise, poor lighting, and distractions.
   b. Personal barriers, such as sensory deficits, poor reading skills, and drowsiness.
4. The teaching plan should include the three domains of learning:
   a. Cognitive—sharing of facts and information.
   b. Affective—addressing the patient's feelings about the disease and treatment.
   c. Psychomotor—discussing performance of desired behavior or steps in a procedure.
5. Documentation of patient teaching should be specific and include the degree of patient competence of the procedure.
6. Patient teaching plans may include review of teaching started in the hospital and may take several sessions to implement successfully.
7. Patient teaching plans should include significant support persons (family or other persons important to the patient) who will assist the patient in obtaining or maintaining optimal health outcomes.

Infection Control

1. Nosocomial infection rates are much lower in home care, but patients are still at risk for infection because of weakened immune systems and the variability of a clean or sterile environment at home.

2. The nurse should assess and maintain a clean environment.
   a. Make sure that clean or sterile supplies are readily available when needed.
   b. Make sure that contaminated supplies are disposed of promptly and properly.
      i. Needles should be disposed of in a safe and secure container (usually kept in the home [until full]), which can be disposed of through the home health agency or the patient's pharmacy.
      ii. Supplies, such as dressings, gloves, and catheters, should be securely bagged and disposed of in small amounts through the regular trash collection at the patient's home. However, biohazardous waste disposal may be necessary in some cases.
3. The nurse should be aware of all methods of transmission of infection and implement and teach preventive practices.
4. The nurse must perform ongoing assessment for signs and symptoms of infection and teach the patient, family, and caregivers what to look for.
5. The nurse should be aware of community-acquired infections that may be prevalent in certain populations, such as tuberculosis, human immunodeficiency virus infection, hepatitis, and sexually transmitted diseases.
   a. Teach preventive practices.
   b. Encourage and institute screening programs.
   c. Report infections according to the local public health department policy.
6. Encourage and provide vaccination for the patient and household contacts for influenza, pneumococcal pneumonia, hepatitis B, and others as appropriate.

NURSING ALERT Above all else, model and teach good hand-washing practice to everyone in the home.

Ensuring Safety

1. Continually assess safety in the home, particularly if the patient is very ill and the care plan is complex.
2. Assess for environmental safety issues—cluttered spaces, stairs, throw rugs, slippery floors, poor lighting.
3. Assess for the patient's personal safety issues—sensory deficits, weakness, problems with eating or swallowing.
4. Assess safety in the bathroom—handrails, bath mat, raised toilet seat, water temperature.
5. Assess safety in the kitchen—proper refrigeration of food, ability to shop for and cook meals, oven safety.
6. Be alert for abuse and neglect, especially of children, dependent elders, and women.
7. Check equipment for electrical and fire safety and that it is being used properly.
8. Be continually cognizant of your own safety—get directions, travel during daylight hours, wear seat belts, do not enter suspicious areas without an escort, be alert to your surroundings.

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2

Standards of Care and Ethical and Legal Issues

INTRODUCTION

Professional nurses occupy the front lines of the health care arena. So it is no surprise that nurses are members of the health care team patients trust most with their health and welfare. Along with this privilege, nurses carry equal duties of responsibility and accountability to follow ethical principles and standards of care integral to the profession. Continued efforts must be made from within the profession to systematically and deliberately apply evidence-based research data to daily practice, thereby increasing patient safety, improving outcomes, and reducing harm and adverse events. Transformation of the professional culture within the health care system gives nurses at the bedside the incentive to join in these efforts as full partners with colleagues in health care. Additional measures might include protocol implementation, preceptor performance review, peer review, continuing education, patient satisfaction surveys, and the implementation of risk management techniques. However, in certain instances, either despite or in the absence of such internal mechanisms, claims are made for an alleged injury or alleged malpractice liability. Although the vast majority of claims may be without merit, many professional nurses may have to cope with the unfamiliar legal system. Application of ethical principles and standards of care will be beneficial to prevent such situations. Therefore, it is preferable for the nursing profession to incorporate ethical and legal principles and protocols in daily practice to assure patient safety and excellent standards of patient care.

ETHICAL CORE CONCEPTS

Clinical ethics literature identifies four principles and values that are integral to the professional nurse's practice: the nurse's ethical duty to respect the patient's autonomy and to act with beneficence, nonmaleficence, and justice.

Respect for the Individual and Autonomy

1. Respect for the individual's autonomy incorporates principles of freedom of choice, self-determination, and privacy.
2. The professional nurse's duty is to view and treat each individual as an autonomous, self-determining person with the freedom to act in accordance with self-chosen, informed goals, as long as the action does not interfere or infringe on the autonomous action of another.
3. Numerous institutions and health care organizations have developed patient rights statements and policies that impact nursing care.
   a. The National League of Nursing (NLN) has developed an Education Competencies Model for all educational levels of nursing, which names the core values as caring, diversity, ethics, excellence, holism, integrity, and patient centeredness.
   b. The American Nurses Association (ANA) has developed and updated a Code of Ethics for Nurses, which states, "The nurse in all professional relationships practices with compassion with respect for the inherent dignity, worth, and uniqueness of every individual, unrestricted by considerations of social or economic status, personal attributes, or the nature of health problems."

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Beneficence

The principle of beneficence affirms the inherent professional aspiration and duty to help promote the well-being of others and, often, is the primary motivating factor for those who choose a career in the health care profession. Health care professionals aspire to help people achieve a better life through an improved state of health.

Nonmaleficence

1. The principle of nonmaleficence complements beneficence and obligates the professional nurse not to harm the patient directly or with intent.
2. In the health care profession, this principle is often actualized with the complementary principle of beneficence because it is common for the nurse to cause pain or expose the patient to risk of harm when such actions are justified by the benefits of the procedures or treatments.
3. It is best to seek to promote a balance of potential risk-induced harms with benefits, with the basic guideline being to strive to maximize expected benefits and minimize possible harms. Therefore, nonmaleficence should be balanced with beneficence.

Justice

1. Justice, or fairness, relates to the distribution of services and resources.
2. As the health care dollar becomes increasingly scarce, justice seeks to allocate resources fairly and treat patients equally.
3. Dilemmas arise when resources are scarce and insufficient to meet the needs of everyone. How do we decide fairly who gets what in such situations?
4. One might consider whether it is just or fair for many people not to have funding or access to the most basic preventive care, whereas others have insurance coverage for expensive and long-term hospitalizations.
5. Along with respect for people and their autonomy, the complex principle of justice is a culturally accepted principle in countries such as the United States. Nonetheless, the application of justice is complex and often challenging.

ETHICAL DILEMMAS

Conflicting Ethical Principles

1. Ethical dilemmas arise when two or more ethical principles are in conflict.
2. Such dilemmas can best be addressed by applying principles on a case-by-case basis once all available data are gathered and analyzed.
3. Clinicians should network with their colleagues and consider establishing multidisciplinary ethics committees to provide guidance.

Ethics Committees

1. Ethics committees identify, examine, and promote resolution of ethical issues and dilemmas and strive to:
   a. Protect the patient's rights.
   b. Protect the staff and the organization.
   c. Review decisions regarding clinical standards of practice and policy development.
   d. Improve the quality of care and services.
   e. Serve as educational resources to staff.
   f. Build a consensus on ethical issues with other professional organizations.
2. Addressing and resolving ethical dilemmas is usually a challenging decision shared with the clinical staff.

Examples of Ethical Dilemmas and Possible Responses

Unsafe Nurse-to-Patient Ratio

1. A pattern of unsafe nurse-to-patient ratio can be caused by temporary or long-term staffing problems.
2. A series of actions to best resolve the problem may include the following:
   a. Address the unsafe situation verbally and in writing to the unit charge nurse with copies to the nursing supervisor.
   b. Work up the administrative chain of command as indicated.
   c. This will likely prompt action by the facility, such as creating an as-needed pool of nurses to call for such situations, hiring more staff, or, in the interim, securing contracts with outside nursing agencies and utilizing agency nursing personnel.
3. Tolerance by staff nurses employed under such circumstances will preclude appropriate resolution and will leave the nurse open to unsafe practice and unmet patient needs, potentially increasing the risk of liability.
4. Although the employer is liable for the acts of the employee performed within the scope of employment, the nurse will not be exonerated should a patient's care be compromised in a setting of an unsafe nurse-to-patient ratio.

Nonresponse by Physician

1. A patient arrives to the rehabilitation unit at 9 P.M. with numerous positive criteria for falling, including poor short-term memory, daily use of a diuretic, daily use of a sleep aid, a history of a fall within the preceding 2 months, and known vision impairment.
   a. Patient is oriented to time, place, and person, his new room, facility bed, and call light use.
   b. The nurse instructs patient to summon her if he needs to void or otherwise get out of bed, at least until he becomes familiar with his new environment.
   c. Upon returning to patient's room 10 minutes later, the nurse finds patient out of bed, arranging his clothes in his closet, standing in a pool of urine on the floor.
   d. The nurse weighs the risks and benefits of restraint use and determines whether alternatives are available. She calls the physician for a restraint order if patient continues to jeopardize his safety. The nurse intends to ask the physician for an order with clear specification of the least restrictive method of restraint, the duration, circumstances, frequency of monitoring, and reevaluation if it differs from facility policy. However, the physician does not return her calls.
   e. The nurse documents her initial assessment of the patient, her nursing diagnoses, the orientation to room and equipment provided to the patient, the circumstances wherein she found the patient out of bed, and her repeated messages for the physician and the lack of a return telephone call.

2. Again, a series of actions may resolve the problem or at least prevent injury to the patient. Address this situation with intermediate measures while waiting for the physician's return call:
   a. Raise side rails on the patient's bed.
   b. Move patient to a room close to the nurse's station.
   c. Place a sign on patient's room door and above the bed identifying him as being at risk for falling.
   d. Place a sign above the bed instructing personnel to raise the bed's side rails fully before leaving patient's room.
   e. Check on the patient frequently during the first 24 hours, reminding him of the call light, its use, and the need to call the nurse before getting out of bed.
   f. If available, assign a patient care technician to stay with the patient.
3. Call the patient's family, advising them of your concern about the patient's safety, and discuss the issue of restraints with them. Discuss the risk for falling and prevention of fall-induced injury versus the restriction of the patient's freedom of movement about the room.
4. Document ongoing assessments of potential problems, calls to the physician, and discussions with family members.
5. Apply restraints according to the policy of the rehabilitation unit until an order is secured from the physician.
   a. Consult facility policy on restraint use.
   b. Secure an order from the physician for restraints to be used as needed, including specific criteria outlined in step 1d.
6. Reassess the patient's need for diuretic and sleep aid or sedative use. Discuss discontinuation of any unnecessary medications that increase the patient's degree of confusion or risk for falling, if possible.

Inappropriate Orders

1. A 74-year-old patient with a diagnosis of pneumonia is presently on a general medical ward for treatment and close monitoring. She is becoming increasingly anxious and dyspneic during your shift. Her heart rate is mildly increased. A house officer is summoned to evaluate this change in clinical status.
   a. The house officer, unfamiliar with the patient, spends 2 minutes reviewing the chart, quickly examines the patient, and orders a sedative to be administered stat and, as needed, every 4 hours.
   b. You tell the house officer that you heard decreased breath sounds in the left, lower lung and ask him to order some diagnostic tests, such as a chest x-ray and arterial blood gas analysis, and share your concern that administering a sedative to the patient may mask the underlying cause of the anxiety, lead to further respiratory compromise, and delay diagnosis and treatment of the underlying clinical problem. Nevertheless, he leaves the unit.
   c. Based on your evaluation of the situation, concerns about patient safety, and your role as patient advocate, you decide not to give the sedative ordered by the house officer.
2. Although you cannot automatically follow an order you think is unsafe, you cannot just ignore a medical order either.
   a. Document the scenario described above in the patient's chart, contact the resident on call, and notify your supervising nurse.
   b. If the resident on call agrees with the house officer's assessment, call the attending physician to discuss your concerns, obtain appropriate stat orders, and notify the house officer and resident of the attending physician's orders and the actions taken.
   c. Notify all involved medical and nursing personnel of the patient's status.
   d. Document accurately, clearly, succinctly, and in a timely fashion.
3. Your actions reflect concern about the best interest of the patient, and although they may yield negative behaviors by the house officer or resident, it is more important to prevent potential harm to the patient.

LEGAL ASPECTS OF PROFESSIONAL NURSING PRACTICE

Accountability

1. Integral to the practice of any profession is the inherent need to be responsible for actions taken and for omissions.
2. The professional nurse must be proactive and take all appropriate measures to ensure that professional practice is not lacking, remiss, or deficient in any area or way.
3. Useful proactive measures include the following:
   a. Maintain familiarity of relevant, current facility policies, procedures, and regulations as they apply to the nurse's practice and specialty area.
   b. Provide for self-audit.
   c. Provide for peer review to assess reasonableness of care in a particular setting for a particular problem.
   d. Work with local nursing organizations to assure that local standards of practice are met.
   e. Examine the quality (accuracy and completeness) of documentation.
   f. Establish collegial working relationships with colleagues wherein honest constructive criticism and discussion are welcomed for the greater goal of quality patient care.
4. Local standards of practice normally align with those of nationally accepted standards.

Advocacy

The professional nurse has the duty to:

1. Promote what is best for the patient, as perceived by the patient and/or his surrogate.
2. Ensure that the patient's needs are met and a therapeutic environment is maintained.
3. Protect the patient's rights, including confidentiality and informed consent, among others.

Confidentiality

1. The patient's privacy is consistent with the Hippocratic Oath and with the law as part of the constitutional right to privacy.
2. Although the professional nurse should assure the patient of confidentiality, limits on this standard must be clarified and discussed with the patient at the earliest opportunity.
3. It is imperative to clearly understand the process of informed consent and the legal standard for disclosure of confidential patient information to others.
4. The Medical Record Confidentiality Act of 1995, a federal statute, is the primary federal law governing the use of health treatment and payment records. Several practical guidelines include the following:
   a. Respect the individual's right to privacy when requesting or responding to a request for a patient's medical records.

   b. Always require a signed medical authorization and consent form to release medical records and information to protect and respect patient–provider privilege statutes.
   c. Discuss confidentiality issues with the patient and establish consent. Address concerns or special requests for information not to be disclosed.
5. Based on the Health Insurance Portability and Accountability Act (HIPAA), the Department of Health and Human Services issued guidelines in 1996 to protect the confidentiality of individually identifiable health information. The rule:
   a. Limits the use and disclosure of certain individually identifiable health information.
   b. Gives patients the right to access their medical records.
   c. Restricts most disclosure of health information to the minimum needed for the intended purpose.
   d. Establishes safeguards and restrictions regarding the use and disclosure of records for certain public responsibilities, such as public health, law enforcement, and research.
   e. Provides for criminal or civil sanctions for improper uses or disclosures.
6. The exceptions or limits to confidentiality include situations in which society has judged that the need for information outweighs the principle of confidentiality. However, legal counsel should be consulted because these decisions are made on a case-by-case basis and broad generalizations cannot be assumed.
7. It may be appropriate to breach confidentiality on a limited basis in situations such as the following:
   a. If a patient reveals intent to harm him- or herself or another individual, it is imperative to protect the patient and third parties from such harm.
   b. A clinician employed by a company, school, military unit, or court has split allegiances, and the patient should be so advised at the appropriate time.
   c. Court orders, subpoenas, and summonses in some states may require the clinician to release records for review or testify in court. However, legal counsel should be consulted first to ensure that complying with these orders does not violate HIPAA.
   d. Most insurance companies, health maintenance organizations, and governmental payers require participants to sign a release of their records to the payers.
   e. When a patient places his or her medical condition at issue, such as in personal injury cases, worker's compensation, or in various other cases of patients claiming injuries for which they are seeking compensation from any entity or organization.
   f. Many states have laws requiring clinicians to report the incidence of certain diseases, deaths, and other vital statistics.
   g. Criminal codes in many states require reporting gunshot wounds, incidents of rape, and incidents of child, spousal, or elder abuse if they have reasonable cause to suspect abuse.

Informed Consent

1. The doctrine of informed consent has become a fundamentally accepted principle governing the relationship between professional nurses and all other health care providers and patients.
2. Informed consent relates to the patient's right to accept or reject treatment by a nurse or any other health care provider and is a right of all legally competent adults or emancipated minors.
3. In the majority of circumstances, informed consent is obtained for medical or surgical procedures to be performed by physicians. Therefore, it is the duty of the physician to inform the patient of alternative treatments, the nature of the procedure, and benefits and potential risks. Oftentimes, especially when the patient is hospitalized, the nurse is required to witness the patient's signature before the procedure. It is prudent for the nurse to note witness to signature directly next to the patient's signature.
4. Emancipated minors are individuals who are under age 18 and married, are parents of their own children, or are self-sufficiently living away from the family domicile with parental consent.
5. In the case of a minor, informed consent would be obtained from the legal guardian.
6. In the case of individuals incapable of understanding medical treatment issues, informed consent must be obtained through a responsible person such as a guardian or surrogate.
7. The nurse has the duty to verify that the physician or other health care provider has explained each treatment or procedure in a language the patient (or the responsible person) can comprehend; has warned the patient of any material risks, dangers, or harms inherent in or collateral to the treatment; and has advised the patient of available alternatives. This enables the patient to make an intelligent and informed decision and choice about whether to undergo treatment.
8. The informed consent should be obtained before rendering the treatment or performance of the procedure. For more information on informed consent for patient's surgery, see Chapter 7, page 86.
9. The nurse must document that the informed consent was obtained and that the patient demonstrated understanding of the information.
10. A witness signature is desirable and may be required by some health care institutions.

NURSING ALERT With the increasing cultural diversity of our patient population, it is prudent and ethically obligatory to obtain an interpreter for the patient if there is a reasonable chance that the patient will not understand explanations in the English language.

Scope of Practice, Licensure, and Certification

1. The professional nurse's scope of practice is defined and outlined by the State Board of Nursing that governs practice. The National Council of State Boards of Nursing and the NLN have developed standards that guide each State Board in the development of their licensure requirements and scope of practice rules.
2. Licensure is granted by an agency of state government and permits individuals accountable for the practice of professional nursing to engage in the practice of that profession while prohibiting all others from doing so legally.
3. Certification is provided by a nongovernmental association or agency and certifies that a person licensed to practice as a professional nurse has met certain predetermined standards described by that profession for specialty practice, thereby assuring the patient that a person has mastered a body of knowledge and acquired the skills in a particular specialty.

4. The mechanisms for achieving certification and maintaining a specialty certification vary by association and certifying body, such as a specified number of hours of clinical practice, continuing education, peer review, periodic self-assessment examination, or reexamination.
5. The American Nurses Credentialing Center is one certifying body that provides specialty certification (*www.nursecredentialing.org* or 800-284-2378). Credentialing protects the public by recognizing professional nurses who have successfully completed an approved course of study and achieved a level of specialized knowledge and skill to hold specialized positions.

Standards of Practice

General Principles

1. The practice of professional nursing has standards of practice setting minimum levels of acceptable performance for which its practitioners are accountable.
   a. The authority for the practice of nursing is based on a social contract that acknowledges rights and responsibilities, along with mechanisms for public accountability.
   b. These standards provide patients with a means of measuring the quality of care they receive.
2. Standards of practice were developed by the ANA and have been updated regularly to include general standards as well as standards for each nursing specialty. A copy can be purchased from the ANA publications office (*www.nursesbooks.org* or 800-637-0323).
   a. These standards describe what nursing is, what nurses do, and the responsibilities for which nurses are accountable.
   b. Professional nurses are to be guided by the generic standards applicable to all nurses in all areas of practice as well as by specialty area standards.
3. Various specialty groups have developed their own additional standards, but addressing these exceeds the scope of this chapter. The professional nurse needs to be familiar with all standards applicable to her or his own practice areas.
4. Standards and parameters also provide a source of legal protection for the practicing nurse.
   a. Standards and parameters typically consist of a simple, realistic series of steps that would be applicable given the same or similar clinical scenario.
   b. Standards and parameters should outline the minimum requirements for safe care and need to be updated as scientific knowledge changes.
5. A deviation from the protocol should be documented in the patient's chart with clear, concise statements of the nurse's decisions, actions, and reasons for the care provided, including any apparent deviation. This should be done at the time the care is rendered because passage of time may lead to a less than accurate recollection of the specific events.
6. Informal or volunteer practice must be consistent with the applicable standard of care. Documentation that the care rendered was the standard of practice within a community or state may afford the practitioner a degree of protection. Informal or volunteer care still needs to comply with the applicable standard of care.

Common Departures from the Standards of Nursing Care

Legal claims most commonly made against professional nurses include the following departures from appropriate care: failure to assess the patient properly or in a timely fashion, follow physician orders, follow appropriate nursing measures, communicate information about the patient, adhere to facility policy or procedure, document appropriate information in the medical record, administer medications as ordered, and follow physician's orders that should have been questioned or not followed, such as orders containing medication dosage errors (see Box 2-1).

BOX 2-1 Common Legal Claims for Departure from Standards of Care

- Failure to monitor or observe a patient's clinical status adequately
- Failure to monitor or observe a change in a patient's clinical status
- Failure to communicate or document a significant change in a patient's condition to appropriate professional
- Failure to obtain a complete nursing history
- Failure to formulate or follow the nursing care plan
- Failure to perform a nursing treatment or procedure properly
- Failure to provide a safe environment and to protect the patient from avoidable injury
- Failure to implement a physician's, advanced practice nurse's, or physician assistant's order properly or in a timely fashion
- Failure to administer medications properly and in a timely fashion or to report and administer omitted doses appropriately
- Failure to observe a medication's action or adverse effect
- Failure to prevent infection
- Failure to obtain help for a patient not receiving proper care from a physician or other health care provider
- Failure to report that a patient is not receiving proper care from a physician or other health care provider
- Failure to use equipment properly
- Failure to evaluate or identify a patient at high risk for falling or to plan and implement a fall prevention program appropriate to the individual patient
- Failure to apply restraints when indicated and ordered
- Failure to apply restraints in a proper manner
- Using equipment that is known to be defective
- Failure to make prompt, accurate entries in a patient's medical record
- Altering a medical record without noting it as a correction with signature, date, and time of change
- Failure to adhere to facility policy or procedural guidelines
- Following medical orders that should not have been followed such as medication dosage errors
- Failure to act as a patient advocate, such as not questioning illegible or incomplete medical orders or not questioning discharge when a patient's clinical status warrants

Quality Assurance and Adverse Event Reduction

1. A quality assurance program creates and implements a systematic, deliberate, and ongoing mechanism for the evaluation and monitoring of professional nursing practice aimed at performance improvement and adverse event reduction. Many facilities follow the National Database of Nursing Quality Indicators program, implemented by the ANA. It is a database that is updated regularly to track progress in providing quality care in certain areas, including pressure ulcers, falls, hospital-acquired infections, and restraint prevalence.
2. In 2007, the U.S. Centers for Medicare and Medicaid Services announced that Medicare would be ending payments to facilities for the increased costs attributable to preventable, facility-acquired conditions, including pressure ulcers, catheter-associated urinary tract infections, vascular catheter–associated infections, coronary artery bypass graft–related mediastinitis, and injuries such as dislocations and fractures. More recently, payment will be withheld for patients readmitted within 30 days after hospital discharge for conditions such as heart failure and acute myocardial infarction. More than ever before, nurses delivering care at the front lines are critical partners in promoting quality care, preventing adverse events, and saving avoidable expenditure of health care dollars.
3. Integral to the creation of such a proactive program are the following key factors:
   a. Create an atmosphere of interprofessional collegiality.
   b. Develop and implement the consistent application of new policies and procedures for quick, easy, and, if possible, anonymous error reporting, with protection from disciplinary action.
   c. Support employees involved in serious errors, adopting a nonpunitive attitude.
   d. Acknowledge the need for system-wide improvement and for centralization of information. Doing so ensures maximal benefit to the patients of health care and to all disciplines involved in the delivery of care.
   e. Introduce scientifically valid quality and safety solutions universally throughout the health care system, allowing for sharing of successful strategies and measures and reward systems.
   f. These actions would promote the delivery of high-quality care, a sense of responsibility and accountability, as well as ongoing self- and peer-auditing, thus yielding greater trending, analysis, problem-solving, and system-wide refinements.
4. Consequently, the use of a quality assurance program effectively reduces the professional nurse's exposure to liability, identifies educational needs, and improves the documentation of the care provided.
5. The components of quality assurance include the following:
   a. Structure—focuses on the organization of patient care.
   b. Process—focuses on tests ordered and procedures performed.
   c. Outcome—focuses on the outcome, such as absence of complications, timely discharge, patient satisfaction, or mortality data.
6. Mechanisms to incorporate in quality assurance programs may include the following:
   a. Patient satisfaction surveys to assess nurse interactions and maintain open lines of communication between the provider and the patient.
   b. Peer review to recognize and reward care delivered, raise the expectations for higher standards of practice within a community, and discourage practice beyond the scope of legal authority.
   c. Audit of clinical records to determine how well-established criteria were met by the care rendered.
   d. Utilization review to evaluate the extent to which services or resources were used as measured against a standard.

Management of Liability

1. The sources of legal risk in a professional nurse's practice include patient care, procedures performed, quality of documentation, violation of confidentiality, among others.
2. Liability can be minimized by the application of risk management systems and activities, which are designed to recognize and intervene to reduce the risk of injury to patients and subsequent claims against professional nurses.
3. Risk management systems and activities are based on the premise that many injuries to patients are preventable.

Malpractice

1. Nursing malpractice refers to a negligent act of a professional nurse engaged in the practice of that profession.
2. Although negligence embraces all negligent acts, malpractice is a specific term referring to negligent conduct in the rendering of professional services.
3. There is no guaranteed way to avoid a medical malpractice suit short of avoiding practicing as a professional nurse. Even the best nurses have been named as defendants.
4. A diligent and reflective nurse can reduce the risks of malpractice by consistently incorporating the following four elements into her or his practice:
   a. Excellent communication skills, with consistent efforts to elicit and address the expectations and requests of the patient.
   b. Sincere compassion for each patient.
   c. Competent practice.
   d. Accurate and complete charting with notations of any deviations from the applicable standard of care with the specific reasons (eg, the patient refused chest radiograph because of personal time constraint) and, if applicable, the patient's noncompliance.
5. Generally, the professional nurse has the duty to:
   a. Exercise a degree of diligence and skill that is ordinarily exercised by other professional nurses in the same state and specialty of practice.
   b. Apply such knowledge with reasonable care.
   c. Keep up to date and informed of approved standards of care in general use.
   d. Exercise best judgment in rendering care to the patient.
6. Some states apply a geographic standard, referred to as a locality rule, which asserts that providers in remote rural areas may have less access to continuing education and various technology and equipment than their colleagues in urban areas. However, because communication and transportation continue to improve rapidly, the locality rule is becoming obsolete.

Burden of Proof for Malpractice

The plaintiff has the burden of proving four elements of malpractice, usually by means of expert testimony.

Duty

1. The plaintiff has a burden to prove that a nurse–patient relationship did, in fact, exist and, by virtue of that relationship, the nurse had the duty to exercise reasonable care when undertaking and providing treatment to the patient.
2. Limits and obligations of duty include the following:
   a. This duty exists only when there is a nurse–patient relationship.
   b. The professional nurse is not obligated to enter into a nurse–patient relationship with any individual.
   c. Professional nurses generally have the right to decide to whom they will provide professional services and may request to be reassigned to another patient if the nurse–patient relationship is strained, the nurse feels unsafe, or the treatment plan is a gross violation of the nurse's ethical or religious values.
   d. Nurses have limits on their rights to decide; however, they cannot refuse to treat a patient who has relied reasonably on the nurse's apparent willingness to treat all in need (eg, the emergency department in a general facility that advertises its emergency services) and may not abandon an established patient.
   e. If a professional nurse wishes to terminate an established relationship with a patient, an alternative with an equivalent level of nursing services must be made available to the patient in a timely fashion.

NURSING ALERT The professional nurse must use caution when offering telephone advice for which there is no charge; there have been reported cases of patients successfully suing providers because they reasonably relied on the telephone advice of a nurse that caused them to delay seeking care and sustain permanent injuries as a result.

Breach of Duty

1. The plaintiff has the burden to establish that the professional nurse violated the applicable standard of care in treating the patient's condition.
2. The plaintiff must establish by way of expert professional nurse testimony that the "negligent" nurse failed to conform to the applicable standard of care or provided nursing care that fell below the level of care that would have been provided by a prudent and diligent nurse under the same circumstances.

Proximate Cause

1. The plaintiff has the burden of establishing a causal relationship between the breach in the standard of care and the patient's injuries.
2. If a breach in standard of care did not cause the alleged injuries, there is no proximate cause.

Damages

The plaintiff has the burden of establishing the existence of damages to the patient as a result of malpractice.

Malpractice Insurance

1. Malpractice insurance will not protect the professional nurse from charges of practicing outside the scope of practice if he or she is practicing outside the legal scope of practice permitted within the state.
2. It is critical that the nurse know the exact scope of practice permitted in his or her jurisdiction.
3. It is universally recommended that all professional nurses carry their own liability insurance coverage. This affords one's own legal representation and an attorney who will be looking out solely for the nurse's best interests. Such coverage is recommended over and above the legal coverage and representation afforded by the employer's coverage.
4. Coverage should be by occurrence, rather than claims-made terms. Occurrence policies cover the nurse whenever the occurrence of the care took place, even if the nurse is no longer employed at that location or the policy is not active at the time the claim is made.

Telephone Triage, Advice, and Counseling

1. The use of telephone triage, advice, and counseling has become increasingly prevalent as health care providers have attempted to meet and satisfy the health care needs of their patients, increase access to care, and improve continuity of care while limiting scheduled appointments to those truly requiring a patient–physician or other health care provider interaction.
2. Health care professionals who provide telephone services must keep in mind that they are legally accountable for gathering an accurate and complete history, application of appropriate protocols for diagnostic impressions, appropriate consultation with other health care providers, advice and counseling given, and facilitation of timely and appropriate access to treatment facilities or referral to specialists to those in need.
3. Internet and other means of electronic communication are becoming acceptable but present concerns for privacy.
4. A number of legal concepts of relevance to telephone triage are outlined in the next section.

Confidentiality

Just as in face-to-face interactions, all information exchanged during a telephone interaction is privileged and is to be used only in the context of the advice being sought, with the sole purpose of providing the most appropriate and timely care needed by the patient.

Implied Relationships

Even if the professional nurse providing telephone advice has never had face-to-face interaction with the patient, the telephone interaction itself will establish a formal and legally binding nurse–patient relationship, for which the practitioner will be accountable legally.

Information Retrieval

1. The professional nurse has the duty to provide advice and counsel in the context of all medical data available to the practice from within the patient's medical record.
2. Therefore, a rapid method for the retrieval of medical record data should be established and integrated into the telephone component of all practices.
3. Telephone advice must not be provided in a vacuum of knowledge about the patient's past history.
4. Because limited time will usually preclude the gathering of all data available in the medical record, advice rendered without the benefit of all known medical history is more subject to error.

Respondeat Superior

1. Employers are held accountable, legally responsible, and liable for all inappropriate advice provided by their employees and all damages that may result.
2. Therefore, employers must be responsible for educating and training employees and updating protocols.

Vicarious Liability

1. Although similar to the concept of respondeat superior, vicarious liability is a broader concept in that a professional nurse providing telephone advice or counseling may be viewed as a representative of the facility physician, practice group, or facility, thereby binding them legally for all acts of omission or commission and damages that result.
2. Thus, if telephone advice and counsel are rendered by an LPN, RN, or unlicensed personnel, the nurse, health care facility, or physicians in the practice may be viewed by a court as vicariously liable for inappropriate advice provided and all resulting damages to the patient.
3. This underscores the reasons for limiting this practice to well-trained nurses, physicians, and other health care providers and following carefully devised office protocols and standards.
4. The professional nurse must be encouraged to consult briefly with the in-office physician or other health care providers to reduce the possibility of advice that is not appropriate or is in error.

Negligent Supervisor

1. This concept relates to the failure of a supervising physician or other health care provider to provide the needed guidance and direction to the telephone advice nurse, despite a prevailing understanding, practice, or policy obligating this supervision.
2. This scenario usually overlaps with respondeat superior or vicarious liability.

Negligence

1. Any telephone assessment and advice rendered must be in accordance with the generally accepted standards and protocols.
2. Violation of the applicable standards of practice or care is considered to be negligent.
3. Evidence of standards of care is established by:
   a. Publications on the topic.
   b. Community practices.
   c. Generally accepted professional and evidence-based guidelines or treatises on the topic.

Abandonment

1. This concept becomes operational when a patient calls or comes in to report symptoms, seek advice, or request an on-site evaluation or treatment, and this communication is documented or otherwise established as fact, but the telephone advice nurse fails to follow through with the professional component of the interaction (advice).
2. However, unless an undesirable outcome with serious and permanent damages occurs due to the absence of follow-through by the telephone practitioner, it is doubtful that a legal claim could be brought successfully against the practitioner.

Successful Telephone Practice

1. Policies aimed at minimizing the risk of an untoward outcome resulting from telephone advice, triage, and counseling should be established in every practice.
2. Policies should include protocol use, telephone practitioner training and education, use of an established patient database, communication with a physician or other health care provider, and appropriate documentation of interaction.
3. See Box 2-2 for components of a successful telephone advice practice.

BOX 2-2 Components of Successful Telephone Practice

- Apply standardized protocols and guidelines for the most frequently reported chief complaints.
- Train nurses in proper history taking, protocol or guideline utilization, and documentation.
- Apply a computer-based approach to manage the telephone encounters to complement existing protocols and guidelines to improve the process and documentation of the encounter.
- Implement a quality assurance system to ensure a regular review of telephone logs.
- Discuss problem cases with telephone advice nurses and perform outcome surveys.
- Maintain a constant availability of physicians and other health care providers to provide consultative assistance to the telephone advice nurse as needed.
- Ensure an ongoing review and revision of protocols and policies to eliminate or improve on problematic policies and protocols.
- Schedule patients with serious problems as soon as possible.
- Ask and confirm that the patient understands and feels comfortable with the plan at the end of the telephone interaction.
- Invite the patient for an after-hours visit if he or she is uncomfortable with receiving home care instructions or with waiting until the next day to see the physician or other health care provider.
- Encourage patients to call back if their condition worsens or if they have additional questions.
- Advise patients to contact their health care provider the next day if the problem has not improved.
- Document succinctly the components of the telephone interaction, including the chief complaint, history of present illness, past medical history, allergies, home care or other instructions given, confirmation of the patient's understanding and comfort with the advice given, emergency precautions provided, and follow-up plans.

4. The telephone advice nurse must gather and document certain fundamental information from the patient seeking health care advice or treatment. Although the following list is presented, it is not intended to limit inquiry or imply that the list is exhaustive. The inquiry and documentation must minimally include the following:
   a. Date and time of the call.
   b. Caller information including the name of the patient, relationship to the patient, telephone number with area code, when and where the caller may be reached for return calls, and alternative telephone numbers with area code for backup.
   c. Chief complaint.
   d. History of present illness, with brief description of onset, symptoms, treatment used to date, effectiveness or lack thereof of measures attempted, and aggravating or alleviating factors.
   e. Whether the patient has had this problem before and, if so, when, diagnosis, and method of resolution.
   f. If female, last menstrual period, method of birth control, and follow-up to rule out pregnancy.
   g. Past medical history and other medical problems.
   h. Allergies.
   i. Likely differential diagnosis based on the established protocols and guidelines being utilized by the organization or facility.
   j. Impact of the problem on the caller or patient.
   k. Accessibility of alternative sources of health care.
   l. Nurse's perception of the patient's vulnerability.
   m. Nurse's perception of the patient's understanding and comfort with the plan of care and follow-up plans.

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3

Health Promotion and Preventive Care

CONCEPTS IN PROMOTION AND PREVENTION

See additional online content: Patient Education Guidelines 3-1–3-4.

Principles of Health Promotion

Health promotion is defined as the actions taken to develop a high level of wellness and is accomplished by influencing individual behavior and the environment in which people live.

Levels of Prevention

1. Disease prevention is aimed at avoiding problems or minimizing problems once they occur.
   a. Primary prevention is the total prevention of a condition.
   b. Secondary prevention is the early recognition of a condition and the measures taken to speed recovery.
   c. Tertiary prevention is the care given to minimize the effects of the condition and prevent long-term complications.
2. Preventive care should involve assessment for people at risk for specific disorders.

Healthy People 2020

EVIDENCE BASE Office of Disease Prevention and Health Promotion, USDHHS. (2018). Healthy People 2020. Available: *www.healthypeople.gov*. Updated February 5, 2018.

1. Health promotion goes beyond prevention to help people manage their health and live longer and feel better.
2. Health promotion has become a priority since the U.S. Department of Health and Human Services (DHHS) initiated its Healthy People 2000 campaign in 1990.
3. For the Healthy People 2010 campaign, launched in 2000, 23% of the campaign's stated objectives were reached or exceeded, whereas 48% of the stated objectives were approached. The two major goals of Healthy People 2010 were to enhance life expectancy while improving quality of life and to reduce health disparities due to gender, race and ethnicity, income and education, disabilities, and other factors.
4. Healthy People 2020 consists of 42 topic areas with 1,200 objectives. Leading health indicators (LHIs) were chosen as a subset of objectives indicating priority health issues (see Box 3-1, page 21). At midcourse review, 4 (15.4%) LHIs had met or exceeded their target and 10 (38.5%) showed improvement.
5. The framework for Healthy People 2030 has been developed with the vision: A society in which all people achieve their full potential for health and well-being across the lifespan.

Nursing Role in Health Promotion

1. Nurses have played key roles in prevention in such areas as prenatal care, immunization programs, occupational health and safety, cardiac rehabilitation and education, and public health care and early intervention.
2. Nurses in all settings can meet health promotion needs of patients, whether their practice is in a hospital, a clinic, a patient's home, a health maintenance organization, a private office, or a community setting. Health promotion is primarily accomplished through patient education, an independent function of nursing.
3. Health promotion should occur through the life cycle, with topics focused on infancy, childhood, adolescence, adulthood, and older adults. Specific preventive services are evidence based and recommended by the United States Preventive Services Task Force (USPSTF) (*www.ahrq.gov/clinic/prevenix.htm*), the Canadian Task Force on Preventive Health Care (*www.canadiantaskforce.ca/index.html*), the National Institute for Health and Clinical Excellence (*www.nice.org.uk*) in the United Kingdom, as well as other agencies (see Table 3-1).
   a. For infancy, teach parents about the importance of prenatal care, basic care of infants, breast-feeding, nutrition, and infant safety (see Chapter 42).
   b. For childhood, stress the importance of immunizations, proper nutrition to enhance growth and development, and safety practices, such as use of car seats and seat belts, fire prevention, and poison-proofing the home (see Chapter 42).
   c. For adolescence, focus on motor vehicle safety; avoidance of drug, alcohol, and tobacco use; sexual decision making and contraception; and prevention of suicide.
   d. For adulthood, teach patients about nutrition, exercise, and stress management to help them feel better; also teach

BOX 3-1 Healthy People 2020 Leading Health Indicators

- Persons with medical insurance
- Persons with a usual primary care provider
- Adults receiving colorectal cancer screening
- Adults with hypertension whose blood pressure (BP) is under control
- Persons with diagnosed diabetes with A1c > 9%
- Children receiving the recommended doses of vaccines
- Air Quality Index > 100
- Children exposed to secondhand smoke
- Injury deaths
- Homicides
- All infant deaths
- Total preterm live births
- Suicide
- Adolescents with a major depressive episode
- Adults meeting aerobic physical activity and muscle-strengthening requirements
- Obesity among adults
- Obesity among children and adolescents
- Mean daily intake of total vegetables
- Children, adolescents, and adults who visited the dentist
- Sexually active females receiving reproductive health services
- Knowledge of serostatus among human immunodeficiency virus (HIV)-positive persons
- Students graduating from high school 4 years after starting
- Adolescents using alcohol or illicit drugs
- Adult binge drinking
- Adult cigarette smoking
- Adolescent cigarette smoking

cancer-screening techniques, such as breast and testicular self-examination, and risk factor reduction for the leading causes of death—heart disease, stroke, cancer, and chronic lung disease.

e. For older adults, stress the topics of nutrition and exercise to help people live longer and stay fit, safety measures to help them compensate for decreasing mobility and sensory function, and ways to stay active and independent (see Chapter 9).

Theories of Behavior Change

Lifestyle changes that promote wellness and reduce or prevent illness are often difficult to accomplish. Although education and support by nurses are key, lifestyle changes are ultimately up to the patient. Nurses should understand the concepts and processes related to behavior change to help direct interventions for successful outcomes in individual patients or groups.

Health Belief Model

The health belief model identifies perceptions that influence an individual's behavior. Nurses can inquire about a patient's perceptions in three areas to individualize education and interventions.

1. The first perception is susceptibility to and seriousness of disease or threat of illness. This most directly influences whether a person will take action.
2. The perceived benefit of taking action also affects behavior change.
3. Any perceived barriers to change may prevent or impede action.

Transtheoretical Model

The transtheoretical model of behavior change developed by Prochaska and DiClemente identifies six predictable stages of change. The stages may cycle back and forth several times before

Table 3-1 Preventive Services Recommended by the USPSTF

The USPSTF recommends that clinicians discuss these preventive services with eligible patients and offer them as a priority. All these services have received an "A" (strongly recommended) or "B" (recommended) grade from the Task Force.

RECOMMENDATION	MEN	WOMEN	PREGNANT WOMEN	CHILDREN
Abdominal aortic aneurysm, screening (1)	✓			
Alcohol misuse screening and behavioral counseling interventions	✓	✓	✓	
Aspirin for the primary prevention of cardiovascular events (2)	✓	✓		
Asymptomatic bacteriuria in adults, screening (3)			✓	
BRCA-related cancer in women, screening (4)		✓		
Breast cancer, preventive medications (5)		✓		
Breast cancer, screening (6)		✓		
Breast-feeding, counseling (7)		✓	✓	
Cervical cancer, screening (8)		✓		
Chlamydial infection, screening (9)		✓	✓	
Colorectal cancer, screening (10)	✓	✓		
Congenital hypothyroidism, screening (11)				✓
Depression (adults), screening (12)	✓	✓		
Falls in older adults (13)	✓	✓		
Folic acid supplementation (14)		✓		
Gestational diabetes mellitus, screening (15)			✓	
Gonococcal ophthalmia, prophylactic medication (16)				✓
Gonorrhea, screening (17)		✓		
Hearing loss in newborns, screening (18)				✓
Hepatitis B virus in pregnant women, screening (19)			✓	
Hepatitis C virus in adults, screening (20)	✓	✓	✓	✓
High blood pressure in adults, screening	✓	✓		

(continued)

Table 3-1 Preventive Services Recommended by the USPSTF (*Continued*)

RECOMMENDATION	MEN	WOMEN	PREGNANT WOMEN	CHILDREN
Human immunodeficiency virus (HIV), screening (21,22)	✓	✓	✓	✓
Iron deficiency anemia, prevention (23)				✓
Iron deficiency anemia, screening (24)			✓	
Lipid disorders in adults, screening (25)	✓	✓		
Lung cancer, screening (26)	✓	✓		
Major depressive disorder in children and adolescents, screening (27)				✓
Obesity in adults, screening (28)	✓	✓		
Obesity in children and adolescents, screening (29)				✓
Osteoporosis, screening (30)		✓		
Phenylketonuria, screening (31)				✓
Sexually transmitted infections, counseling (32)	✓	✓		
Sickle cell disease in newborns, screening (33)				✓
Skin cancer, counseling (34)	✓	✓	✓	✓
Syphilis infection in pregnant women, screening			✓	
Tobacco use in adults (35)	✓	✓	✓	
Tobacco use in children and adolescents (36)				✓
Visual impairment in children, screening (37)				✓

1. *One-time screening by ultrasonography in men aged 65 to 75 who have ever smoked.*
2. *When the potential harm of an increase in gastrointestinal hemorrhage is outweighed by a potential benefit of a reduction in myocardial infarctions (men aged 45 to 79 years) or in ischemic strokes (women aged 55 to 79 years).*
3. *Pregnant women at 12 to 16 weeks' gestation or at first prenatal visit, if later.*
4. *Refer women whose family history is associated with an increased risk for deleterious mutations in BRCA1 or BRCA2 genes for genetic counseling and evaluation for BRCA testing.*
5. *Engage in shared, informed decision making and offer to prescribe risk-reducing medications, if appropriate, to women aged ≥35 years without prior breast cancer diagnosis who are at increased risk.*
6. *Biennial screening mammography for women aged 50 to 74 years. Note: The Department of Health and Human Services, in implementing the Affordable Care Act, follows the 2002 USPSTF recommendation for screening mammography, with or without clinical breast examination, every 1 to 2 years for women aged 40 and older.*
7. *Interventions during pregnancy and after birth to promote and support breast-feeding.*
8. *Screen with cytology every 3 years (women aged 21 to 65) or co-test (cytology/HPV testing) every 5 years (women aged 30 to 65).*
9. *Sexually active women aged 24 or younger and other asymptomatic women at increased risk for infection. Asymptomatic pregnant women aged 24 and or younger and others at increased risk.*
10. *Adults aged 50 to 75 using fecal occult blood testing, sigmoidoscopy, or colonoscopy.*
11. *Newborns.*
12. *When staff-assisted depression care supports are in place to assure accurate diagnosis, effective treatment, and follow-up.*
13. *Provide intervention (exercise or physical therapy and/or vitamin D supplementation) to community-dwelling adults ≥65 years at increased risk for falls.*
14. *All women planning or capable of pregnancy take a daily supplement containing 0.4 to 0.8 mg (400 to 800 mcg) of folic acid.*
15. *Asymptomatic pregnant women after 24 weeks of gestation.*
16. *Newborns.*
17. *Sexually active women, including pregnant women aged 25 and younger, or at increased risk for infection.*
18. *Newborns.*
19. *Screen at first prenatal visit.*
20. *Persons at high risk for infection and adults born between 1945 and 1965.*
21. *All adolescents and adults aged 15 to 65 years and others who are at increased risk for HIV infection and all pregnant women.*
22. *Asymptomatic women of childbearing age; provide or refer women who screen positive to intervention services.*
23. *Routine iron supplementation for asymptomatic children aged 6 to 12 months who are at increased risk for iron deficiency anemia.*
24. *Routine screening in asymptomatic pregnant women.*
25. *Men aged 20 to 35 and women over age 20 who are at increased risk for coronary heart disease; all men aged 35 and older.*
26. *Asymptomatic adults aged 55 to 80 years who have a 30-pack-year smoking history and currently smoke or have quit smoking within the past 15 years.*
27. *Adolescents (aged 12 to 18) when systems are in place to ensure accurate diagnosis, psychotherapy, and follow-up.*
28. *Patients with a body mass index of 30 kg/m^2 or higher should be offered or referred to intensive, multicomponent behavioral interventions.*
29. *Screen children aged 6 years and older; offer or refer for intensive counseling and behavioral interventions.*
30. *Women aged 65 years and older and women under age 65 whose 10-year fracture risk is equal to or greater than that of a 65-year-old white woman without additional risk factors.*
31. *Newborns.*
32. *All sexually active adolescents and adults at increased risk for STIs.*
33. *Newborns.*
34. *Children, adolescents, and young adults aged 10 to 24 years.*
35. *Ask all adults about tobacco use and provide tobacco cessation interventions for those who use tobacco; provide augmented, pregnancy-tailored counseling for those pregnant women who smoke.*
36. *Provide interventions to prevent initiation of tobacco use in school-aged children and adolescents.*
37. *Screen children aged 3 to 5 years.*

Agency for Healthcare Research and Quality. (2014). The guide to clinical preventive services, 2014: Recommendations of the US Preventive Services Task Force. Author. Available: www.uspreventiveservicestaskforce.org/Page/Name/tools-and-resources-for-better-preventive-care.

change is complete. Education and interventions can be aimed at moving the patient onto the next stage or back into the cycle if a lapse occurs.

1. Precontemplation—no intention to change; may deny that there is a problem; may blame others for any problems.
2. Contemplation—acknowledgment that there is a problem; willing to change but may be ambivalent or anxious about change.
3. Preparation—explores options; actively plans to change; may go public with intent.
4. Action—overtly making a change; substituting desired behavior for old behavior.
5. Maintenance—continuing the change; may devalue old behavior; lapse may occur.
6. Termination—takes on a new self-image; old behavior is no longer a threat.

Patient Teaching and Health Education

Health education is included in the American Nurses Association Standards of Care and is defined as an essential component of nursing care. It is directed toward promotion, maintenance, and restoration of health and toward adaptation to the residual effects of illness.

Learning Readiness

1. Assist the patient in physical readiness to learn by trying to alleviate physical distress that may distract the patient's attention and prevent effective learning.
2. Assess and promote the patient's emotional readiness to learn.
   a. Motivation to learn depends on acceptance of the illness or that illness is a threat, recognition of the need to learn, values related to social and cultural background, and a therapeutic regimen compatible with the patient's lifestyle.
   b. Promote motivation to learn by creating a warm, accepting, positive atmosphere; encouraging the patient to participate in the establishment of acceptable, realistic, and attainable learning goals; and providing constructive feedback about progress.
3. Assess and promote the patient's experiential readiness to learn.
   a. Determine what experiences the patient has had with health and illness, what success or failure the patient has had with learning, and what basic knowledge the patient has on related topics.
   b. Provide the patient with prerequisite knowledge necessary to begin the learning process.

Teaching Strategies

1. Patient education can occur at any time and in any setting; however, you must consider how conducive the environment is to learning, how much time you are able to schedule, and what other family members can attend the teaching session.
2. Use a variety of techniques that are appropriate to meet the needs of each individual.
   a. Lecture or explanation should include discussion or a question-and-answer session.
   b. Group discussion is effective for individuals with similar needs; participants commonly gain support, assistance, and encouragement from other members.
   c. Demonstration and practice should be used when skills need to be learned; ample time should be allowed for practice and return demonstration.
   d. Teaching aids include books, pamphlets, pictures, slides, videos, tapes, and models and should serve as supplements to verbal teaching. These can be obtained from government agencies, such as the Department of Health and Human Services, the Centers for Disease Control and Prevention, and the National Institutes of Health; nonprofit groups, such as the American Heart Association or the March of Dimes; various Internet health Web sites; or pharmaceutical and insurance companies.
   e. Reinforcement and follow-up sessions offer time for evaluation and additional teaching, if necessary, and can greatly increase the effectiveness of teaching.
3. Document patient teaching, including what was taught and how the patient responded; use standardized patient teaching checklists if available.

Health Literacy

1. Health literacy is the ability to read, understand, and act on health information.
2. Health literacy goes beyond ability to read; it encompasses the following processes:
   a. Being able to follow instructions on prescription bottles.
   b. Understanding follow-up and referral appointment information.
   c. Understanding consent forms.
   d. Reading and understanding informational brochures and other instructions.
   e. Being able to negotiate the complex health care system.
3. According to the Institute of Medicine's report "A Prescription to End Confusion," poor health literacy is a stronger predictor of a person's health than age, income, employment status, education level, or race.
4. Vulnerable groups include people over 65 years of age, minorities and immigrants, low-income populations, and people with chronic mental and physical conditions.
5. The majority of Americans read at an eighth-grade level, and 20% read at a fifth-grade level or below. Most health-related materials are written at a 10th-grade reading level.
6. Clear communication between patients and health care professionals is critical. Nurses can assess patient literacy skills, use level-appropriate language and written materials, and help patients ask the right questions. The Ask Me 3 program, designed by the Partnership for Clear Health Communication, encourages patients to ask and understand the answers to the following questions:
   a. What is my main problem?
   b. What do I need to do?
   c. Why is it important for me to do this?

Selected Areas of Health Promotion

Counsel patients about proper nutrition, smoking cessation, physical activity, relaxation, and sexual health to promote well-being.

Nutrition and Diet

EVIDENCE BASE U.S. Department of Health and Human Services and U.S. Department of Agriculture. (December 2015). 2015–2020 Dietary Guidelines for Americans (8th ed.). Available: *http://health.gov/dietaryguidelines/2015/guidelines.*

1. Poor diet and sedentary lifestyle are linked to cardiovascular disease, type 2 diabetes, hypertension, osteoporosis, and some cancers.
2. The U.S. DHHS and the U.S. Department of Agriculture recommend and update dietary guidelines every 5 years. These guidelines, combined with physical activity, should enhance the health of most individuals. For more information on these guidelines, see *www.dietaryguidelines.gov*.
3. The 2015–2020 guidelines recommend a healthy eating pattern that accounts for all foods and beverages within an appropriate calorie level.
4. A healthy eating pattern includes the following:
   a. A variety of vegetables from all subgroups—dark green, red and orange, legumes (beans and peas), starchy, and other.
   b. Fruits, especially whole fruits.
   c. Grains, at least half of which are whole grains.
   d. Fat-free or low-fat dairy, including milk, yogurt, cheese, and/or fortified soy beverages.
   e. A variety of protein foods, including seafood, lean meats and poultry, eggs, legumes (beans and peas), and nuts, seeds, and soy products.
   f. Oils.
5. A healthy eating pattern limits the following:
   a. Consume less than 10% of calories per day from added sugars.
   b. Consume less than 10% of calories per day from saturated fats.
   c. Consume less than 2,300 milligrams (mg) per day of sodium.
   d. If alcohol is consumed, it should be consumed in moderation—up to one drink per day for women and up to two drinks per day for men—and only by adults of legal drinking age.
6. Children and adults of all ages should also meet physical activity guidelines to maintain healthy body weight and reduce the risk of chronic disease.
7. Educate patients about the five basic food groups, optimum weight, calorie requirements, and ways to increase fiber and decrease fat in the diet.
8. Teach patients to add fiber to the diet by choosing whole-grain breads and cereals; raw or minimally cooked fruits and vegetables (especially citrus fruits, squash, cabbage, lettuce and other greens, beans); and any nuts, skins, and seeds. Fiber can also be increased by adding several teaspoons of whole bran to meals each day or taking an over-the-counter fiber supplement, such as psyllium, as directed.
9. Encourage patients to keep food diaries and review them periodically to determine if other adjustments should be made.
10. If weight loss is desired, have the patient weigh in monthly, and review the diet and give praise or corrective advice at this visit. Many people, especially women, respond to group therapy that focuses on education, support, and expression of feelings related to overeating.

NURSING ALERT Encourage all patients to follow up closely with their health care providers if they are following any type of diet. Any diet that is unbalanced may require vitamin supplementation and alter biochemical processes such as cholesterol metabolism and fluid balance.

Smoking Prevention and Cessation

EVIDENCE BASE PDQ® Screening and Prevention Editorial Board. (2017). *PDQ Cigarette Smoking*. Bethesda, MD: National Cancer Institute. Available: *www.cancer.gov/about-cancer/causes-prevention/risk/tobacco/quit-smoking-hp-pdq. Updated April 27, 2017.*

1. Smoking is the leading cause of preventable deaths in the United States, with 480,000 deaths per year and many more living with a smoking-related illness such as cancer, heart disease, peripheral vascular disease, or chronic obstructive pulmonary disease (COPD).
2. Not smoking promotes health by increasing exercise tolerance, enhancing taste bud function, and avoiding facial wrinkles and bad breath. A 15% reduction all-cause mortality is seen in heavy smokers subjected to intensive clinical cessation interventions.
3. Smoking prevention education should begin during childhood and be stressed during adolescence, a time when peer modeling and confusion over self-image may lead to smoking.
4. Smoking cessation can be accomplished through an individualized, multidimensional program that includes the following:
   a. Information on the short- and long-term smoking effects.
   b. Behavioral therapy including practical behavior-modification techniques to help break the habit—gum chewing, snacking on carrot and celery sticks, or sucking on mints and hard candy to provide oral stimulation; working modeling clay, knitting, or other ways to provide tactile stimulation; avoiding coffee shops, bars, or other situations that smokers frequent; delaying each cigarette and recording each cigarette in a log before it is smoked; and incentive plans such as saving money for each cigarette not smoked and rewarding oneself when a goal is reached.
   c. Use of medications designed to reduce physical dependence and minimize withdrawal symptoms, including a long- (patch) or short-acting (gum, lozenge, inhaler or nasal spray) nicotine replacement product, varenicline, bupropion, or a combination of products. Nortriptyline and clonidine may also be prescribed.
   d. Use of support groups, frequent reinforcement, and follow-up. Encourage additional attempts if relapse occurs.
   e. There is not sufficient evidence to recommend the e-cigarette, hypnosis, acupuncture, or other alternative techniques.
5. Although the benefits of quitting are greater the earlier one quits, it is never too late to quit. Even quitting after the diagnosis of cancer improves prognosis and reduces the risk of a second cancer.
6. Many resources are available. For more information, call 1-800-QUIT-NOW or see *www.CDC.gov/tobacco*.

Exercise and Fitness

1. Regular exercise as part of a fitness program helps achieve optimal weight, control BP, increase high-density lipoprotein, lower risk of coronary artery disease, increase endurance, and improve the sense of well-being.
2. Long-term goals of regular exercise include decreased absenteeism from work, improved balance and reduced disability among older adults, decreased osteoporosis and fracture risk, and reduced health care costs.
3. Most health benefits occur with at least 150 minutes of physical activity a week, or 30 minutes of moderate-intensity

physical activity (in addition to usual activity) most days of the week. Greater benefits can be obtained by increasing intensity and duration of activity.
   a. Children and adolescents should do 60 minutes of physical activity daily that is age appropriate and includes aerobic, muscle-strengthening, and bone-strengthening activities.
   b. For additional health benefits such as managing or losing weight, adults should increase their aerobic activity to 300 minutes (5 hours) of moderate-intensity or 150 minutes (2.5 hours) of vigorous-intensity aerobic activity weekly.
   c. Muscle-strengthening activities that involve all major muscle groups two or more days a week provide additional benefits.
   d. Older adults and those with disabilities should engage in physical activities as their conditions allow. Generally the benefits of physical activity outweigh potential risks.
4. Suggest walking, jogging, bicycling, swimming, water aerobics, and low-impact aerobic dancing as good low- to moderate-intensity exercise, performed three to five times per week for 45 minutes. Walking can be done safely and comfortably by most patients if the pace is adjusted to the individual's physical condition. Use of weights is important for muscle strengthening throughout the life span.
   a. Exercise programs should include 5- to 10-minute warm-up and cool-down periods with stretching activities to prevent injuries.
   b. Full intensity and duration of exercise should be increased gradually over a period of several weeks to months.
5. Advise patients to stop if pain, shortness of breath, dizziness, palpitations, or excessive sweating is experienced.
6. Advise patients with cardiovascular, respiratory, and musculoskeletal disorders to check with their health care provider about specific guidelines or limitations for exercise.

GERONTOLOGIC ALERT Older adults who are at risk for falling should do exercise that maintains or improves balance.

NURSING ALERT Severe cases of COPD, osteoarthritis, or coronary disease are contraindications for unsupervised exercise; check with the patient's health care provider to see if a physical therapy or occupational therapy referral would be helpful.

Relaxation and Stress Management

1. *Stress* is a change in the environment that is perceived as a threat, challenge, or harm to the person's dynamic equilibrium. In times of stress, the sympathetic nervous system is activated to produce immediate changes of increased heart rate, peripheral vasoconstriction, and increased BP. This response is prolonged by adrenal stimulation and secretion of epinephrine and norepinephrine and is known as the "fight-or-flight" reaction.
2. A limited amount of stress can be a positive motivator to take action; however, excessive or prolonged stress can cause emotional discomfort, anxiety, possible panic, and illness.
3. Prolonged sympathetic–adrenal stimulation may lead to high BP, arteriosclerotic changes, and cardiovascular disease; stress has also been implicated in acute asthma attack, peptic ulcer disease, irritable bowel syndrome, migraine headaches, and other illnesses.
4. Stress management can help patients control illnesses, improve self-esteem, gain control, and enjoy life more fully.
5. Stress management involves the identification of physiologic and psychosocial stressors through assessment of the patient's education, finances, job, family, habits, activities, personal and family health history, and responsibilities. Positive and negative coping methods should also be identified.
6. Relaxation therapy is one of the first steps in stress management; it can be used to reduce anxiety brought on by stress. Relaxation techniques include the following:
   a. Relaxation breathing—the simplest technique that can be performed at any time. The patient breathes slowly and deeply until relaxation is achieved; however, this can lead to hyperventilation if done incorrectly.
   b. Progressive muscle relaxation—relieves muscle tension related to stress. The patient alternately tenses and then relaxes muscle groups until the entire body feels relaxed.
   c. Autogenic training—can help relieve pain and induce sleep. The patient replaces painful or unpleasant sensations with pleasant ones through self-suggestions; may require extensive coaching at first.
   d. Imagery—uses imagination and concentration to take a "mental vacation." The patient imagines a peaceful, pleasant scene involving multiple senses. It can last as long as the patient chooses.
   e. Distraction—uses the patient's own interests and activities to divert attention from pain or anxiety and includes listening to music, watching television, reading, singing, knitting, coloring, doing crafts or projects, or physical activities.
7. To assist patients with relaxation therapy, follow these steps:
   a. Review the techniques and encourage a trial with several techniques of the patient's choice.
   b. Teach the chosen technique and coach the patient until effective use of the technique is demonstrated.
   c. Suggest that the patient practice relaxation techniques for 20 minutes per day to feel more relaxed and to be prepared to use them confidently when stress increases.
   d. Encourage the patient to combine techniques such as relaxation breathing before and after imagery or progressive muscle relaxation along with autogenic training to achieve better results.
8. Additional steps in stress management include dealing with the stressors or problem areas and increasing coping behaviors.
   a. Help the patient to recognize specific stressors and determine if they can be altered. Then develop a plan for managing that stressor, such as changing jobs, postponing an extra class, hiring a babysitter once per week, talking to the neighbor about a problem, or getting up 1 hour earlier to exercise.
   b. Teach the patient to avoid negative coping behaviors, such as smoking, drinking, using drugs, overeating, cursing, and using abusive behavior toward others. Teach positive coping mechanisms, such as continued use of relaxation techniques and fostering of support systems—family, friends, church groups, social groups, or professional support groups.

Sexual Health

1. Because sexuality is inherent to every person and sexual functioning is a basic physiologic need of human beings, nurses can help patients gain knowledge, validate normalcy, prepare

for changes in sexuality throughout the life cycle, and prevent harm gained through sexual activity.
2. Education about sexuality should begin with school-age children, increase during adolescence, and continue through adulthood.
3. Topics to cover include the following:
   a. Relationships, responsibilities, communication.
   b. Normal reproduction—the menstrual cycle, ovulation, fertilization, sperm production.
   c. Prevention of unwanted pregnancy (approximately 1 million teen pregnancies occur in the United States each year) and sexually transmitted diseases (STDs).
4. The Centers for Disease Control and Prevention estimates that there are approximately 19 million new STD infections each year, which cost the U.S. health care system $16.4 billion annually and cost individuals even more in terms of acute and long-term health consequences.
   a. The number of cases of gonorrhea is declining and the number of cases of chlamydia is increasing (probably due to increased screening), but still only about half of people at risk for STDs are screened.
   b. Chlamydia, gonorrhea, and syphilis are reportable to state and local health departments; however, other STDs such as human papillomavirus (HPV) and herpes simplex virus are prevalent and cause chronic effects. Complications of STDs include pelvic inflammatory disease, infertility, serious vital organ damage in the case of tertiary syphilis, cervical cancer in the case of HPV, and increased risk of contracting HIV.
   c. Nurses are in a key position to teach prevention through abstinence and barrier protection, identify cases through screening for earlier treatment, and reduce the burden of these serious and often chronic diseases.
5. Use and refer patients to such resources as the American Sexual Health Association (*www.ashastd.org*) and Centers for Disease Control and Prevention Health Topics A to Z: (*www.cdc.gov/health/default.htm*).

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4

Genetics and Health Applications

HUMAN GENETICS

Human genetics, as it pertains to health care, is the study of the etiology, pathogenesis, and natural history of human conditions that are influenced by genetic factors. Genetic factors extend beyond the limited view of solely distinct genetic syndromes to encompass influences on health, the occurrence of complex disorders, individual biologic responses to illness, potential treatment and medical management approaches, and strategies for prevention or cure.

This tremendous realization is apparent through the accomplishments of initiatives such as the Human Genome Project. This 15-year international collaborative effort was completed in 2003. One significant goal of the Human Genome Project was to identify the approximately 25,000 human genes. These advances and the associated knowledge will continue to affect the delivery of health care and nursing practice significantly. Genetic evaluations, screening, testing, guided treatment, family counseling, and related legal, ethical, and psychosocial issues are increasingly becoming daily practice for many nurses.

The impact of genetics on nursing is significant. In 1997, the American Nurses Association (ANA) officially recognized genetics as a nursing specialty. This effort was spearheaded by the International Society of Nurses in Genetics (ISONG), which also initiated credentialing for the Advanced Practice Nurse in Genetics and the Genetics Clinical Nurse. ANA and ISONG have collaborated in the establishment of a scope and standards of practice for nurses in genetics practice. Essential Nursing Competencies and Curricula Guidelines for Genetics and Genomics were finalized in 2006 with Outcome Indicators established in 2008. The 2nd edition was published in 2009, "Essentials of Genetic and Genomic Nursing: Competencies, Curricula Guidelines, and Outcome Indicators." They reflect the minimal genetic and genomic competencies for every nurse regardless of academic preparation, practice setting, role, or specialty. In 2012, the ANA and ISONG published "Essential Genetic and Genomic Competencies for Nurses with Graduate Degrees." A copy of both of these documents is available through the ANA Web site (*www.nursingworld.org/genetics*).

The purpose of this chapter is to provide the nurse with practical information, resources, representative examples, and professional considerations critical to integration of genetics knowledge into nursing practice.

Underlying Principles

Readers are encouraged to use the Talking Glossary of Genetic Terms available through the National Human Genome Research Institute to supplement the terms provided here. This glossary can be found at *www.genome.gov/glossary*.

Cell: The Basic Unit of Biology

1. Cytoplasm—contains functional structures important to cellular functioning, including mitochondria, which contain extranuclear deoxyribonucleic acid (DNA) important to mitochondrial functioning.
2. Nucleus—contains 46 chromosomes in each somatic (body) cell or 23 chromosomes in each germ cell (egg or sperm) (see Figure 4-1, page 28).

Chromosomes

1. Each somatic cell with a nucleus has 22 pairs of autosomes (the same in both sexes) and 1 pair of sex chromosomes.
2. Females have two X sex chromosomes; males have one Y sex chromosome and one X sex chromosome.
3. Normally, at conception, each individual receives one copy of each chromosome from the maternal egg cell (1 genome, also called haploid) and one copy of each chromosome from the paternal sperm cell (1 genome), for a total of 46 chromosomes (2 genomes, also called diploid).
4. *Karyotype* is the term used to define the chromosomal complement of an individual (eg, 46, XY), as is determined by laboratory chromosome analysis.
5. Each chromosome contains a different number of genes, with a range of approximately 300 to 3,000 genes.

Genes

1. The basic unit of inherited information.
2. Each copy of the human genome in the nucleus has about 20,000 genes. Cells also have some nonnuclear genes located within the mitochondria within the cytoplasm.
3. Alternate forms of a gene are termed *alleles*.
4. For each gene, an individual receives one allele from each parent and thus has two alleles for each gene on the autosomes and also on the X chromosomes in females.

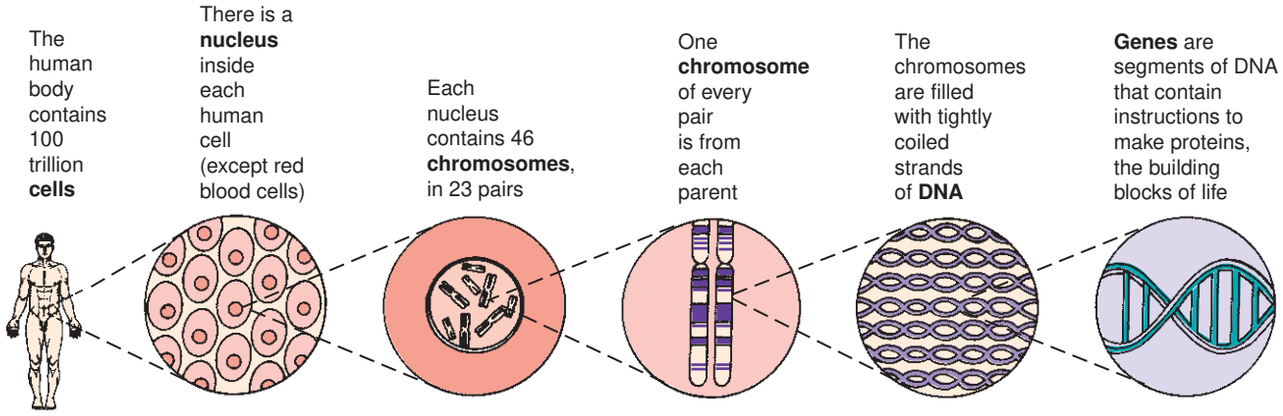

Figure 4-1. Cells, chromosomes, DNA, and genes.

5. Males have only one X chromosome and, therefore, have only one allele for all genes on the X chromosome; they are hemizygous for all X-linked genes.
6. At any autosomal locus, or gene site, an individual can have two identical alleles (homozygous) for that locus or can have two different alleles (heterozygous) at a particular locus.
7. *Genotype* refers to the constitution of the genetic material of an individual; for practical purposes, it is commonly used to refer to a particular base or bases in the DNA, for example, the gene for sickle cell disease, the gene for cystic fibrosis, or the gene for familial polyposis.
8. *Phenotype* refers to the physical or biochemical characteristics an individual manifests regarding expression of the presence of a particular feature, or set of features, associated with a particular gene.
9. Each gene is composed of a unique sequence of DNA bases.

DNA: Nuclear and Mitochondrial

1. Human DNA is a double-stranded helical structure comprised of four different bases, the sequence of which codes for the assembly of amino acids to make a protein—for example, an enzyme. These proteins are important for the following reasons:
   a. For body characteristics such as eye color.
   b. For biochemical processes such as the gene for the enzyme that digests phenylalanine.
   c. For body structure such as a collagen gene important to connective tissue and bone formation.
   d. For cellular functioning such as genes associated with the cell cycle.
2. The four DNA bases are adenine, guanine, cytosine, and thymine (A, G, C, and T).
3. A change, or mutation, in the coding sequence, such as a duplicated or deleted region, or even a change in only one base, can alter the production or functioning of the gene or gene product, thus affecting cellular processes, growth, and development.
4. DNA analysis can be done on almost any body tissue (blood, muscle, skin) using molecular techniques (not visible under a microscope) for mutation analysis of a specific gene with a known sequence or for DNA linkage of genetic markers associated with a particular gene.

Normal Cell Division

1. Mitosis occurs in all somatic cells, which, under normal circumstances, results in the formation of cells identical to the original cell with the same 46 chromosomes.
2. Meiosis, or reduction division, occurs in the germ cell line, resulting in gametes (egg and sperm cells) with only 23 chromosomes, one representative of each chromosome pair.
3. During the process of meiosis, parental homologous chromosomes (from the same pair) pair and undergo exchanges of genetic material, resulting in recombinations of alleles on a chromosome and thus variation in individuals from generation to generation.

CLINICAL APPLICATION

Genetic Disorders

Presentations warranting genetic consideration include intellectual disability, birth defects, biochemical or metabolic disorders, structural abnormalities, multiple miscarriages, and family history of the same or related disorder.

Examples of disorders that result from abnormalities of chromosomes or genes or that are, at least in part, influenced by genetic factors are described in Table 4-1.

Classification of Genetic Alterations

Chromosomal

1. The entire chromosome or only part can be affected. This is usually associated with birth defects and intellectual disability because there are extra or missing copies of all genes associated with the involved chromosome.
   a. Numerical—abnormal number of chromosomes because of nondisjunction (error in chromosomal separation during cell division). Examples are Down and Klinefelter syndromes.
   b. Structural—abnormality involving deletions, additions, or translocations (rearrangements) of parts of chromosomes. Examples are Prader-Willi and Angelman syndromes.
2. May involve autosomes or sex chromosomes.

Single Gene or Pair of Genes

1. Manifestations are specific to cells, organs, or body systems affected by that gene.
2. Autosomal dominant—presence of a single copy of an abnormal gene results in phenotypic expression.
   a. These genes may involve proteins of a structural nature such as collagen. Affected individuals are usually of normal intelligence.

Table 4-1 Selected Genetic Disorders

DISORDER AND INCIDENCE	CHARACTERISTICS	ETIOLOGY AND RECURRENCE RISKS	CONSIDERATIONS AND COMMENTS
Chromosomal Disorders			
Autosomal			
Down syndrome (Trisomy 21) 1 in 700 neonates; incidence increases with advanced maternal age (eg, risk at maternal age 25 is 1 in 1,350; at age 35, 1 in 384; at age 45, 1 in 28)	Brachycephaly: oblique palpebral fissures; epicanthal folds; Brushfield spots; flat nasal bridge; protruding tongue; small, low-set ears; clinodactyly; simian crease; congenital heart defects; hypotonia; intellectual disability; growth retardation; dry, scaly skin; increased risk for childhood leukemia and early-onset Alzheimer disease	• Extra copy of number 21 chromosome (total of three copies). • 94% of cases are trisomy (karyotype 47, +21) for three distinct number 21 chromosomes because of nondisjunction (failure of chromosomal separation during meiosis); recurrence risk 1%, plus maternal age–related risk if older than age 35. • 4% of cases have a translocation—the extra number 21 is attached to another chromosome, usually a number 13 or number 14; half of these translocations are new occurrences, and the other half are inherited from a parent. • 2% of cases are mosaic—affected individual has two different cell lines, one with the normal number of chromosomes and the other cell line trisomic for the number 21 chromosome; because of a postconception error in chromosomal division during mitosis.	• Recurrence risk for parents of affected are dependent on one or more of the following: chromosomal type of disorder, maternal age, parental karyotype, family history, and sex of transmitting parent and other chromosome involved (if translocation). • May demonstrate nuchal thickening prenatally on ultrasound examination. • Associated with moderate intellectual disability. • No phenotypic differences between trisomy Down syndrome and translocation Down syndrome. • Chromosome analysis should be performed on all persons with Down syndrome. • Prenatal maternal serum screening can adjust risk for the pregnancy. See page 1458 for nursing care.
Trisomy 13 (Patau syndrome) 1 in 5,000 live births	Holoprosencephaly; cleft lip or palate, or both; abnormal helices; cardiac defects; rocker-bottom feet; overlapping positioning of fingers; seizures; severe intellectual disability	• Extra number 13 chromosome (total of three copies): Either trisomy form, because of nondisjunction, with less than a 1% recurrence risk, or translocation form, with recurrence risk less than that of translocation Down syndrome and dependent on other factors, including chromosomes involved.	• 44% die within the first month; 18% survive first year of life.
Trisomy 18 (Edwards syndrome) 1 in 6,000 live births	Small for gestational age (may be detected prenatally); feeble fetal activity; weak cry; prominent occiput; low-set, malformed ears; short palpebral fissures; small oral opening; overlapping positioning of fingers (fifth digit over fourth, index over third); nail hypoplasia, short hallux; cardiac defects; inguinal or umbilical hernia; cryptorchidism in males; severe intellectual disability	• Extra number 18 chromosome (total of three copies): Majority due to nondisjunction resulting in three distinct chromosome 18s with less than 1% recurrence risk.	• Most trisomy 18 conceptions miscarry; 90% die within first year of life.

(*continued*)

Table 4-1 Selected Genetic Disorders (*Continued*)

DISORDER AND INCIDENCE	CHARACTERISTICS	ETIOLOGY AND RECURRENCE RISKS	CONSIDERATIONS AND COMMENTS
Sex Chromosome			
Klinefelter syndrome 1 in 700 males; 47, XXY abnormality in 90%; other 10% have more than two X chromosomes in addition to the Y chromosome or have mosaicism (about 20%)	Body habitus may be tall, slim, and underweight; long limbs; gynecomastia; small testes; inadequate virilization; azoospermia or low sperm count; cognitive defects; behavioral problems	• Because of nondisjunction during meiosis, except for cases of mosaicism, which are due to mitotic nondisjunction.	• No distinguishing features prenatally. • Diagnosis may not be suspected or pursued before puberty. • Diagnosis in childhood is beneficial in planning for testosterone replacement therapy, in addition to accurate understanding of learning or behavioral problems. • Tend to be delayed in onset of speech, have difficulty in expressive language, may be relatively immature, may have history of recurrent respiratory infections.
Turner syndrome (45, X) 1 in 2,500 female births	Webbing of neck and short stature; lymphedema of hands and feet as neonate; congenital cardiac defects (especially coarctation of the aorta); low posterior hairline; cubitus valgus; widely spaced nipples; underdeveloped breasts; immature internal genitalia (eg, streak ovaries); primary amenorrhea; learning disabilities	• About 50% because of a nondisjunctional error during meiosis (karyotype 45, X); 20% are mosaic because of nondisjunction during mitosis; 30% have two X chromosomes, but one is functionally inadequate (eg, because of presence of abnormal gene); generally a sporadic occurrence.	• Webbing of neck and short stature may be detected prenatally by ultrasound. • Early diagnosis enhances optimal health care management (eg, planning for administration of growth hormone therapy, estrogen replacement). • Psychosocial implications associated with short stature, delayed onset of puberty. • Infertility associated with ovarian dysgenesis; oocyte donation and adoption are generally the only options for having children. See page 1461.
Microdeletion/Microduplication			
Fragile X syndrome 1 in 3,600 males; 1 in 4,000 females	Motor delays; hypotonia; speech delay and language difficulty; hyperactivity; classic features including long face, prominent ears, and macroorchidism manifest around puberty; autism (about 7% of males); intellectual disability in most males; learning disabilities in most affected females	• Mutation in the FMR-1 gene, represented as a large DNA expansion of a normally present trinucleotide. • Carrier mother of an affected male has a 50% risk for future affected males and 50% chance of transmitting the FMR-1 X chromosome to a daughter who would be a carrier, may be unaffected, or manifest features associated with the fragile X syndrome and has a 50% chance of transmitting that gene to future offspring.	• Expansion of DNA in the region of the gene that houses a CpG island results in methylation of the DNA resulting in the gene being "shut down," and the protein normally made by the gene is not made resulting in the phenotype. Testing involves DNA analysis to characterize the size of the DNA expansion. Testing for methylation status of the DNA increases sensitivity. • Phenotypic expression of this gene in males and females is variable; genetic mechanisms determining expression of this gene are very complicated. • Fragile X should be considered in the differential diagnosis of any male with intellectual disability who is undiagnosed; it is the most common intellectual disability in males.

Table 4-1 Selected Genetic Disorders (*Continued*)

DISORDER AND INCIDENCE	CHARACTERISTICS	ETIOLOGY AND RECURRENCE RISKS	CONSIDERATIONS AND COMMENTS
Microdeletion/Microduplication			
Prader-Willi syndrome Estimated incidence 1 in 15,000	Hypotonia and poor sucking ability in infancy; almond-shaped palpebral fissures; small stature; small, slow growth of hands or feet; small penis, cryptorchidism; insatiable appetite, behavioral problems developing in childhood; below-normal intelligence or intellectual disability	• Cytogenetic microdeletion in chromosome 15q11 to 13 identified in 50% to 70% of cases; deletion associated with paternally inherited number 15 chromosome. • Generally sporadic occurrence; empiric recurrence risk 1.6%.	• Consider diagnosis in infants presenting with hypotonia and sucking problems where etiology is unknown. • Associated with lack of a functioning paternal gene at this locus; presents clinical evidence for the necessity of two functioning genes, both a maternal and paternal contribution. • Another distinct entity, termed *Angelman syndrome*, is associated with a deletion of the maternal contribution in this same cytogenetic region; it is also associated with mental deficiency but with a different phenotypic presentation.
Mendelian Disorders—Single Gene			
Autosomal Dominant			
Achondroplasia 1 in 10,000 live births Increased incidence associated with advanced paternal age (>40)	Megalocephaly; small foramen magnum and short cranial base with early sphenooccipital closure; prominent forehead; low nasal bridge; midfacial hypoplasia; small stature; short extremities; lumbar lordosis; short tubular bones; incomplete extension at the elbow; normal intelligence	• Autosomal dominant inheritance; 80% to 90% are due to a new mutation and neither parent is affected. • An affected parent has a 50% risk to transmit the gene to each child.	• Hydrocephalus can be a complication of achondroplasia and may be masked by megalocephaly. • Risk for apnea secondary to cervical spinal cord and lower brain stem compression because of alterations in shape of cervical vertebral bodies; respiratory problems are also a risk because of the small chest and upper airway obstruction. • Can be diagnosed prenatally by ultrasound.
Osteogenesis imperfecta (Type 1) 1 in 15,000 live births	Blue sclerae; fractures (variable number); deafness may occur	• Defect in the procollagen gene associated with decreased synthesis of a constituent chain important to collagen structure. • Can occur as a new mutation in that gene or can be inherited from a parent who has a 50% recurrence risk to transmit the gene; most severe cases represent a sporadic occurrence within a family.	• There are at least four general classifications of osteogenesis imperfecta, each with varying clinical severity, presentation, and pattern of genetic transmission. • Treatment with calcitonin and fluoride may be beneficial in reducing the number of fractures.
Breast and breast/ovarian cancer syndrome Accounts for 5% to 10% of breast cancer	Breast cancer (usually, but not exclusively, early-age onset, premenopausal); ovarian cancer	• Mutation in the BRCA1 or BRCA2 gene; poses increased susceptibility (not certainty) for breast (31% to 78%) and/or ovarian (3% to 54%) cancer.	• Studies have also noted increased risk for prostate cancer and colon cancer in some families; also an association between male breast cancer and BRCA2 mutations. • Individuals from Ashkenazi Jewish ancestry are at increased risk for mutations in BRCA1 and BRCA2.

(*continued*)