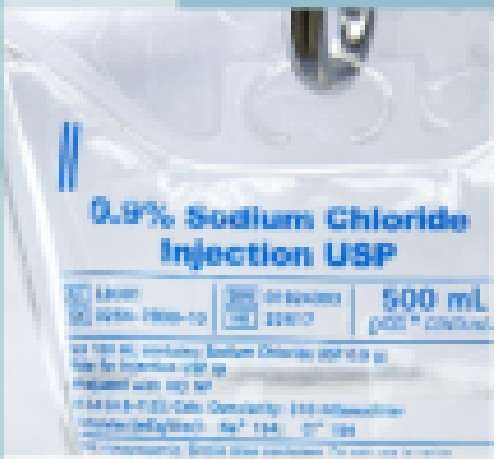
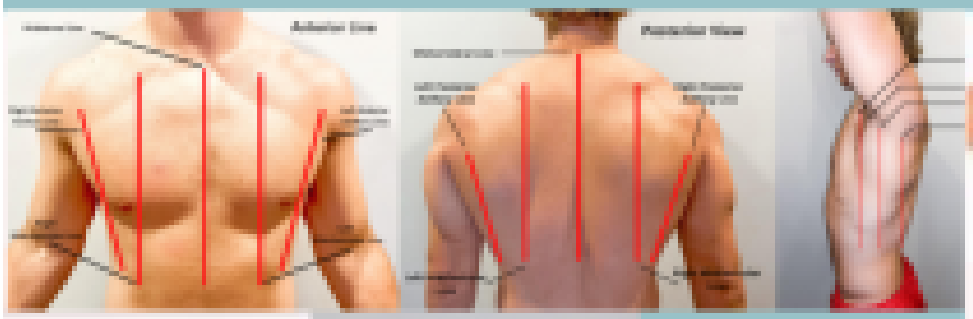
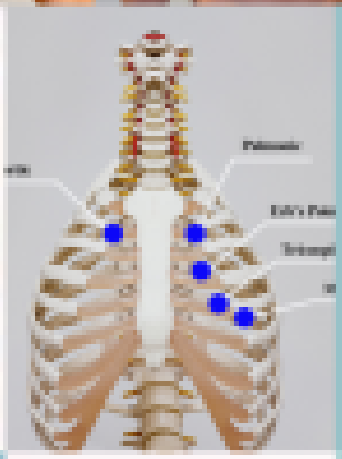
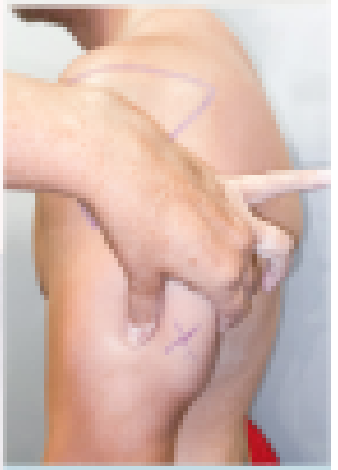
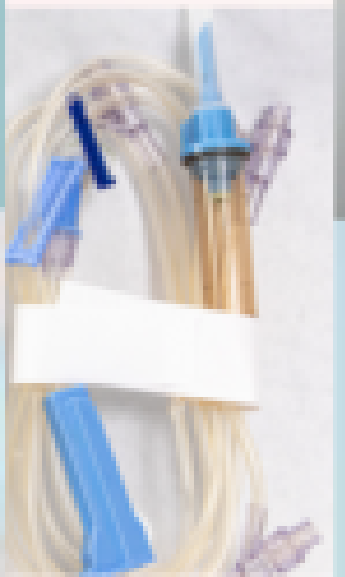
Nursing Skills - 2e

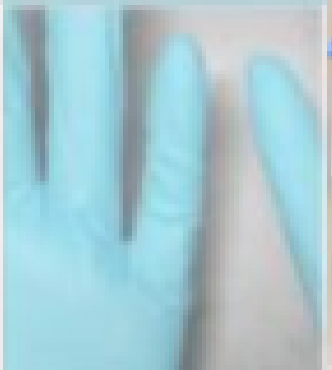












Nursing Skills - 2e

Nursing Skills - 2e

OPEN RESOURCES FOR NURSING (OPEN RN)

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Part XXIII. Chapter 23 IV Therapy Management

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Introduction

This is the second edition of the Open RN *Nursing Skills* OER textbook. This free online textbook is an open educational resource with CC-BY 4.0 licensing that has been developed for prelicensure nursing students. It is designed for use in both practical/vocational nursing programs, as well as for first-year courses in programs preparing students to become registered nurses. An additional Open RN OER textbook, "Nursing Advanced Skills," includes advanced skills such as intravenous infusion, blood product administration, management of central lines and chest tube systems, basic electrocardiogram interpretation, and nasogastric/feeding tube insertion. The Open RN project is supported by a $2.5 million Open Resources for Nursing (Open RN) grant from the Department of Education and is licensed under CC-BY 4.0 creative commons license. More information about the Open RN project can be found at cvtc.edu/OpenRN.

The second edition has been updated according to the 2023 NCLEX-PN and NCLEX-RN Test Plans, and additional NCLEX Next Generation-style learning activities have been added to each chapter. It is aligned with the Wisconsin Technical College System (WTCS) statewide nursing curriculum for the Nursing Skills course (543-102). View a list of updates made to the second edition based on the 2023 NCLEX Test Plans and suggestions received from WTCS nursing faculty.

This Open RN *Nursing Skills* OER textbook focuses on the development of evidence-based clinical skills and physical assessment across the life span routinely performed by entry-level nurses.[1,2] Techniques related to obtaining a health history and basic physical assessment using a body

1. Giddens, J. F. (2007). A survey of physical examination techniques performed by RNs: Lessons for nursing education. *Journal of Nursing Education, 46*(2), 83-87. https://doi.org/10.3928/01484834-20070201-09
2. Giddens, J. F., & Eddy, L. (2009). A survey of physical examination skills taught in undergraduate nursing programs: Are we teaching too much? *Journal of Nursing Education, 48*(1), 24-29. https://doi.org/10.3928/01484834-20090101-05

systems approach are described and include sample skills checklists and instructor demonstration videos. Mathematical calculations and conversions related to clinical skills are also included. The first edition of Open RN *Nursing Skills* received an OE Award for Excellence from OE Global. For more information, visit the 2020 OE Awards for Excellence site.

Several free, online, interactive learning activities are included in each chapter to encourage students to apply the nursing process while analyzing assessment findings and performing nursing skills. Additionally, in this second edition, NCLEX Next-Generation style questions are included in each chapter, with formative feedback immediately provided, to encourage the development of clinical judgment based on the NCSBN Clinical Judgment Measurement Model.

This online book can be downloaded as a PDF or other formats for offline use. The online version is required for interaction with the learning activities included in each chapter. An affordable print version is available for purchase from XanEdu and are available on Amazon or can be ordered by college bookstores. A free printable PDF version is also available for download on the Open RN website.

The following video provides a quick overview of how to navigate the online version.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://wtcs.pressbooks.pub/nursingskills/?p=4#oembed-1

Preface

About this Book

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Standards & Conceptual Approach

The Open RN *Nursing Skills* OER textbook was developed based on several external standards and uses a conceptual approach across all chapters.

External Standards

American Nurses Association (ANA):

The ANA provides standards for professional nursing practice, including nursing standards and a code of ethics for nurses.

- American Nurses Association. (2021). *Nursing: Scope and standards of practice* (4th ed.). American Nurses Association. https://www.nursingworld.org/ana/about-ana/standards/
- American Nurses Association. (2015). *Code of ethics for nurses with interpretive statements*. American Nurses Association. https://www.nursingworld.org/practice-policy/nursing-excellence/ethics/code-of-ethics-for-nurses

The National Council Licensure Examination for Registered Nurses: NCLEX-PN and NCLEX-RN Test Plans

The NCLEX-RN and NCLEX-PN test plans are updated every three years to reflect fair, comprehensive, current, and entry-level nursing competency measurement. Multiple resources are used to create the test plans, including recent practice analysis of nurses and expert opinions of the NEC, NCSBN staff, and boards of nursing/regulatory bodies, to ensure that the test plan is consistent with nurse practice acts.

- https://www.nclex.com/test-plans.page

The National League of Nursing (NLN): Competencies for Graduates of Nursing Programs

NLN competencies guide nursing curricula to position graduates in a dynamic health care arena with practice that is informed by a body of knowledge and ensures that all members of the public receive safe, quality care.

- https://www.nln.org/education/nursing-education-competencies/competencies-for-graduates-of-nursing-programs

American Association of Colleges of Nursing (AACN): The Essentials: Competencies for Professional Nursing Education

The AACN provides a framework for preparing individuals as members of the discipline of nursing, reflecting expectations across the trajectory of nursing education and applied experience.

- https://www.aacnnursing.org/Portals/42/AcademicNursing/pdf/Essentials-2021.pdf

Quality and Safety Education for Nurses (QSEN) Institute: Pre-licensure Competencies

Quality and safety competencies include knowledge, skills, and attitudes to be developed in nursing pre-licensure programs. QSEN competencies include patient-centered care, teamwork and collaboration, evidence-based practice, quality improvement, safety, and informatics.

- https://qsen.org/competencies/

Wisconsin State Legislature, Administrative Code Chapter N6

The Wisconsin Administrative Code governs the Registered Nursing and Practical Nursing professions in Wisconsin.

- https://docs.legis.wisconsin.gov/code/admin_code/n/6

Healthy People 2030

Healthy People 2030 envisions a society in which all people can achieve their full potential for health and well-being across the life span. Healthy People provides objectives based on national data and includes social determinants of health.

- https://health.gov/healthypeople

Conceptual Approach

The Open RN *Nursing Skills* textbook incorporates the following concepts across all chapters.

- **Holism.** Florence Nightingale taught nurses to focus on the principles of holism, including wellness and the interrelationship of human beings and their environment. This textbook encourages the application of holism by assessing the impact of developmental, emotional, cultural, religious, and spiritual influences on a patient's health status.
- **Evidence Based Practice (EBP).** Textbook content is based on current, evidence-based practices that are referenced by footnotes. To promote digital literacy, hyperlinks are provided to credible, free, online resources that supplement content. The Open RN textbooks will be updated as new EBP is established and with the release of updated NCLEX Test Plans every three years.
- **Cultural Competency.** Nurses have an ethical and moral obligation to provide culturally competent care to the patients they serve based on the ANA Code of Ethics.[1] Cultural considerations are included throughout this textbook.
- **Care Across the Life Span.** Developmental stages are addressed

1. American Nurses Association. (2015). *Code of ethics for nurses with interpretive statements*. American Nurses Association. https://www.nursingworld.org/practice-policy/nursing-excellence/ethics/code-of-ethics-for-nurses/

regarding patient assessments and procedures.

- **Health Promotion.** Focused interview questions and patient education topics are included to promote patient well-being and encourage self-care behaviors.
- **Scope of Practice.** Assessment techniques are included that have been identified as frequently performed by entry-level nurse generalists.[2,3,4,5]
- **Patient Safety.** Expected and unexpected findings on assessment are highlighted in tables to promote patient safety by encouraging notification of health care providers when changes in condition occur.
- **Clear and Inclusive Language.** Content is written using clear language preferred by entry-level pre-licensure nursing students to enhance understanding of complex concepts.[6] "They" is used as a singular pronoun to refer to a person whose gender is unknown or irrelevant to the context of the usage, as endorsed by APA style. It is inclusive of all people and helps writers avoid making assumptions about gender.[7]
- **Open-Source Images and Fair Use.** Images are included to promote visual learning. Students and faculty can reuse open-source images by following the terms of their associated Creative Commons licensing.

2. Anderson, B., Nix, E., Norman, B., & McPike, H. D. (2014). An evidence-based approach to undergraduate physical assessment practicum course development. *Nurse Education in Practice, 14*(3), 242–246. https://doi.org/10.1016/j.nepr.2013.08.007
3. Giddens, J., & Eddy, L. (2009). A survey of physical examination skills taught in undergraduate nursing programs: Are we teaching too much? *Journal of Nursing Education, 48*(1), 24–29. https://doi.org/10.3928/01484834-20090101-05
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5. Morrell, S., Ralph, J., Giannotti, N., Dayus, D., Dennison, S., & Bornais, J. (2019). Physical assessment skills in nursing curricula: A scoping review protocol. *JBI Database System Rev Implement Rep., 17*(6), 1086-1091. https://doi.org/10.11124/jbisrir-2017-003981
6. Verkuyl, M., Lapum, J., St-Amant, O., Bregstein, J., & Hughes, M. (2020). Healthcare students' use of an e-textbook open educational resource on vital sign measurement: A qualitative study. *Open Learning: The Journal of Open, Distance and e-Learning.* https://doi.org/10.1080/02680513.2020.1835623
7. American Psychological Association (2021). *Singular "They."* https://apastyle.apa.org/style-grammar-guidelines/grammar/singular-they

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- **Open Pedagogy.** Students are encouraged to contribute to the Open RN textbooks in meaningful ways. In this textbook, students assisted in reviewing content for clarity for an entry-level learner and also assisted in creating open-source images.[8]

Supplementary Material Provided

Several supplementary resources are provided with this textbook.

- Supplementary, free videos to promote student understanding of concepts and procedures
- Sample documentation for assessments and procedures
- Online learning activities with formative feedback
- Critical thinking questions that encourage application of content to patient scenarios and the development of clinical judgment
- Free downloadable versions for offline use

8. The Open Pedagogy Notebook by Steel Wagstaff is licensed under CC BY 4.0

PART I

CHAPTER 1 GENERAL SURVEY

1.1 General Survey Introduction

Learning Objectives

- Perform a general survey assessment, including vital signs, ability to communicate, appropriateness of behaviors and responses, general mobility, and basic nutritional and fluid status
- Modify assessment techniques to reflect variations across the life span, cultural values and beliefs, and gender expression
- Document actions and observations
- Recognize and report significant deviations from norms

"Learn to see, learn to hear, learn to feel, learn to smell, and know that by practice alone can you become expert."[1]

This quote provides a good description of learning how to perform a general survey assessment. A **general survey assessment** is a component of a patient assessment that observes the entire patient as a whole. General surveys begin with the initial patient contact and continue throughout the helping relationship. In this instance, observation includes using all five senses to gather cues. Nurses begin assessing patients from the moment they meet them, noting their appearance, posture, gait, verbal communication, nonverbal communication, and behaviors. Cues

1. Dallas Hall, W. (1990). Chapter 209: An overview of the general examination. In Walker, H. K., Hall, W. D., Hurst, J. W. (Eds.), *Clinical methods: The history, physical, and laboratory examinations* (3rd ed.). Butterworths. https://www.ncbi.nlm.nih.gov/books/NBK706/

obtained during a general survey assessment are used to guide additional focused assessments in areas of concern.

Introduction to the Nursing Process

Before discussing the components of a general survey, it is important to understand how assessment fits under the standards for professional nursing practice established by the American Nurses Association (ANA). These standards are the foundation of the nursing profession and include duties that all registered nurses, regardless of role or specialty, are expected to perform competently.[2] There are six components of the nursing process: Assessment, Diagnosis, Outcomes Identification, Planning, Implementation, and Evaluation. See Figure 1.1[3] for an illustration of the nursing process. The mnemonic ADOPIE is an easy way to remember the ANA Standards and the nursing process. The nursing process is a continuous, cyclic process that is constantly adapting to the patient's current health status. This textbook contains several chapters pertaining to techniques used during the assessment phase of the nursing process.

> Read more about the "Nursing Process" in the Open RN *Nursing Fundamentals* textbook.

2. American Nurses Association. (2021). *Nursing: Scope and standards of practice* (4th ed.). American Nurses Association.
3. "The Nursing Process" by Kim Ernstmeyer at Chippewa Valley Technical College is licensed under CC BY 4.0

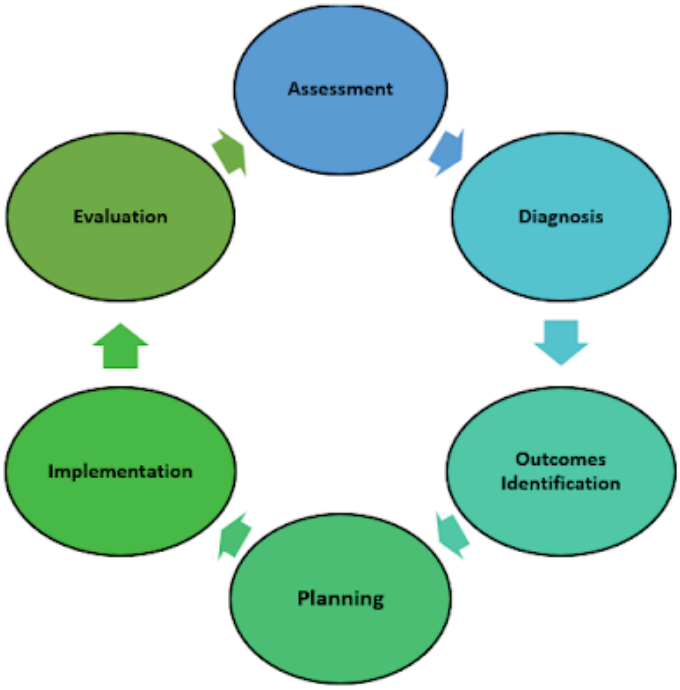

Figure 1.1 Nursing Process

Assessment

According to the ANA, assessment includes collecting "pertinent data, including but not limited to, demographics, social determinants of health, health disparities, and physical, functional, psychosocial, emotional, cognitive, sexual, cultural, age-related, environmental, spiritual/ transpersonal, and economic assessments in a systematic, ongoing process with compassion and respect for the inherent dignity, worth, and unique attributes of every person."[4]

Patient data is considered either subjective or objective, and it can be collected from multiple sources.

4. American Nurses Association. (2021). *Nursing: Scope and standards of practice* (4th ed.). American Nurses Association.

Subjective Assessment Data

Subjective data is information obtained from the patient and/or family members and offers important cues from their perspectives. When documenting subjective data, it should be in quotation marks and start with verbiage such as, "The patient reports…" or "The patient's wife states…" It is vital for the nurse to establish rapport with a patient to obtain accurate, valuable subjective data regarding the mental, emotional, and spiritual aspects of their condition.

Example. An example of documented subjective data obtained from a patient assessment is, *"The patient reports pain severity of 2 on a 0-10 scale."* Additionally, if you create an inference, then that data is considered subjective. For example, documenting an inference, such as *"The patient appears anxious,"* is subjective data.

There are two types of subjective information, primary and secondary. **Primary data** is information provided directly by the patient. Patients are the best source of information about their bodies and feelings, and the nurse who actively listens to a patient will often learn valuable information while also promoting a sense of well-being. Information collected from a family member, chart, or other sources is known as **secondary data**. Family members can provide important information, especially for infants and children or when the patient is unable to speak for themselves.

Objective Assessment Data

Objective data is anything that you can observe through your senses of hearing, sight, smell, and touch while assessing the patient. Objective data is reproducible, meaning another person can easily obtain the same data. Examples of objective data are vital signs, physical examination findings, and laboratory results.

Example. An example of documented objective data is, *"The patient's radial pulse is 58 and regular, and their skin feels warm and dry."*

Sources of Assessment Data

Assessment data is collected in three ways: during a focused interview, during physical examination, or while reviewing laboratory and diagnostic test results.

Interviewing

Interviewing includes asking the patient questions, listening, and observing verbal and nonverbal communication. Reviewing the chart prior to interviewing the patient eliminates redundancy in the interview process and allows the nurse to hone in on the most significant areas of concern or need for clarification. However, if information in the chart does not make sense or is incomplete, the nurse should use the interview process to verify data with the patient.

When beginning an interview, it may be helpful to start with questions related to the patient's medical diagnoses to gather information about how they have affected the patient's functioning, relationships, and lifestyle. Listen carefully and ask for clarification when something isn't clear to you. Patients may not volunteer important information because they don't realize it is important for their care. By using critical thinking and active listening, you may discover valuable cues that are important to provide safe, quality nursing care. Sometimes nursing students can feel uncomfortable with having difficult conversations or asking personal questions because of generational or other differences. Don't shy away from asking about information that is important to know for safe patient care. Most patients will be grateful that you cared enough to ask and listen.

Be alert and attentive to how the patient answers questions, as well as

when they do not answer a question. Nonverbal communication and body language can be cues to important information that requires further investigation. A keen sense of observation is important. To avoid making inappropriate inferences, the nurse should validate any cues. For example, a nurse may make an inference that a patient is depressed when the patient avoids making eye contact during an interview. However, upon further questioning, the nurse may discover that the patient's cultural background believes direct eye contact to be disrespectful and this is why they are avoiding eye contact.

> Read more information about communicating with patients in the "Communication" chapter of the Open RN *Nursing Fundamentals* book.

Physical Examination

Physical examination is a systematic data collection method of the body that uses the techniques of inspection, auscultation, palpation, and percussion. **Inspection** is the observation of a patient's anatomical structures. **Auscultation** is listening to sounds, such as heart, lung, and bowel sounds, created by organs using a stethoscope. **Palpation** is the use of touch to evaluate organs for size, location, or tenderness. **Percussion** is an advanced physical examination technique where body parts are tapped with fingers to determine their size and if fluid is present. See Figure 1.2[5] for an image of a nurse performing a physical examination.

5. "13394660711603.jpg" by CDC/Amanda Mills is in the Public Domain.

Figure 1.2 Physical Examination

Registered Nurses (RNs) complete a physical examination and analyze the

findings as part of the nursing process. Collection of physical examination data can be delegated to Licensed Practical Nurses/Licensed Vocational Nurses (LPNs/LVNs), or measurements such as vital signs and weight may be delegated to Unlicensed Assistive Personnel (UAP) when it is appropriate to do so. However, the RN remains responsible for analyzing the findings.

Assessment data is documented in the patient's electronic medical record (EMR), an electronic version of the patient's paper medical chart.

Reviewing Laboratory and Diagnostic Test Results

Reviewing laboratory and diagnostic test results is an important component of the assessment phase of the nursing process and provides relevant and useful information related to the needs of the patient. Understanding how normal and abnormal results affect patient care is important when implementing the nursing care plan and administering prescriptions.

> Read more about interpreting laboratory and diagnostic testing results based on nursing concepts in the Open RN *Nursing Fundamentals* textbook.

1.2 Initiating Patient Interaction

Before every patient interaction, the nurse must perform hand hygiene and consider the use of additional personal protective equipment, introduce themselves, and identify the patient using two different identifiers. It is also important to provide a culturally safe space for interaction and to consider the developmental stage of the patient.

Hand Hygiene and Infection Prevention

Before initiating care with a patient, hand hygiene is required, and a risk assessment should be performed to determine the need for personal protective equipment (PPE). This is important for protection of both patient and nurse.

Hand Hygiene

Hand hygiene is a simple but effective way to prevent infection when performed correctly and at the appropriate times when providing patient care. See Figure 1.3.[1] for an image about hand hygiene from the Centers for Disease Control (CDC).[2] Use the information below to learn more and watch a video about effective handwashing.

Key points from the CDC about hand hygiene include the following[3]:

- In general, hand sanitizers are as effective as washing with soap and water and are less drying to the skin. When using hand sanitizer, use enough gel to cover both hands and rub for approximately 20

1. "Animated-Logo-Clean-Hands-Count" by Centers for Disease Control and Prevention is licensed under CC0. Access for free at https://www.cdc.gov/handhygiene/campaign/index.html
2. Centers for Disease Control and Prevention. (2019, April 29). *Hand hygiene*. https://www.cdc.gov/handhygiene/index.html
3. Centers for Disease Control and Prevention. (2019, April 29). *Hand hygiene*. https://www.cdc.gov/handhygiene/index.html

seconds, coating all surfaces of both hands until your hands feel dry. Go directly to the patient without putting your hands into pockets or touching anything else.[4]

- Be sure to wash with soap and water if your hands are visibly soiled or the patient has diarrhea from suspected or confirmed C. Difficile (C-diff).
- Clean all areas of the hands, including the front and back, the fingertips, the thumbs, and between fingers.
- Gloves are not a substitute for cleaning your hands. Wash your hands after removing gloves.
- Hand hygiene should be performed at these times:
    - Immediately before touching a patient
    - Before performing an aseptic task (e.g., placing an indwelling device) or handling invasive medical devices
    - Before moving from working on a soiled body site to a clean body site on the same patient
    - After contact with blood, body fluids, or contaminated surfaces
    - Before donning gloves and immediately after glove removal
    - When leaving the area after touching a patient or their immediate environment

4. Centers for Disease Control and Prevention. (2019, April 29). *Hand hygiene*. https://www.cdc.gov/handhygiene/index.html

Figure 1.3 Hand Hygiene

Checklists for performing handwashing and using hand sanitizer are located in Appendix A.

- Visit the Center for Disease Control and Prevention's website to read more about Hand Hygiene in Healthcare Settings.
- Download a PDF factsheet from the Centers for Disease Control and Prevention called Clean Hands Count.

View supplementary videos on hand hygiene:

Clean Hands Count on YouTube[5]

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://wtcs.pressbooks.pub/nursingskills/?p=851#oembed-1

Hand Washing Technique on YouTube[6]

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://wtcs.pressbooks.pub/nursingskills/?p=851#oembed-2

Hand Sanitizing Technique on YouTube[7]

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://wtcs.pressbooks.pub/nursingskills/?p=851#oembed-3

5. Centers for Disease Control and Prevention. (2017, May 5). *Clean hands count* [Video]. YouTube. All rights reserved. https://youtu.be/MzkNSzqmUSY
6. Johns Hopkins Medicine. (2019, March 26). *Hand-washing steps using the WHO technique* [Video]. YouTube. All rights reserved. https://youtu.be/IisgnbMfKvI
7. Johns Hopkins Medicine. (2019, May 8). *Hand rubbing steps using the WHO technique* [Video]. YouTube. All rights reserved. https://youtu.be/B3eq5fLzAOo

Check your knowledge with this learning activity.

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://wtcs.pressbooks.pub/nursingskills/?p=851#h5p-21

Personal Protective Equipment (PPE)

Medical asepsis is a term used to describe measures to prevent the spread of infection in health care agencies. Performing hand hygiene at appropriate times during patient care and applying gloves when there is potential risk for exposure to body fluids are examples of using medical asepsis. Additional precautions are implemented by health care team members when a patient has, or is suspected of having, an infectious disease. These additional precautions are called **personal protective equipment (PPE)** and are based on how an infection is transmitted, such as by contact, droplet, or airborne routes. Personal protective equipment (PPE) includes gowns, eyewear or goggles, face shields, gloves, and masks. PPE is used along with environmental controls, such as surface cleaning and disinfecting to prevent the transmission of infection.[8] See Figure 1.4[9] for an image of health care team members applying PPE. These precautions are further discussed in the "Aseptic Technique" chapter. For the purpose of this chapter, be sure to perform a general risk assessment before entering a patient's room and apply the appropriate PPE as needed. This risk assessment includes the following:

8. This work is a derivative of Clinical Procedures for Safer Patient Care by British Columbia Institute of Technology licensed under CC BY 4.0
9. "Pennsylvania_National_Guard_(49923831732).jpg" by The National Guard is in the Public Domain.

- Is there signage posted on the patient's door that contact, droplet, enhanced barrier, or airborne precautions are in place? If so, follow the instructions provided.
- Does this patient have a confirmed or suspected infection or communicable disease?
- Will your face, hands, skin, mucous membranes, or clothing be potentially exposed to blood or body fluids by spray, coughing, or sneezing?

Figure 1.4 Application of Personal Protective Equipment

Introducing Oneself

When initiating care with patients, it is essential to first provide privacy, and then introduce yourself and explain what will be occurring. Providing

privacy means taking actions such as talking with the patient privately in a room with the door shut or privacy curtain drawn around the bed. A common framework used to communicate with patients is **AIDET**, a mnemonic for Acknowledge, Introduce, Duration, Explanation, and Thank You.[10]

- **Acknowledge:** Greet the patient by the name documented in their medical record. Make eye contact, smile, and acknowledge any family or friends in the room. Ask the patient their preferred way of being addressed (for example, "Mr. Doe," "Jonathon," or "Johnny") and their preferred pronouns (i.e., he/him, she/her, or they/them), as appropriate.
- **Introduce:** Introduce yourself by your name and role. For example, "I'm John Doe and I am a nursing student working with your nurse to take care of you today."
- **Duration:** Estimate a timeline for how long it will take to complete the task you are doing. For example, "I am here to obtain your blood pressure, heart rate, and oxygen saturation levels. This should take about 5 minutes."
- **Explanation:** Explain step by step what to expect next and answer questions. For example, "I will be putting this blood pressure cuff on your arm and inflating it. It will feel as if it is squeezing your arm for a few moments."
- **Thank You:** At the end of the encounter, thank the patient and ask if anything is needed before you leave. In an acute or long-term care setting, ensure the call light is within reach and the patient knows how to use it. If family members are present, thank them for being there to support the patient as appropriate. For example, "Thank you for taking time to talk with me today. Is there anything I can get for you before I leave the room? Here is the call light (Place within reach). Press the red button if you would like to call the nurse."

10. Huron. (n.d.). *AIDET patient communication.* https://www.studergroup.com/aidet

For more information about AIDET, visit AIDET Patient Communication.

Patient Identification

Use at least two patient identifiers before performing assessments, obtaining vital signs, or providing care.

Use two patient identifiers:

- Ask the patient to state their name and date of birth. If they have an armband, compare the information they are stating to the information on the armband and verify they match. See Figure 1.5[11] for an image of an armband.
- If the patient doesn't have an armband, confirm the information they are stating to information provided in the chart.
- If the patient is unable to state their name and date of birth, scan their armband or ask another staff member or family member to identify them.

Confirm "two identifiers" with a second source:

- Scan the wristband.
- Compare the name and date of birth to the patient's chart.
- Ask staff to verify the patient in a long-term care setting.
- Compare the picture on the medication administration record (MAR) to the patient.
- If present, ask a family member to confirm the patient's name.

11. "barcode_clinic_fist_hand_healthcare_hospital_identification_identity-1517387.jpg" by rawpixel.com is licensed under CC0

Figure 1.5 Patient Identification Armband

Cultural Safety

When initiating patient interaction, it is important to establish cultural safety. **Cultural safety** refers to the creation of safe spaces for patients to interact with health professionals without judgment or discrimination. See Figure 1.6[12] for an image representing cultural safety. Recognizing that you and all patients bring a cultural context to interactions in a health care setting is helpful when creating cultural safe spaces. If you discover you need more information about a patient's cultural beliefs to tailor your care, use an open-ended question that allows the patient to share what they believe to be important. For example, you may ask, "I am interested in your cultural background as it relates to your health. Can you share with me

12. "MODEL OF MULTINATIONAL UNITY" by Margherita Marchetti is licensed under CC0

what is important about your cultural background that will help me care for you?"[13]

> For more information about caring for diverse patients, visit the "Diverse Patients" chapter in the Open RN *Nursing Fundamentals* textbook.

13. This work is a derivative of The Complete Subjective Health Assessment by Lapum, St-Amant, Hughes, Petrie, Morrell, & Mistry and is licensed under CC BY 4.0

Figure 1.6 Cultural Safety Creates Safe Spaces for Everyone

Adapting to Variations Across the Life Span

It is important to adapt your interactions with patients in accordance with

their **developmental stage**. Developmentalists break the life span into nine stages[14]:

- Prenatal Development
- Infancy and Toddlerhood
- Early Childhood
- Middle Childhood
- Adolescence
- Early Adulthood
- Middle Adulthood
- Late Adulthood
- Death and Dying

A brief overview of the characteristics of each stage of human development is provided in Table 1.2. When caring for infants, toddlers, children, and adolescents, parents or guardians are an important source of information, and family dynamics should be included as part of the general survey assessment. When caring for older adults or those who are dying, other family members may be important to include in the general survey assessment. See Figure 1.7[15] for an image representing patients in various developmental stages of life.

14. This work is a derivative of Human Development Life Span by Laura Overstreet and is licensed under CC BY 4.0
15. "pexels-photo-1556706.jpeg" by Daniel Reche is licensed under CC0; "kids-1675964_960_720.jpg" by auntmasako is licensed under CC0; "100312-F-6448T-001.JPG" by U.S. Air Force photo/Senior Airman Timothy Taylor is licensed under CC0; "smart-3479338_1280.jpg" by malcolmbeldon4 is licensed under CC0; "Business man" by Tim Engle is licensed under CC BY-NC 2.0; "Portrait of an old woman in front of her home" by Nithi Anand is licensed under CC BY 2.0

Figure 1.7 Developmental Stages Across the Life Span

> Visit the Human Development Life Span e-book at LibreTexts to read additional information about human development across the life span.

Table 1.2 Variations Across the Life Span

Stage of Development	Common Characteristics
Prenatal Development	Conception occurs, and development begins. All major structures of the body are forming, and the health of the mother is of primary concern. Understanding nutrition, teratogens (environmental factors that can lead to birth defects), and labor and delivery are primary concerns for the mother.
Infancy and Toddlerhood	The first year and a half to two years of life are ones of dramatic growth and change. A newborn with a keen sense of hearing but very poor vision is transformed into a walking, talking toddler within a relatively short period of time. Caregivers are also transformed from someone who manages feeding and sleep schedules to a constantly moving guide and safety inspector for a mobile, energetic child.
Early Childhood	Early childhood is also referred to as the preschool years, consisting of the years that follow toddlerhood and precede formal schooling. As a three- to five-year-old, the child is busy learning language, gaining a sense of self and greater independence, and beginning to learn the workings of the physical world. This knowledge does not come quickly however, and preschoolers may have initially interesting conceptions of size, time, space, and distance, such as fearing that they may go down the drain if they sit at the front of the bathtub. A toddler's fierce determination to do something may give way to a four-year-old's sense of guilt for doing something that brings the disapproval of others.
Middle Childhood	The ages of six through eleven comprise middle childhood, and much of what children experience at this age is connected to their involvement in the early grades of school. Their world becomes filled with learning and testing new academic skills, assessing one's abilities and accomplishments, and making comparisons between self and others. Schools compare students and make these comparisons public through team sports, test scores, and other forms of recognition. Growth rates slow down, and children are able to refine their motor skills at this point in life. Children begin to learn about social relationships beyond the family through interaction with friends and fellow students.

Adolescence	The World Health Organization defines adolescence as a person between the age of 10 and 19. Adolescence is a period of dramatic physical change marked by an overall physical growth spurt and sexual maturation, known as puberty. It is also a time of cognitive change as the adolescent begins to think of new possibilities and to consider abstract concepts such as love, fear, and freedom. Adolescents have a sense of invincibility that puts them at greater risk of injury from high-risk behaviors such as car accidents, drug and alcohol abuse, or contracting sexually transmitted infections that can have lifelong consequences or result in death.
Early Adulthood	The twenties and thirties are often thought of as early adulthood. It is a time of physiological peak but also highest risk for involvement in violent crimes and substance abuse. It is a time of focusing on the future and putting a lot of energy into making choices that will help one earn the status of a full adult in the eyes of others. Love and work are primary concerns at this stage of life.
Middle Adulthood	The late thirties through the mid-sixties is referred to as middle adulthood. This is a period in which aging processes that began earlier become more noticeable but also a time when many people are at their peak of productivity in love and work. It can also be a time of becoming more realistic about possibilities in life previously considered and of recognizing the difference between what is possible and what is likely to be achieved in their lifetime.
Late Adulthood	This period of the life span has increased over the last 100 years. For nurses, patients in this period are referred to as "**older adults**." The term "young old" is used to describe people between 65 and 79, and the term "old old" is used for those who are 80 and older. One of the primary differences between these groups is that the young old are very similar to midlife adults because they are still working, still relatively healthy, and still interested in being productive and active. The "old old" may remain productive, active, and independent, but risks of heart disease, lung disease, cancer, and cerebral vascular disease (i.e., strokes) increase substantially for this age group. Issues of housing, health care, and extending active life expectancy are only a few of the topics of concern for this age group. A better way to appreciate the diversity of people in late adulthood is to go beyond chronological age and examine whether a person is experiencing optimal aging (when they are in very good health for their age and continue to have an active, stimulating life), normal aging (when the changes in health are similar to most of those of the same age), or impaired aging (when more physical challenges and diseases occur compared to others of the same age).

Death and Dying	Death is the final stage of life. Dying with dignity allows an individual to make choices about treatment, say goodbyes, and take care of final arrangements. When caring for patients who are actively dying, nurses can advocate for care that allows that person to die with dignity according to their wishes.

1.3 Vital Signs

Vital signs are typically obtained prior to performing a physical assessment. Vital signs include temperature recorded in Celsius or Fahrenheit, pulse, respiratory rate, blood pressure, and oxygen saturation using a pulse oximeter. See Figure 1.8[1] for an image of a nurse obtaining vital signs. Obtaining vital signs may be delegated to unlicensed assistive personnel (UAP) for stable patients, depending on the state's Nurse Practice Act, agency policy, and appropriate training. However, the nurse is always accountable for analyzing the vital signs and instituting appropriate follow-up for out-of-range findings. See Appendix A to review a checklist for obtaining vital signs.

1. "US Navy 110714-N-RM525-060 Hospitalman Seckisiesha Isaac, from New York, prepares to take a woman's temperature at a pre-screening vital signs stat.jpg" by U.S. Navy photo by Mass Communication Specialist 2nd Class Jonathen E. Davis is licensed under CC0

Figure 1.8 Obtaining Vital Signs

The order of obtaining vital signs is based on the patient and their situation. Health care professionals often place the pulse oximeter probe on the patient while proceeding to obtain their pulse, respirations, blood pressure, and temperature. However, in some situations this order is modified based on the urgency of their condition. For example, if a person loses consciousness, the assessment begins with checking their carotid pulse to determine if cardiopulmonary resuscitation (CPR) is required.[2]

Temperature

Accurate temperature measurements provide information about a patient's health status and guide clinical decisions. Methods of measuring

2. Vital Sign Measurement Across the Lifespan by Ryerson University is licensed under CC BY-SA 4.0

body temperature vary based on the patient's developmental age, cognitive functioning, level of consciousness, and health status, as well as agency policy. Common methods of temperature measurement include oral, tympanic, axillary, temporal, no touch, and rectal routes. It is important to document the route used to obtain a patient's temperature because of normal variations in temperature in different locations of the body. Body temperature is typically measured and documented in health care agencies in degrees Celsius (°C).[3]

Oral Temperature

Normal oral temperature is 35.8 – 37.3°C (96.4 – 99.1°F). An oral thermometer is shown in Figure 1.9.[4] The device has blue coloring, indicating it is an oral or axillary thermometer, as opposed to a rectal thermometer that has red coloring. Oral temperature is reliable when it is obtained close to the sublingual artery.[5]

3. Vital Sign Measurement Across the Lifespan by Ryerson University is licensed under CC BY-SA 4.0
4. "Thermometer-oral-768x548.jpg" by British Columbia Institute of Technology is licensed under CC BY 4.0. Access for free at https://med.libretexts.org/Bookshelves/Nursing/Book%3A_Vital_Sign_Measurement_Across_the_Lifespan_(Lapum_et_al.)/02%3A_Temperature/2.17%3A_Oral_Temperature
5. Vital Sign Measurement Across the Lifespan by Ryerson University is licensed under CC BY-SA 4.0

Figure 1.9 Oral Thermometer

TECHNIQUE

Remove the probe from the device and slide a probe cover (from the attached box) onto the oral thermometer without touching the probe cover with your hands. Place the thermometer in the posterior sublingual pocket under the tongue, slightly off-center. Instruct the patient to keep their mouth closed but not bite on the thermometer. Leave the thermometer in place for as long as is indicated by the device manufacturer. The thermometer typically beeps within a few seconds when the temperature has been taken. Read the digital display of the results. Discard the probe cover in the garbage (without touching the

cover) and place the probe back into the device.[6] See Figure 1.10[7] of an oral temperature being taken.

Figure 1.10 Oral Temperature

Some factors can cause an inaccurate measurement using the oral route. For example, if the patient recently consumed a hot or cold food or beverage, chewed gum, or smoked prior to measurement, a falsely elevated or decreased reading may be obtained. Oral temperature should

6. Vital Sign Measurement Across the Lifespan by Ryerson University is licensed under CC BY-SA 4.0
7. "Oral-Temperature-Wide-768x512.jpg" by British Columbia Institute of Technology is licensed under CC BY 4.0. Access for free at https://med.libretexts.org/Bookshelves/Nursing/Book%3A_Vital_Sign_Measurement_Across_the_Lifespan_(Lapum_et_al.)/02%3A_Temperature/2.17%3A_Oral_Temperature

be taken 15 to 25 minutes following consumption of a hot or cold beverage or food or 5 minutes after chewing gum or smoking.[8]

Tympanic Temperature

The tympanic temperature is typically 0.3 – 0.6°C or 0.5 – 1°F higher than an oral temperature. It is an accurate measurement because the tympanic membrane shares the same vascular artery that perfuses the hypothalamus (the part of the brain that regulates the body's temperature). See Figure 1.11[9] of a tympanic thermometer. The tympanic method should not be used if the patient has a suspected ear infection.[10] Accumulation of cerumen, earwax, may also reduce the accuracy of tympanic readings.

8. Vital Sign Measurement Across the Lifespan by Ryerson University is licensed under CC BY-SA 4.0
9. "Tympanic-Thermometer.jpg" by British Columbia Institute of Technology is licensed under CC BY 4.0. Access for free at https://med.libretexts.org/Bookshelves/Nursing/Book%3A_Vital_Sign_Measurement_Across_the_Lifespan_(Lapum_et_al.)/02%3A_Temperature/2.18%3A_Tympanic_Temperature
10. Vital Sign Measurement Across the Lifespan by Ryerson University is licensed under CC BY-SA 4.0

Figure 1.11 Tympanic Thermometer

TECHNIQUE

Remove the tympanic thermometer from its holder and place a probe cover on the thermometer tip without touching the probe cover with your hands. Turn the device on. Ask the patient to keep their head still. For an adult or older child, gently pull the helix (outer ear) up and back to visualize the ear canal. For an infant or child under age 3, gently pull the helix down. Insert the probe just inside the ear canal but never force the thermometer into the ear. The device will beep within a few seconds after the temperature is measured. Read the results displayed, discard the probe cover in the garbage (without touching the cover), and then place

the device back into the holder.[11] See Figure 1.12[12] for an image of a tympanic temperature being taken.

Figure 1.12 Tympanic Temperature

Axillary Temperature

The axillary method is a minimally invasive way to measure temperature and is commonly used in children. It uses the same electronic device as an

11. Vital Sign Measurement Across the Lifespan by Ryerson University is licensed under CC BY-SA 4.0
12. "Tympanic-Temperature-Correct-2.jpg" by British Columbia Institute of Technology is licensed under CC BY 4.0. Access for free at https://med.libretexts.org/Bookshelves/Nursing/Book%3A_Vital_Sign_Measurement_Across_the_Lifespan_(Lapum_et_al.)/02%3A_Temperature/2.18%3A_Tympanic_Temperature

oral thermometer (with blue coloring). However, the axillary temperature can be as much as 1°C lower than the oral temperature.[13] An armpit (axillary) temperature is usually 0.3° C (0.5° F) to 0.6° C (1° F) lower than an oral temperature.

TECHNIQUE

Remove the probe from the device and place a probe cover (from the attached box) on the thermometer without touching the cover with your hands. Ask the patient to raise their arm and place the thermometer probe in their armpit on bare skin as high up into the axilla as possible. The probe should be facing behind the patient. Ask the patient to lower their arm and leave the device in place until it beeps, usually about 10–20 seconds. Read the displayed results, discard the probe cover in the garbage (without touching the cover), and then place the probe back into the device. See Figure 1.13[14] for an image of an axillary temperature.[15]

13. Vital Sign Measurement Across the Lifespan by Ryerson University is licensed under CC BY-SA 4.0
14. "Axilla-Temperature-1-768x596.jpg" by British Columbia Institute of Technology is licensed under CC BY 4.0. Access for free at https://med.libretexts.org/Bookshelves/Nursing/Book%3A_Vital_Sign_Measurement_Across_the_Lifespan_(Lapum_et_al.)/02%3A_Temperature/2.19%3A_Axillary_Temperature
15. Vital Sign Measurement Across the Lifespan by Ryerson University is licensed under CC BY-SA 4.0

Figure 1.13 Axillary Temperature

Rectal Temperature

Measuring rectal temperature is an invasive method. Some sources suggest its use only when other methods are not appropriate. However, when measuring infant temperature, it is considered a gold standard because of its accuracy. A rectal temperature is 0.5°F (0.3°C) to 1°F (0.6°C)

higher than an oral temperature.[16] See Figure 1.14[17] for an image of a rectal thermometer.

Figure 1.14 Rectal Thermometer

TECHNIQUE

Before taking a rectal temperature, ensure the patient's privacy. Wash your hands and put on gloves. For infants, place them in a supine position and raise their legs upwards toward their chest. Parents may be encouraged to hold the infant to decrease movement and provide a sense of safety. When taking a rectal temperature in older children and adults,

16. Vital Sign Measurement Across the Lifespan by Ryerson University is licensed under CC BY-SA 4.0
17. "Thermometer-rectal-768x479.jpg" by British Columbia Institute of Technology is licensed under CC BY 4.0. Access for free at https://med.libretexts.org/Bookshelves/Nursing/Book%3A_Vital_Sign_Measurement_Across_the_Lifespan_(Lapum_et_al.)/02%3A_Temperature/2.20%3A_Rectal_Temperature

assist them into a side lying position and explain the procedure. Remove the probe from the device and place a probe cover (from the attached box) on the thermometer. Lubricate the cover with a water-based lubricant, and then gently insert the probe 2–3 cm (approximately 0.5 in for babies less than 6 months old to 1 inch) into the anus or less, depending on the patient's size.[18] Remove the probe when the device beeps. Read the result and then discard the probe cover in the trash can without touching it. Cleanse the device as indicated by agency policy. Remove gloves and perform hand hygiene.

Temporal Temperature

Temporal temperature is taken by using a device placed on the forehead. Temporal thermometers contain an infrared scanner that measures the heat on the surface of the skin resulting from blood moving through the temporal artery in the forehead. Temporal temperature is typically 0.5°F (0.3°C) to 1°F (0.6°C) lower than an oral temperature. It is a quick, noninvasive method, but accurate measurement is dependent on good contact with the skin and good placement on the forehead.

See Table 1.3a for normal temperature ranges for various routes.

Table 1.3 Normal Temperature Ranges[19]

Method	Normal Range
Oral	35.8 – 37.3°C (96.4 -99.1°F)
Axillary	34.8 – 36.3°C (96.4 -97.3°F)
Tympanic	36.1 – 37.9°C (97.0 -100.2°F)
Rectal	36.8 – 38.2°C (98.2 -100.8°F)
Temporal	35.2 – 37.0°C (95.4 – 98.6°F)

18. Vital Sign Measurement Across the Lifespan by Ryerson University is licensed under CC BY-SA 4.0
19. Vital Sign Measurement Across the Lifespan by Ryerson University is licensed under CC BY-SA 4.0

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://wtcs.pressbooks.pub/nursingskills/?p=859#h5p-112

Pulse

Pulse refers to the pressure wave that expands and recoils arteries when the left ventricle of the heart contracts. It is palpated at many points throughout the body. The most common locations to palpate pulses as part of vital sign measurement include radial, brachial, carotid, and apical areas as indicated in Figure 1.15.[20]

20. "Radial-brachial-carotid-and-apical-pulse-final-930x1024.jpg" by British Columbia Institute of Technology is licensed under CC BY 4.0. Access for free at https://med.libretexts.org/Bookshelves/Nursing/Book%3A_Vital_Sign_Measurement_Across_the_Lifespan_(Lapum_et_al.)/03%3A_Pulse_and_Respiration/3.15%3A_What_is_Pulse%3F

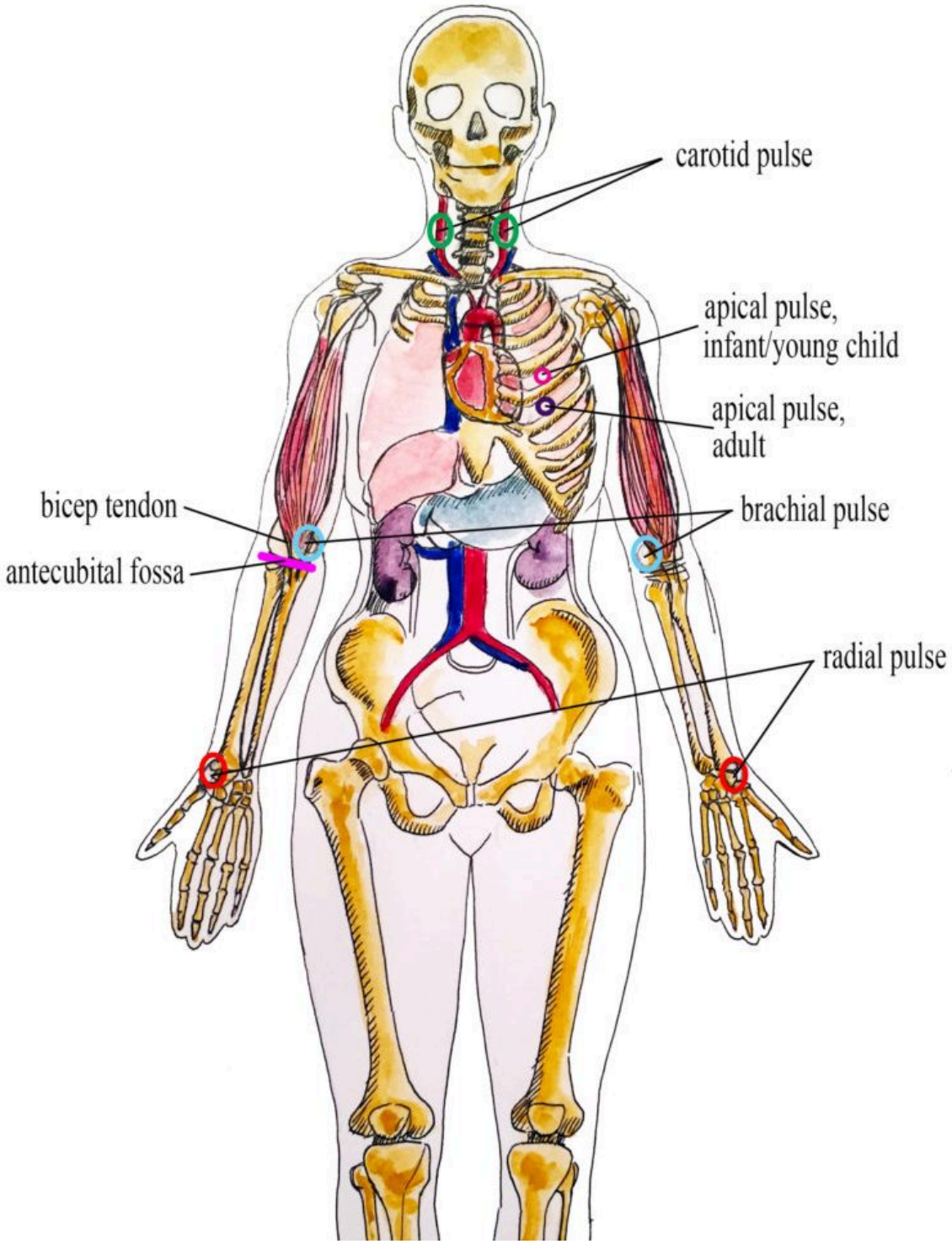

Figure 1.15 Common Pulse Assessment Locations

Pulse is measured in beats per minute wherever a pulse can be palpated. The normal adult pulse rate (heart rate) at rest is 60–100 beats per minute

with different ranges according to age. The pulse rate is a measurement of the number of times the heart beats per minute. The pulse rate may differ from the heart rate if the force of the heart contraction is not strong enough to generate a pulse because the pulse is palpated whereas the heart rate is typically auscultated. See Table 1.3b for normal heart rate ranges by age. It is important to consider each patient situation when analyzing if their heart rate is within normal range. Begin by reviewing their documented baseline heart rate. Consider other factors if the pulse is elevated, such as the presence of pain or crying in an infant. It is best to complete the assessment when a patient is resting and comfortable, but if this is not feasible, document the circumstances surrounding the assessment and reassess as needed.[21] For example, pulse rate may be artificially elevated when individuals experience physical or mental stress. Therefore, it is best to collect a pulse rate assessment when the patient is resting.

Table 1.3b Normal Heart Rate by Age

Age Group	Heart Rate
Preterm	120 – 180
Newborn (0 to 1 month)	100 – 160
Infant (1 to 12 months)	80 – 140
Toddler (1 to 3 years)	80 – 130
Preschool (3 to 5 years)	80 – 110
School Age (6 to 12 years)	70 – 100
Adolescents (13 to 18 years) and Adults	60 – 100

21. Vital Sign Measurement Across the Lifespan by Ryerson University is licensed under CC BY-SA 4.0

Pulse Characteristics

When assessing pulses, the characteristics of rhythm, rate, force, and equality are included in the documentation.

PULSE RHYTHM

A normal pulse has a regular rhythm, meaning the frequency of the pulsation felt by your fingers is an even tempo with equal intervals between pulsations. For example, if you compare the palpation of pulses to listening to music, it follows a constant beat at the same tempo that does not speed up or slow down. Some cardiovascular conditions, such as atrial fibrillation, cause an irregular heart rhythm. If a pulse has an irregular rhythm, document if it is "regularly irregular" (e.g., three regular beats are followed by one missed and this pattern is repeated) or if it is "irregularly irregular" (e.g., there is no rhythm to the irregularity).[22]

PULSE RATE

The pulse rate is counted with the first beat felt by your fingers as "One." It is considered best practice to assess a patient's pulse for a full 60 seconds, especially if there is an irregularity to the rhythm.[23]

PULSE FORCE

The pulse force is the strength of the pulsation felt on palpation. Pulse force can range from absent to bounding. The volume of blood, the heart's functioning, and the arteries' elastic properties affect a person's pulse force.[24] Pulse force is documented using a four-point scale:

22. Vital Sign Measurement Across the Lifespan by Ryerson University is licensed under CC BY-SA 4.0
23. Vital Sign Measurement Across the Lifespan by Ryerson University is licensed under CC BY-SA 4.0
24. Vital Sign Measurement Across the Lifespan by Ryerson University is licensed under CC BY-SA 4.0

- 3+: Full, bounding
- 2+: Normal/strong
- 1+: Weak, diminished, thready
- 0: Absent/nonpalpable

If a pulse is absent, a Doppler ultrasound device is typically used to verify perfusion of the limbs. The Doppler is a handheld device that allows the examiner to hear the whooshing sound of the pulse. This device is also commonly used when assessing peripheral pulses in the lower extremities, such as the dorsalis pedis pulse or the posterior tibial pulse. See the following video demonstrating the use of a Doppler device.

View a YouTube Video of Using a Doppler Ultrasound Device to Assess a Pulse[25]

Pulse Equality

Pulse equality refers to a comparison of the pulse forces on both sides of the body. For example, a nurse often palpates the radial pulse on a patient's right and left wrists at the same time and compares if the pulse forces are equal. However, the carotid pulses should never be palpated at the same time because this can decrease blood flow to the brain. Pulse equality provides data about medical conditions such as peripheral vascular disease and arterial obstruction.[26]

25. Ryerson University. (2018, March 21). *Doppler device - How to* [Video]. YouTube. All rights reserved. https://youtu.be/cn3aA0G1mgc
26. Vital Sign Measurement Across the Lifespan by Ryerson University is licensed under CC BY-SA 4.0

Radial Pulse

Use the pads of your first three fingers to gently palpate the radial pulse. The pads of the fingers are placed along the radius bone on the lateral side of the wrist (i.e., the thumb side). Fingertips are placed close to the flexor aspect of the wrist (i.e., where the wrist meets the hand and bends). See Figure 1.16[27] for correct placement of fingers in obtaining a radial pulse. Press down with your fingers until you can feel the pulsation, but not so forcefully that you are obliterating the wave of the force passing through the artery. Note that radial pulses are difficult to palpate on newborns and children under the age of five, so the brachial or apical pulses are typically obtained in these populations.[28]

27. "Radial-pulse-correct.jpg" by British Columbia Institute of Technology is licensed under CC BY 4.0. Access for free at https://med.libretexts.org/Bookshelves/Nursing/Book%3A_Vital_Sign_Measurement_Across_the_Lifespan_(Lapum_et_al.)/03%3A_Pulse_and_Respiration/3.18%3A_Radial_Pulse
28. Vital Sign Measurement Across the Lifespan by Ryerson University is licensed under CC BY-SA 4.0

Figure 1.16 Radial Pulse

Carotid Pulse

The carotid pulse is typically palpated during medical emergencies because it is the last pulse to disappear when the heart is not pumping an adequate amount of blood.[29]

TECHNIQUE

Locate the carotid artery medial to the sternomastoid muscle, between the muscle and the trachea, in the middle third of the neck. In order to palpate the carotid, place the index and middle fingers on the patient's neck to the side of individual's trachea. With the pads of your three fingers, gently palpate one carotid artery at a time so as not to

29. Vital Sign Measurement Across the Lifespan by Ryerson University is licensed under CC BY-SA 4.0

compromise blood flow to the brain. See Figure 1.17[30] for correct placement of fingers in a seated patient.[31]

Figure 1.17 Carotid Pulse

Brachial Pulse

A brachial pulse is typically assessed in infants and children because it can be difficult to feel the radial pulse in these populations. If needed, a Doppler ultrasound device can be used to obtain the pulse.

30. "Carotid-pulse-768x511.jpg" by British Columbia Institute of Technology is licensed under CC BY 4.0. Access for free at https://med.libretexts.org/Bookshelves/Nursing/Book%3A_Vital_Sign_Measurement_Across_the_Lifespan_(Lapum_et_al.)/03%3A_Pulse_and_Respiration/3.19%3A_Carotid_Pulse
31. Vital Sign Measurement Across the Lifespan by Ryerson University is licensed under CC BY-SA 4.0

TECHNIQUE

The brachial pulse is located by feeling the bicep tendon in the area of the antecubital fossa. Move the pads of your three fingers medially from the tendon about 1 inch (2 cm) just above the antecubital fossa. It can be helpful to hyperextend the patient's arm to accentuate the brachial pulse so that you can better feel it. You may need to move your fingers around slightly to locate the best place to accurately feel the pulse. You typically need to press fairly firmly to palpate the brachial pulse.[32] See Figure 1.18[33] for correct placement of fingers along the brachial artery.

Figure 1.18 Brachial Pulse

32. Vital Sign Measurement Across the Lifespan by Ryerson University is licensed under CC BY-SA 4.0
33. "Brachial-pulse.jpg" by British Columbia Institute of Technology is licensed under CC BY 4.0. Access for free at https://med.libretexts.org/Bookshelves/Nursing/Book%3A_Vital_Sign_Measurement_Across_the_Lifespan_(Lapum_et_al.)/03%3A_Pulse_and_Respiration/3.20%3A_Brachial_Pulse

Apical Pulse

The apical pulse rate is considered the most accurate pulse and is indicated when obtaining assessments prior to administering cardiac medications. It is obtained by listening with a stethoscope over a specific position on the patient's chest wall. Read more about listening to the apical pulse and other heart sounds in the "Cardiovascular Assessment" section.

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://wtcs.pressbooks.pub/nursingskills/?p=859#h5p-113

Respiratory Rate

Respiration refers to a person's breathing and the movement of air into and out of the lungs. Inspiration refers to the process causing air to enter the lungs, and expiration refers to the process causing air to leave the lungs. A respiratory cycle (i.e., one breath while measuring respiratory rate) is one sequence of inspiration and expiration.[34]

When obtaining a respiratory rate, the respirations are also assessed for quality, rhythm, and rate. The quality of a person's breathing is normally relaxed and silent. However, loud breathing, nasal flaring, or the use of accessory muscles in the neck, chest, or intercostal spaces indicate respiratory distress. People experiencing respiratory distress also often move into a tripod position, meaning they are leaning forward and placing

34. Vital Sign Measurement Across the Lifespan by Ryerson University is licensed under CC BY-SA 4.0

their arms or elbows on their knees or on a bedside table. If a patient is demonstrating new signs of respiratory distress as you are obtaining their vital signs, it is vital to immediately notify the health care provider or follow agency protocol.

Respirations normally have a regular rhythm in children and adults who are awake. A regular rhythm means that the frequency of the respiration follows an even tempo with equal intervals between each respiration. However, newborns and infants commonly exhibit an irregular respiratory rhythm.

Normal respiratory rates vary based on age. The normal resting respiratory rate for adults is 10–20 breaths per minute, whereas infants younger than one year old normally have a respiratory rate of 30–60 breaths per minute. See Table 1.3c for ranges of normal respiratory rates by age. It is also important to consider factors such as sleep cycle, presence of pain, and crying when assessing a patient's respiratory rate.[35]

Read more about assessing a patient's respiratory status in the "Respiratory Assessment" section.

Table 1.3c Normal Respiratory Rate by Age[36]

Age	Normal Range
Newborn to one month	30 – 60
One month to one year	26 – 60
1-10 years of age	14 – 50
11-18 years of age	12 – 22
Adult (ages 18 and older)	10 – 20

35. Vital Sign Measurement Across the Lifespan by Ryerson University is licensed under CC BY-SA 4.0
36. Vital Sign Measurement Across the Lifespan by Ryerson University is licensed under CC BY-SA 4.0

Oxygen Saturation

A patient's oxygenation status is routinely assessed using pulse oximetry, referred to as SpO2. SpO2 is an estimated oxygenation level based on the saturation of hemoglobin measured by a pulse oximeter. Because the majority of oxygen carried in the blood is attached to hemoglobin within the red blood cells, SpO2 estimates how much hemoglobin is "saturated" with oxygen. The target range of SpO2 for an adult is 94-100%. For patients with chronic respiratory conditions, such as chronic obstructive pulmonary disease (COPD), the target range for SpO2 is often lower at 88% to 92%. Although SpO2 is an efficient, noninvasive method to assess a patient's oxygenation status, it is an estimate and not always accurate. For example, if a patient is severely anemic and has a decreased level of hemoglobin in the blood, the SpO2 reading is affected. Decreased peripheral circulation can also cause a misleading low SpO2 level.

A pulse oximeter includes a sensor that measures light absorption of hemoglobin. See Figure 1.19[37] for an image of a pulse oximeter. The sensor can be attached to the patient using a variety of devices. For intermittent measurement of oxygen saturation, a spring-loaded clip is attached to a patient's finger or toe. However, this clip is too large for use on newborns and young children; therefore, for this population, the sensor is typically taped to a finger or toe. An earlobe clip is another alternative for patients who cannot tolerate the finger or toe clip or have a condition, such as vasoconstriction or poor peripheral perfusion, that could affect the results.

37. "02-Sat-Apparatus-1-1-1024x682.jpg" by British Columbia Institute of Technology is licensed under CC BY 4.0. Access for free at https://med.libretexts.org/Bookshelves/Nursing/Book%3A_Vital_Sign_Measurement_Across_the_Lifespan_(Lapum_et_al.)/04%3A_Oxygen_Saturation/4.09%3A_How_is_Oxygen_Saturation_Measured%3F

Figure 1.19 Pulse Oximeter

Read more about pulse oximetry in the "Oxygen Therapy" chapter.

TECHNIQUE

Nail polish or artificial nails can affect the absorption of light waves from the pulse oximeter and decrease the accuracy of the SpO2 measurement when using a probe clipped on the finger. An alternative sensor that does not use the finger should be used for these patients or the nail polish should be removed. If a patient's hands or feet are cold, it is helpful to clip the sensor to the earlobe or tape it to the forehead.

Blood Pressure

Read information about how to accurately obtain blood pressure measurement in the "Blood Pressure" chapter.

Interpreting Results

After obtaining a patient's vital signs, it is important to immediately analyze the results, recognize deviations from expected normal ranges, and report deviations appropriately. As a nursing student, it is vital to immediately notify your instructor and/or collaborating nurse caring for the patient of any vital sign measurement out of normal range.

1.4 Basic Concepts

When performing a general survey assessment, nurses use all of their senses to carefully observe the patient. They look at a patient and ask themselves, what are they seeing? They listen to a patient and ask themselves, what are they hearing, both verbally and nonverbally? They smell a patient's odors and ask themselves, is there anything unusual we need to further assess? They observe a patient's behaviors and make notes about their functioning and ability to complete daily activities according to their developmental level.

Before performing a general survey assessment, it is important to first ensure the patient is medically stable by completing a brief primary survey. After ensuring the patient is medically stable, a general survey assessment is an overall observation of a patient's general appearance, behavior, mobility, communication, nutritional, and fluid status. A general survey assessment also includes analyzing height, weight, and vital signs for values that are out of range and require additional follow-up.

Primary Survey

At the beginning of every shift or patient visit, nurses perform a brief **primary survey** to ensure their patient is medically stable. If any signs indicate patient distress, the provider is notified and emergency care is initiated. For example, changes in level of consciousness or abnormal vital signs often provide early warning signs that a patient's condition is deteriorating and prompt medical treatment is needed.[1] Mental status, airway, breathing, and circulation are also quickly assessed and emergency actions taken as needed.[2]

In a clinic setting, the patient is observed from the time they are called

1. This work is a derivative of StatPearls by Toney-Butler and Unison-Pace licensed under CC BY 4.0
2. Chemical Hazards Emergency Medical Management. (2020, April 17). *Primary and secondary survey.* National Institutes of Health. https://chemm.nlm.nih.gov/appendix8.htm

from the waiting room. Nurses observe a patient's gait and balance as they walk to the exam room and assess their verbal and nonverbal communication while interacting. If signs of distress are occurring, the nurse follows agency policy and either immediately calls a provider into the room or initiates emergency assistance.

Mental Status

When assessing a patient's overall mental status, it is important to compare findings to their known baseline if this information is known or available. Initially determine if a patient is responsive or unresponsive. Can you awaken them and are they responding to your questions? Are they oriented to person, place, and time, meaning can they tell you their name, location, and the day of the week? If you are concerned about a sudden change in a patient's mental status, obtain emergency assistance according to agency policy.

Airway and Breathing

Determine if the patient's airway is open and if they are breathing adequately. Institute emergency care for respiratory distress as needed. See Figure 1.20[3] for an illustration of checking a patient's airway, breathing, and circulation (ABCs).

3. "Checking respiratory.png" by User:Rama licensed under CC BY-SA 3.0 FR

Figure 1.20 Checking a Patient's ABCs

Circulation

If a patient is not responsive, try to awaken them using a sternal rub. A sternal rub is performed by firmly rubbing one's knuckles on a patient's sternum to try to elicit a response. If they do not respond, check the carotid pulse and obtain emergency assistance as needed. Briefly observe the color and moisture of their skin. Abnormal findings such as cool,

moist, pale, or bluish skin can indicate signs of shock that require emergency care.

General Appearance

After ensuring your patient is medically stable by completing a primary survey, a general survey consists of using your senses to observe a patient's general appearance, behavior, mobility, and communication. Items to consider when assessing general appearance include the following:

- **Signs of pain or distress:** Patients may exhibit signs of pain or distress that should be reported to the provider such as grimacing, moaning, or increased anxiety. Set the priorities for your focused assessments based on any signs of distress demonstrated by your patient.
- **Age:** Observe if the patient appears their stated age. Chronic disease can cause a patient to appear older than their age. Factors can occur with older adults that may influence how well the patient can participate in the assessment, such as hearing, vision, or mobility impairments.
- **Body type:** No patient is exactly the same; some patients are in good physical shape and others are not. Body type can reflect nutritional status and lifestyle choices.
- **Hygiene, grooming, and dress:** Observe the overall cleanliness of the patient's hair, face, and nails and note any odors. Odors can indicate poor hygiene or various disease states. Validate odors by performing additional focused assessments as needed. Note the appearance of the patient's clothing; is it clean and appropriate for the season? If not, findings can reflect on a patient's cognitive abilities, emotional state, and ability to complete daily activities.

Behavior

While observing the patient, note their behaviors during your interaction. Consider the following items:

- **Affect and mood:** People express their mood through facial expressions, eye contact, what they do, and what they say. Eye contact is commonly used to judge a person's mood because people who are feeling down or depressed commonly avoid eye contact. However, be aware that cultural beliefs may also affect the use of eye contact. **Affect** refers to the outward display of one's emotional state. For example, a patient with a "flat affect" refers to very few facial expressions being displayed to indicate emotion, which is often associated with depression. If the patient's mood or behavior seems inappropriate for their current situation, make a note of that as well. For example, a patient in a usually elated mood in a situation when most people would be seriously concerned can be a symptom of mental illness.
- **Family dynamics:** If other family members are accompanying the patient, note the characteristics of their interactions. **Family dynamics** are the patterns of interactions between family members that influence family structure, hierarchy, roles, values, and behaviors. Family dynamics have a strong impact on the way children see themselves, others, and their world. They can also impact the lifestyles of older adults who rely on their children for assistance in activities of daily living and health care.
- **Signs of patient abuse:** Abuse occurs in many different forms such as physical, emotional, mental, verbal, sexual, economic, or financial. Most states mandate nurses and other health care professionals to report suspected child and elder abuse to the proper authorities. Observe if your patient seems fearful, excessively quiet, or has physical signs of abuse, such as bruising or burn marks. If you suspect abuse, attempt to interview the patient alone. Promptly report your concerns according to agency policy and state mandates.

- **Substance use disorder:** Approach your patient in a caring and nonjudgmental way but be aware that unusual signs or behaviors can be indicators of substance use disorder. For example, if a patient's pupils are unusually dilated or constricted, this can be a sign of substance use disorder. Contact the provider with concerns about substance use disorder.

See Figure 1.21[4] of an image of a man with poor hygiene and nonverbal behavior requiring further assessment, such as disease management, medication management, and ability to complete activities of daily living.

Figure 1.21 Man Requiring Additional Assessment Based on Appearance and Behavior

4. "Homeless man in Los Angeles(7618018076).jpg" by Alex Proimos licensed under CC BY 2.0

Mobility

Observe your patient's body movements, noting posture, gait, and range of motion.

- **Posture:** Patients with normal sitting and standing posture are upright and have a parallel alignment from the shoulders to the hips. Note if the patient is hunched, slumped, contracted, or rigid. See Figure 1.22[5] for an image of a patient with a type of slumped posture called kyphosis.

Figure 1.22 Patient with Slumped Posture

5. "Posturalkyphosis" by Lab Science Career is licensed under CC BY-NC-SA 2.0

- **Gait and balance:** Observe how the patient walks or stands. Are the movements organized, coordinated, or uncoordinated? Are they able to maintain balance while standing without leaning on or touching anything? Healthy people walk with a smooth gait and arms moving freely at their sides and are able to stand unassisted. A change in gait or balance often signifies underlying health conditions and increases the risk of falling. See Figure 1.23[6] of a patient learning how to use an assistive device for an altered gait.

6. "US_Navy_071015-N-5086M-202_Retired_Marine_Corps_Cpl._Timothy_Jeffers_walks_on_his_prosthetic_legs_while_using_the_hands-free_harness_walking_gait_training_device_during_a_therapy_session_in_the_new_Comprehensive_Combat_and_Com.jpg" by U.S. Navy photo by Mass Communication Specialist 2nd Class Greg Mitchell is in the Public Domain.

Figure 1.23 Altered Gait with Assistive Device

- **Range of motion and mobility:** Observe the patient moving their extremities. Do extremities on the right and left sides move equally? Note any tremors or movements that are not purposeful. Are the

patient's abilities appropriate for their age? Is the patient moving normally or do they have specific limitations? Does the patient use any assistive devices such as a cane or walker? Mobility is an important component in being able to care for oneself independently, so note any potential concerns for adults that may impact their ability to complete activities of daily living.

Communication

- **Speech:** Observe how your patient is speaking during your interaction. Are they speaking in an understandable tone and even pace, or is it garbled or difficult to understand? Neurological disorders can cause speech to be slow, slurred, and hard to understand. Is there an emotional component to their words? Is there a language barrier requiring an interpreter?
- **Response to commands:** Does the patient follow instructions you are providing during your assessment, or do they have difficulty in understanding or cooperating?

Nutritional Status

Visually observing the patient's overall nutritional status can provide cues for additional focused assessments related to appetite, diet, food intake, or exercise. Many factors can influence a patient's nutritional status such as financial or transportation issues, swallowing difficulties, missing teeth, or poorly fitting dentures.

Fluid Status

Observe overall fluid status. Dehydration can be indicated by dry skin, dry mucous membranes, or sunken eyes. Conversely, patients with excess fluid often have swelling or edema in their extremities and may exhibit signs of difficulty breathing.

Height, Weight, and BMI

Height and weight can be used as a guide to reflect the patient's general health. Weight is routinely assessed during all health care visits. Infants and children are measured to assess their growth and development. Hospitalized patients often have daily weights assessed to monitor for changes in their medical condition. Document findings based on agency policy. For example, in some agencies, height is documented in centimeters and weight is documented in kilograms. Recall that one inch is equivalent to 2.5 centimeters and 1 kilogram is equivalent to 2.2 pounds.

Body Mass Index (BMI) is a standardized reference range that is used to analyze a patient's weight status and provides a representation of body fat. However, it is important to note that BMI may not be accurate for athletes with increased muscle mass, people with edema or dehydration, or older adults who have lost a significant amount of muscle mass. See a BMI table in Figure 1.24.[7] To use the BMI table, find the height in inches in the left column, move across the row to closest weight, and then read the BMI where the column and row intersect. For example, a person who is 5' 9" tall is 69 inches. If the patient weighs 155 pounds, the BMI is 23. BMI indicating a healthy weight is between 18.5 to 24.9.

BMI can also be calculated using the formula of BMI:

- BMI = weight (kg)/ height (m) ^{2}
- BMI = weight (lb.)/height (in)^2 x 703

The following classifications are used based on a person's BMI:

Underweight: Below 18.5 kg/m2

Healthy weight: 18.6 to 24.9 kg/m2

7. This work is a derivative of U.S. National Institutes of Health's National Heart, Lung, and Blood Institute (NHLBI) https://www.wikidoc.org/index.php/File:BMIReferenceChart.jpg licensed under CC BY-SA 3.0

Overweight: 25 to 29.9 kg/m2

Obesity: Over 30 kg/m2 to 34.9 kg/m2

Extreme obesity: Over 35 kg/m2

BODY MASS INDEX (BMI)

BMI	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Height (inches)	Body Weight (pounds)																
58	91	96	100	105	110	115	119	124	129	134	138	143	148	153	158	162	167
59	94	99	104	109	114	119	124	128	133	138	143	148	153	158	163	168	173
60	97	102	107	112	118	123	128	133	138	143	148	153	158	163	168	174	179
61	100	106	111	116	122	127	132	137	143	148	153	158	164	169	174	180	185
62	104	109	115	120	126	131	136	142	147	153	158	164	169	175	180	186	191
63	107	113	118	124	130	135	141	146	152	158	163	169	175	180	186	191	197
64	110	116	122	128	134	140	145	151	157	163	169	174	180	186	192	197	204
65	114	120	126	132	138	144	150	156	162	168	174	180	186	192	198	204	210
66	118	124	130	136	142	148	155	161	167	173	179	186	192	198	204	210	216
67	121	127	134	140	146	153	159	166	172	178	185	191	198	204	211	217	223
68	125	131	138	144	151	158	164	171	177	184	190	197	203	210	216	223	230
69	128	135	142	149	155	162	169	176	182	189	196	203	209	216	223	230	236
70	132	139	146	153	160	167	174	181	188	195	202	209	216	222	229	236	243
71	136	143	150	157	165	172	179	186	193	200	208	215	222	229	236	243	250
72	140	147	154	162	169	177	184	191	199	206	213	221	228	235	242	250	258
73	144	151	159	166	174	182	189	197	204	212	219	227	235	242	250	257	265
74	148	155	163	171	179	186	194	202	210	218	225	233	241	249	256	264	272
75	152	160	168	176	184	192	200	208	216	224	232	240	248	256	264	272	279
76	156	164	172	180	189	197	205	213	221	230	238	246	254	263	271	279	287

Source: Chart derived from the U.S. National Institute of Health's National Heart, Lung, and Blood Institute (NHLBI)

Figure 1.24 Body Mass Index

Establish a trusting, nonjudgmental relationship with your patient. Use a calm voice and do not appear rushed. Provide them with your undivided attention and use all of your senses when interacting to pick up on important cues related to their current health status.

Life Span Considerations During a General Survey Assessment

CHILDREN

When performing a general survey on a child, be aware of their developmental stages to establish expectations for normal findings. Use a calm and gentle tone to establish trust. Demonstrations on dolls or stuffed animals before performing procedures are often helpful. Be aware that the parents of toddlers and school-aged children will likely provide most of the information during an assessment.

ADOLESCENTS

Adolescents may refrain from sharing important information related to their care in front of their parents, especially regarding high-risk behaviors such as smoking, alcohol or drug use, sexual activity, or suicidal thoughts. It is often helpful to allow time to interview the adolescent privately, in addition to gathering information when the parent is present.

OLDER ADULTS

Recognize normal changes associated with aging when performing a general survey. If your patient wears glasses or hearing aids, be sure they are in place before asking questions. You may need to allow for extra time for your assessment, depending on the abilities of your patient. If an older adult is unable to communicate effectively, nurses may also consult a variety of sources such as family members and electronic medical records for more information.

Cultural Adaptations During a General Survey Assessment

Adapt your communication during a general survey assessment to your patient's cultural beliefs and values. For example, some individuals believe that direct eye contact with authorities is considered disrespectful and avoid eye contact. Other individuals may nod to indicate they are listening, but this does not mean they are in agreement with what you are saying. Some patients prefer that a same sex individual perform care.

> For additional details about caring for diverse patients, see the "Diverse Patients" chapter in the Open RN *Nursing Fundamentals* textbook.

1.5 Expected Versus Unexpected Findings

Table 1.5 compares expected and unexpected findings when performing a general survey assessment. These findings are included in documentation regarding the general survey assessment.

Table 1.5 Expected Versus Unexpected Findings on General Survey Assessment

Assessment	Expected Findings	Unexpected Findings (notify provider if a new finding*)
Signs of distress	No signs of distress	Unresponsive, difficulty breathing, confused, moaning, or grimacing
Mood and appearance	Calm and cooperative Responds appropriately to questions Appears stated age	Mood is depressed, anxious, or agitated Signs of suspected substance use disorder are present, such as the scent of alcohol
Orientation	Alert and oriented to person, place, and time	Unable to provide name, location, or day
Hygiene	Well groomed. Clothing is appropriate for weather	Unkempt appearance or inappropriate clothing according to the weather
Family dynamics	Family members demonstrate mutual respect, trust, and caring	Family members communicate in an unfriendly, disrespectful, or hostile manner Signs of suspected abuse are present
Speech and communication	Speech is clear and understandable; patient follows instructions appropriately	Speech is garbled or difficult to understand; unable to respond appropriately to questions or follow commands
Range of motion	Moves all extremities equally bilaterally with good posture	New facial drooping or altered/unequal movement of extremities
Mobility	Gait is smooth and even and can maintain balance without assistance. If present, assistive devices are used appropriately and this is documented	Gait is shuffling, staggering, or limping. Balance is impaired; assistive devices like a cane or walker are not used appropriately

Nutrition	BMI within normal range	BMI out of range. Unexplained weight loss or gain has occurred
Fluid status	Moist mucous membranes	Dry skin and dry mucous membranes; sunken eyes in adults; sunken fontanel in infants
CRITICAL CONDITIONS to report immediately:		Newly unresponsive or altered mental status; difficulty breathing; vital signs out of range; skin is cool, clammy, or cyanotic

Sample Documentation of Expected Findings

Mrs. Smith is a 65-year-old patient who appears her stated age. Calm, cooperative, alert, and oriented x 3. Well-groomed with clean clothing and appropriate for weather. Speech is clear, understandable, and follows instructions appropriately. Moves all extremities equally bilaterally with good posture. Gait is smooth and maintains balance without assistance. Skin warm and mucous membranes moist. 5'4" and weighs 143 pounds with BMI of 24 in normal weight category. Vital signs: BP 120/70, pulse 74 and regular, respiratory rate 14, temperature 36.8 Celsius, SpO2 98% on room air.

Sample Documentation of Unexpected Findings

Mrs. Smith is a 65-year-old patient with older appearance than stated age. Slightly agitated during the interview. Oriented to person only and denies pain. Wearing a heavy winter coat on a warm summer day and unclean body odor. Slow to respond to questions and does not follow commands. Neglect noted of right arm. Gait shuffling with stooped posture with no assistive device. 5'4" and weighs 102 pounds with BMI of 17.5 in the underweight category. Vital signs: BP 186/55, pulse 102 and irregular, respiratory rate 22, temperature 38.1 Celsius, and SpO2 88% on room air.

1.7 Checklist for General Survey

Use this checklist to perform a “General Survey.” Checklists for hand washing, using hand sanitizer, and obtaining vital signs are included in Appendix A.

Steps

Disclaimer: Always review and follow agency policy regarding this specific skill.

1. Knock, enter the room, greet the patient, and provide for privacy.
2. Introduce yourself, your role, the purpose of your visit, and an estimate of the time it will take.
3. Perform hand hygiene.
4. Ask the patient their legal name and date of birth to establish two unique identifiers. Verify the information provided in their chart or wristband, if present. Use one of the following for the second verification:

    - Scan wristband
    - Compare name/DOB to MAR
    - Ask staff to verify patient (in settings where wristbands are not worn)
    - Compare picture on MAR to patient

5. Address patient needs (pain, toileting, glasses/hearing aids) prior to starting assessment. Note if the patient has signs of distress such as difficulty breathing or chest pain. If signs are present, defer general survey and obtain emergency assistance per agency policy.
6. Explain the procedure to the patient; ask if they have any questions. Obtain an interpreter as needed if English is not the patient’s primary language.
7. Pause and explain to the instructor what you would purposefully

observe and assess during a general survey assessment.

8. Upon completion of the survey, thank the patient and ask if anything is needed.
9. Ensure safety measures when leaving the room:

    - CALL LIGHT: Within reach
    - BED: Low and locked (in lowest position and brakes on)
    - SIDE RAILS: Secured
    - TABLE: Within reach
    - ROOM: Risk-free for falls (scan room and clear any obstacles)

10. Perform hand hygiene and clean stethoscope.
11. Follow agency policy for reporting findings outside of normal range.
12. Document the assessment.

Learning Activities

(Answers to "Learning Activities" can be found in the "Answer Key" at the end of the book. Answers to interactive activity elements will be provided within the element as immediate feedback.)

Maria is working on a medical surgical unit and receives a direct admission from the internal medicine clinic. She arrives at the patient's room to complete the initial admission assessment. All of the following conditions are found. **Of these conditions, which of the following should be reported immediately to the health care provider.**

a. Patient ambulates with assistance of wheeled walker.
b. Patient's BMI is outside of the normal range.
c. Patient appears unkempt and has strong body odor.
d. Patient is experiencing increased difficulty breathing.

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://wtcs.pressbooks.pub/nursingskills/?p=876#h5p-116

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://wtcs.pressbooks.pub/nursingskills/?p=876#h5p-22

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://wtcs.pressbooks.pub/nursingskills/?p=876#h5p-23

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://wtcs.pressbooks.pub/nursingskills/?p=876#h5p-142

Test your clinical judgment with an NCLEX Next Generation-style question: Chapter 1, Assignment 1.

- Test your clinical judgment with an NCLEX Next Generation-style question: Chapter 1, Assignment 2.

- Test your clinical judgment with an NCLEX Next Generation-style question: Chapter 1, Assignment 3.

- Test your clinical judgment with an NCLEX Next Generation-style question: Chapter 1, Assignment 4.

- Test your clinical judgment with an NCLEX Next Generation-style question: Chapter 1, Assignment 5.

- Test your clinical judgment with an NCLEX Next Generation-style question: Chapter 1, Assignment 6.

NEXT GEN RN

- Test your clinical judgment with an NCLEX Next Generation-style question: Chapter 1, Assignment 7.

I Glossary

Affect: Outward display of one's emotional state. A "flat" affect with little display of emotion is associated with depression.

AIDET: Mnemonic for introducing oneself in health care that includes Acknowledge, Introduce, Duration, Explanation, and Thank You.[1]

Auscultation: Listening to sounds, such as heart, lung, and bowel sounds, created by organs using a stethoscope.

BMI: A standardized reference range to gauge a patient's weight status.

Cultural safety: The creation of safe spaces for patients to interact with health professionals without judgment, racial reductionism, racialization, or discrimination.

Developmental stages: A person's life span can be classified into nine categories of development, including Prenatal Development, Infancy and Toddlerhood, Early Childhood, Middle Childhood, Adolescence, Early Adulthood, Middle Adulthood, Late Adulthood, and Death and Dying.

Family dynamics: Patterns of interactions between family members that influence family structure, hierarchy, roles, values, and behaviors.

General survey assessment: A component of a patient assessment that observes the entire patient as a whole. Observation includes using all five senses to gather cues that provide a guideline for additional focused assessments in areas of concern.

Inspection: The observation of a patient's anatomical structures.

Medical asepsis: Measures to prevent the spread of infection in health care agencies.

1. Huron. (n.d.). *AIDET patient communication*. https://www.studergroup.com/aidet

Objective data: Information observed through your sense of hearing, sight, smell, and touch while assessing the patient.

Older adults: People over the age of 65.

Percussion: An advanced physical examination technique where body parts are tapped with fingers to determine their size and if fluid is present.

Personal Protective Equipment (PPE): Includes gloves, gowns, goggles, face shields, and masks, along with environmental controls, to prevent the transmission of infection for patients who are diagnosed or suspected of having an infectious disease.

Physical examination: A systematic data collection method of the body that uses the techniques of inspection, auscultation, palpation, and percussion.

Primary data: Information provided directly by the patient.

Primary survey: A brief observation at the start of a shift or visit to verify the patient is stable by assessing mental status, airway, breathing, and circulation.

Secondary data: Information collected from a family member, chart, or other sources.

Subjective data: Information obtained from the patient and/or family members that offers important cues from their perspectives.

PART II

CHAPTER 2 HEALTH HISTORY

2.1 Health History Introduction

Learning Objectives

- Establish a therapeutic nurse-patient relationship
- Use effective verbal and nonverbal communication techniques
- Collect health history data
- Modify assessment techniques to reflect variations across the life span and cultural variations
- Document actions and observations
- Recognize and report significant deviations from norms

"'Sickness' is what is happening to the patient. Listen to them."[1]

The profession of **nursing** is defined by the American Nurses Association as "the art and science of caring and focuses on the protection, promotion, and optimization of health and human functioning; prevention of illness and injury; facilitation of healing; and alleviation of suffering through compassionate presence. Nursing is the diagnosis and treatment of human responses and advocacy in the care of individuals, families, groups, communities, and populations in recognition of the connection of all humanity.[2] Simply put, nurses treat human responses to health problems and/or life processes. Nurses look at each person holistically, including emotional, spiritual, psychosocial, and physical health needs. They also

1. Weed, L. L. (1975). *Your health care and how to manage it*. University of Vermont.
2. American Nurses Association. (2021). *Nursing: Scope and standards of practice* (4th ed.). American Nurses Association.

consider problems and issues that the person experiences as a part of a family and a community. To collect detailed information about a patient's human response to illness and life processes, nurses perform a health history. A **health history** is part of the Assessment phase of the nursing process. It consists of using directed, focused interview questions and open-ended questions to obtain symptoms and perceptions from the patient about their illnesses, functioning, and life processes. While obtaining a health history, the nurse is also simultaneously performing a general survey. Visit the "General Survey Assessment" chapter for more information.

2.2 Health History Basic Concepts

During a health history, the nurse collects subjective data from the patient, their caregivers, and/or family members using focused and open-ended questions. Before discussing the components of a health history, let's review some important concepts related to assessment and communicating effectively with patients.

Subjective Versus Objective Data

Obtaining a patient's health history is a component of the Assessment phase of the nursing process. Information obtained while performing a health history is called subjective data. **Subjective data** is information obtained from the patient and/or family members and can provide important cues about functioning and unmet needs requiring assistance. Subjective data is considered a **symptom** because it is something the patient reports. When documenting subjective data in a progress note, it should be included in quotation marks and start with verbiage such as, "The patient reports..." or "The patient's wife states..." An example of subjective data is when the patient reports, "I feel dizzy."

A patient is considered the **primary source** of subjective data. **Secondary sources** of data include information from the patient's chart, family members, or other health care team members. Patients are often accompanied by their care partners. **Care partners** are family and friends who are involved in helping to care for the patient. For example, parents are care partners for children; spouses are often care partners for each other, and adult children are often care partners for their aging parents. When obtaining a health history, care partners may contribute important information related to the health and needs of the patient. If data is gathered from someone other than the patient, the nurse should document where the information is obtained.

Objective data is information observed through your senses of hearing, sight, smell, and touch while assessing the patient. Objective data is

obtained during the physical examination component of the assessment process. Examples of objective data are vital signs, physical examination findings, and laboratory results. An example of objective data is recording a blood pressure reading of 140/86. Subjective data and objective data are often recorded together during an assessment. For example, the symptom the patient reports, "I feel itchy all over," is documented in association with the **sign** of an observed raised red rash located on the upper back and chest.

Addressing Barriers and Adapting Communication

It is vital to establish rapport with a patient before asking questions about sensitive topics to obtain accurate data regarding the mental, emotional, and spiritual aspects of a patient's condition. When interviewing a patient, also consider the patient's developmental status and level of understanding. Ask one question at a time and allow adequate time for the patient to respond. If the patient does not provide an answer even with additional time, try rephrasing the question in a different way for improved understanding.

If any barriers to communication exist, adapt your communication to that patient's specific needs.

> For more information, visit the "Communication" chapter in Open RN *Nursing Fundamentals*.

Cultural Safety

It is important to conduct a health history in a culturally safe manner. **Cultural safety** refers to the creation of safe spaces for patients to interact with health professionals without judgment or discrimination. Focus on factors related to a person's cultural background that may influence their

health status. It is helpful to use an open-ended question to allow the patient to share what they believe to be important. For example, ask “I am interested in your cultural background as it relates to your health. Can you share with me what is important to know about your cultural background as part of your health care?”

If a patient’s primary language is not English, it is important to obtain a medical translator, as needed, prior to initiating the health history. The patient’s family member or care partner should not interpret for the patient. The patient may not want their care partner to be aware of their health problems or their care partner may not be familiar with correct medical terminology that can result in miscommunication.

2.3 Components of a Health History

The purpose of obtaining a health history is to gather subjective data from the patient and/or their care partners to collaboratively create a nursing care plan that will promote health and maximize functioning. A comprehensive health history is completed by a registered nurse and may not be delegated. It is typically done on admission to a health care agency or during the initial visit to a health care provider, and information is reviewed for accuracy and currency at subsequent admissions or visits.

A comprehensive health history investigates several areas:

- Demographic and biological data
- Reason for seeking health care
- Current and past medical history
- Family health history
- Functional health and activities of daily living
- Review of body systems

Each of these areas is further described in the following sections.

The "History and Physical" documentation in a patient's medical record is completed by a health care provider on admission to a health care agency. It is very similar to the health history obtained by a nurse and is helpful to read when caring for a patient for an overview of their treatment plan.

2.4 Demographic and Biological Data

Demographic and biographic data includes basic characteristics about the patient, such as their name, contact information, birthdate, age, gender and preferred pronouns, allergies, languages spoken and preferred language, relationship status, occupation, and resuscitation status.[1] See Table 2.4a for sample focused questions used to gather demographic and biological data.

Table 2.4a Demographic and Biological Data

1. This work is a derivative of The Complete Subjective Health Assessment by Lapum, St-Amant, Hughes, Petrie, Morrell, and Mistry licensed under CC BY-SA 4.0

Data	Focused Interview Questions
Name **Contact Information** **Emergency Contact Information**	What is your full name? What do you prefer to be called? What is your address? What is your phone number? Whom can we contact in an emergency? What is their relationship to you? At what number can we contact them?
Birthdate **Age**	What is your birthdate? What is your current age?
Gender	What is your biological gender? With what gender do you identify? What are your preferred pronouns (he/him/his, she/her/hers, them/they/theirs, etc.)?
Allergies	Do you have any allergies? How do you react to each allergen?
Preferred Language	What is your primary language that you prefer to speak? Note: If English is not their primary language, offer to obtain a medical interpreter as needed.
Relationship Status	Tell me about your relationship status. *Avoid questions that imply expected behaviors, such as: • Are you married? • Do you have a boyfriend? • Do you have wife?

Occupation and Education	What is your occupation? Where do you work or go to school? What is the highest level of education you have completed?
Resuscitation Status	Have you considered preferences for resuscitation if your heart stops or you stop breathing, also called CPR? Do you have any advance directives on file with a hospital or provider, such as a "Living Will" or "Power of Attorney for Health Care"? Would you like more information about advance directives?

See Table 2.4b for a sample demographic form used during a complete health history.

Table 2.4b Sample Demographic Form[2]

2. This work is a derivative of The Complete Subjective Health Assessment by Lapum, St-Amant, Hughes, Petrie, Morrell, and Mistry licensed under CC BY-SA 4.0

Demographic Information Form

Interview Date:

Patient Name:

Address:

Emergency Contact Name:

Relationship:

Date of Birth:

Age:

Sex: Male / Female / Another Option

Gender You Self-Identify With:

Preferred Pronouns:

Allergies:

Primary Language:

Interpreter needed: Yes / No

Relationship Status:

Occupation/Education:

Resuscitation Status:

Information from: Patient / Other

Patient Accompanied: Yes / No

Details:

2.5 Reason for Seeking Health Care

It is helpful to begin the health history by obtaining the reason why the patient is seeking health care in their own words. During a visit to a clinic or emergency department or on admission to a health care agency, the patient's reasons for seeking care are referred to as the **chief complaint**. After a patient has been admitted, the term **main health needs** is used to classify what the patient feels is most important at that time. Whichever term is used, it recognizes that patients are complex beings, with potentially multiple coexisting health needs, but there is often a pressing issue that requires most immediate care. This is not to suggest that other issues be ignored, but rather it allows health care team members to prioritize care and address more urgent needs first.[1] See Table 2.5a for suggested focused interview questions to use to investigate the reason a patient is seeking care based on the health care setting.

The nurse is always aware of critical assessment findings requiring immediate notification of a health care provider or the initiation of emergency care according to agency policy. For example, if a patient reports chest pain, difficulty breathing, sudden changes in vision or the ability to speak, sudden weakness or paralysis, uncontrolled bleeding, or thoughts of self-harm, the provider should immediately be notified with possible initiation of emergency care.

Table 2.5a Focused Questions for Reasons for Seeking Health Care by Setting[2]

1. This work is a derivative of The Complete Subjective Health Assessment by Lapum, St-Amant, Hughes, Petrie, Morrell, and Mistry licensed under CC BY-SA 4.0
2. This work is a derivative of The Complete Subjective Health Assessment by Lapum, St-Amant, Hughes, Petrie, Morrell, and Mistry licensed under CC BY-SA 4.0

Setting	Focused Assessment Questions	Sample Responses (Subjective Data)
Clinic Visit	Please tell me what brought you in today. Can you tell me how long this has been going on? How is this affecting you?	"I have a headache that will not go away." "I have had this headache since yesterday morning when I woke up." "I am not able to see clearly, and I feel sick to my stomach so I was not able to go to work."
Hospital Admission	Please tell me what brought you in today. Can you tell me how long this has been going on? Have you taken anything to improve the symptoms you are reporting?	"I am having chest pain and my arm hurts." "The chest pain started after I finished shoveling my driveway about an hour ago." "I took an aspirin like the commercials always say to do."
Inpatient Follow-Up	Tell me what your main concerns are today since your admission. Have you noticed any improvements since you were admitted? Do you have any symptoms currently?	"I am wondering how long I am going to be admitted. I need to get back to work." "I feel huge improvements. I do not feel at all like I did yesterday." "I do not have any chest pain and I do not have any arm pain anymore."

Chief Complaint

After identifying the reason the patient is seeking health care, additional focused questions are used to obtain detailed information about this

concern. The mnemonic **PQRSTU** is often used to ask the patient questions in an organized fashion. See Figure 2.1[3] for an image of PQRSTU.

Figure 2.1 PQRSTU Mnemonic

The PQRSTU mnemonic is often used to assess pain, but it can also be

3. This work is a derivative of The Complete Subjective Health Assessment by Lapum, St-Amant, Hughes, Petrie, Morrell, and Mistry licensed under CC BY-SA 4.0

used to assess many other symptoms. See Table 2.5b for suggested focus questions for pain and other symptoms using the PQRSTU mnemonic.[4]

Table 2.5b Sample PQRSTU Focused Questions for Pain and Other Symptoms

4. This work is a derivative of The Complete Subjective Health Assessment by Lapum, St-Amant, Hughes, Petrie, Morrell, and Mistry licensed under CC BY-SA 4.0

PQRSTU	Questions Related to Pain	Questions Related to Other Symptoms
Provocation/Palliation	What makes your pain worse? What makes your pain feel better?	What makes your breathing worse? What makes your nausea better?
Quality	What does the pain feel like? Note: You can provide suggestions for pain characteristics such as “aching,” “stabbing,” or “burning.”	What does the dizziness feel like? Do you feel light-headed, as if you’re going to faint or the room is spinning?
Region	Where exactly do you feel the pain? Does it move around or radiate elsewhere? Note: Instruct the patient to point to the pain location.	Where exactly do you feel the itching? Does it move around?
Severity	How would you rate your pain on a scale of 0 to 10, with “0” being no pain and “10” being the worst pain you’ve ever experienced?	How would you rate your shortness of breath on a scale of 0 to 10, with “0” being no problem and “10” being the worst breathing issues you’ve ever experienced?

Timing/Treatment	When did the pain start? What were you doing when the pain started? Is the pain constant or does it come and go? If the pain is intermittent, when does it occur? How long does the pain last? Have you taken anything to help relieve the pain?	When did your breathing issues begin? What were you doing when the itching first started? Is the nausea constant or does it come and go? If the nausea is intermittent, does anything trigger it? How long did the nausea last? Have you taken anything to relieve the itching?
Understanding	What do you think is causing the pain?	What do you think is causing the itching?

While interviewing a patient about their chief complaint, use open-ended questions to allow the patient to elaborate on information that further improves your understanding of their health concerns. If their answers do not seem to align, continue to ask focused questions to clarify information. For example, if a patient states that “the pain is tolerable” but also rates the pain as a “7” on a 0-10 pain scale, these answers do not align, and the nurse should continue to use follow-up questions using the PQRSTU framework. For example, upon further questioning the patient explains they rate the pain as a “7” in their knee when participating in physical therapy exercises, but currently feels the pain is tolerable while resting in bed. This additional information will help the nurse customize interventions for effective treatment.

2.6 Current and Past Medical History

After exploring a patient's chief complaint, their current and past medical histories are reviewed to obtain a full understanding of their "human response" to medical conditions and life processes. While obtaining this information, it is also helpful to determine their understanding of the condition and its associated treatment. If a patient has a prior medical diagnosis, but is unaware of what it means or does not understand the recommended treatment, they may not be following instructions intended. For example, a patient diagnosed with "high blood pressure" may erroneously think they only need to take their medications when they feel as if their blood pressure is high, instead of daily at the recommended doses.

Categories included in past medical history include current health, medications, childhood illnesses, chronic illnesses, acute illnesses, accidents, injuries, and obstetrical health for females. **Medication reconciliation** is a comparison of a list of current medications with a previous list and is completed at every hospitalization and clinic visit. Not all categories of current and past health histories apply to every patient, so only ask questions that are relevant to the patient you are interviewing. See Table 2.6[1] for suggested focused interview questions related to current and past medical history.

Table 2.6 Sample Focused Questions for Current and Past Health History

1. This work is a derivative of The Complete Subjective Health Assessment by Lapum, St-Amant, Hughes, Petrie, Morrell, and Mistry licensed under CC BY-SA 4.0

Category	Focused Questions
Current health	What are your current goals for your health? Are there any other issues affecting your current health or the ability to complete your daily activities? Tell me more.
Medications	What are your current medications, including prescriptions, over-the-counter medications, vitamins, and herbal supplements and why are you taking them (to establish the patient's understanding of their medications)? Do you take your medications as prescribed? Note: If the response is "no" or "sometimes," follow up with an open-ended question such as, "Tell me more about the reasons for not taking the medications as prescribed."
Allergies	Do you have any allergies to medications, food, latex, or other items? If yes, what is your reaction?
Childhood illnesses	Tell me about any significant childhood illnesses that you had. Do you recall what childhood vaccines you received? When did they occur? Were you hospitalized? Did you experience any complications?

Chronic illnesses	Tell me about any chronic illnesses you currently have or have experienced (such as cancer, cardiac or respiratory issues, diabetes, or arthritis). When were you diagnosed? Do you see a specialist for this chronic illness? If so, what is their name and location? How is this condition currently being treated? How has the chronic illness affected you? How do you cope with the illness? Have you experienced any complications or disability from this chronic illness?
Acute illnesses, surgeries, accidents, or injuries	Tell me about any acute illnesses or surgeries that you have experienced. Have you had any accidents or injuries? Did you experience any complications?
Reproductive health	For Females: When was your last menstrual period? Have you ever been pregnant? Are you pregnant now or is there any chance of being pregnant now? Tell me about your pregnancies. Were there any issues or complications?
Immunizations	If a patient's vaccination record is not included in their record: • Can you tell me what immunizations you have received and if you had any significant reactions? • When was your last flu vaccine?

2.7 Family Health History

Many diseases have a genetic component. It is important to understand the risk and likelihood of a patient developing illnesses based on their family health. Ask about the health status, age, and, if applicable, cause of death of immediate blood relatives (parents, grandparents, and siblings). Questions to ask include the following:

- Tell me about the health of your blood relatives. Does anyone have diseases like cancer, heart problems, or respiratory problems?
- Have any of your blood relatives died? If so, do you know the cause of death? What age did they die?

2.8 Functional Health and Activities of Daily Living

Functional health assessment collects data related to the patient's functioning and their physical and mental capacity to participate in **Activities of Daily Living (ADLs)** and Instrumental Activities of Daily Living (IADLs). Activities of Daily Living (ADLs) are daily basic tasks that are fundamental to everyday functioning (e.g., hygiene, elimination, dressing, eating, ambulating/moving). See Figure 2.2[1] for an illustration of ADLs.

Figure 2.2 Activities of Daily Living (ADLs)

Instrumental Activities of Daily Living (IADL) are more complex daily tasks that allow patients to function independently such as managing finances, paying bills, purchasing and preparing meals, managing one's household, taking medications, and facilitating transportation. See Figure

1. "ADL-1024x534.jpg" by unknown is licensed under CC BY-SA 4.0. Access for free at https://ecampusontario.pressbooks.pub/healthassessment/chapter/functional-health/

2.3[2] for an illustration of IADLs. Assessment of IADLs is particularly important to inquire about with young adults who have just moved into their first place, as well as with older patients with multiple medical conditions and/or disabilities.

Figure 2.3 Instrumental Activities of Daily Living (IADLs)

Information obtained when assessing functional health provides the nurse a holistic view of a patient's human response to illness and life conditions. It is helpful to use an assessment framework, such as Gordon's Functional Health Patterns,[3] to organize interview questions according to evidence-based patterns of human responses. Using this framework provides the patient and their family members an opportunity to identify health-related concerns to the nurse that may require further in-depth assessment. It also verifies patient understanding of conditions so that

2. "iADL-1024x494.jpg" by unknown is licensed under CC BY-SA 4.0. Access for free at https://ecampusontario.pressbooks.pub/healthassessment/chapter/functional-health/
3. Gordon, M. (2008). *Assess notes nursing: Nursing assessment and diagnostic reasoning for clinical practice.* F. A. Davis Company.