Practicing Clinical Reasoning Skills: Applying the Nursing Process

THIS CHAPTER AT A GLANCE . . .

LEARNING OUTCOMES

After completing this chapter, you should be able to:

1. Explain why each skill in this chapter is needed for clinical reasoning.
2. Use specific strategies designed to promote safe and effective use of the nursing process.
3. Analyze and improve your reasoning in various clinical situations (e.g., how you made a decision and what you might do differently the next time you're in a similar situation).
4. Develop a comprehensive, patient-centered plan of care.

KEY CONCEPTS

Systematic, comprehensive, validating, inferences, cues, signs and symptoms, inconsistencies, patterns, relevant, irrelevant, setting priorities, client-centered outcomes, self-regulating

CLINICAL REASONING SKILLS: DYNAMIC AND INTERRELATED

Reasoning in the clinical setting is challenging, complex, and regulated by standards, policies, procedures, and individual state practice acts (you must know what you're allowed to do and how you should do it). This chapter helps you practice interrelated, dynamic clinical reasoning skills using scenarios based on real experiences (the names and some facts have been changed).

Organized in logical progression according to how the skills might be used in the nursing process, each skill is presented in the following format: (1) name of the skill, (2) definition of the skill, (3) why the skill is needed for clinical reasoning, (4) how to accomplish the skill, and (5) Clinical Reasoning Exercises.

Keep in mind that these skills depend on—and facilitate—each other. For example, you may recognize inconsistencies (Skill 6.8) in how someone responds to your care. This should trigger you to wonder, "Did I identify assumptions (Skill 6.1)?"

WHY PRACTICE THESE SKILLS SEPARATELY?

Think about this analogy: Tennis players practice interrelated tennis skills (e.g., foot placement, serve, forehand, backhand) separately to analyze and improve their overall game. This section gives practice for interrelated intellectual skills to help you analyze and improve your overall clinical reasoning skills. To keep the length of this chapter manageable, the chapter focuses mainly on reasoning in the context of *problems.* However, remember that critical thinking and clinical reasoning also focus on improvement. For example, your asthmatic patient may be doing well with the current treatment plan, but you may consider whether an exercise program would improve his lung function even more.

HOW TO GET THE MOST OUT OF THIS CHAPTER

To get the most out of these exercises, don't try to do too much at once. Some of these exercises, as in real life, are time-consuming. Rather, take your time and get in touch with your thinking. If possible, get at least one other person to complete the exercises with you. You learn more by discussing the skills with others.

Your brain is a tricky thing—describing what goes on in someone's head to complete each skill is difficult. If you have trouble with an exercise, read on and come back to it later. Explanations and exercises in later sections may help you.

If you encounter diseases or drugs you don't know, look them up right away. This helps you build your own mental storehouse of problem-specific facts, because you apply the information to the exercise. You remember best the information that you use.

Before starting this chapter, be sure you have a good understanding of the following terms, which are listed in order of how to best learn them (you need to know the first term to understand the second term, and so on).

REQUIRED VOCABULARY

Diagnosis: (1) The process of working to identify which disease or health problem is indicated by the patient's signs, symptoms, and health data. (2) The opinion reached by this process (usually refers to naming the disease or health problem). In this section, the terms *diagnosis* and *problem identification* may be used interchangeably.

Definitive diagnosis: The most specific, most correct diagnosis. For example, someone is admitted with an initial diagnosis of respiratory distress. Then, after studies are completed, the definitive diagnosis is congestive heart failure. To identify the best treatment, you must determine the most specific diagnosis.

Causative factor: Something known to create or contribute to a problem. For example, dizziness is known to cause falls.

Risk factor: Something known to cause, or be associated with, a specific problem. For example, smoking is a risk factor for cancer; having a family history of breast cancer is a risk factor for breast cancer.

Related factor: Something known to be associated with a specific problem (often used interchangeably with *risk factor*).

Potential problem or diagnosis: A problem or diagnosis that may occur because certain risk factors are present. For example, someone who's on prolonged bed rest has a potential (or risk for) pressure ulcer.

Data: Pieces of information about health status. *Example:* Vital signs.

Objective data: Information that you can clearly *observe* or *measure*. *Example:* A pulse of 140 beats/min. To remember this term, remember:

O – O: **O**bjective data = **O**bservable data.

Subjective data: Information the patient *states* or *communicates*. These are the patient's perceptions. *Example:* "My heart feels like it's racing." To remember this term, remember this:

S – S: **S**ubjective data = **S**tated data (or communicated in writing or sign language).

Signs and symptoms: Abnormal data that prompt you to suspect a health problem. Signs are objective data. Symptoms are subjective data. For example, fever is a sign of infection; chest pain is a symptom of heart disease.

Cues: Data that trigger you to think about a certain aspect of someone's health. Often used interchangeably with signs and symptoms.

Defining characteristics: Signs and symptoms usually manifest with a diagnosis or problem.

Baseline data: Information collected before treatment begins.

Database assessment: Comprehensive data collection performed to gain complete information about all aspects of health status (e.g., respiratory status, neurological status, circulatory status).

Focus assessment: Data collection that aims to gain specific (focused) information about only one aspect of health status (e.g., neurological status).

Infer: To draw a conclusion, or to attach meaning to a cue. *Example:* If an infant doesn't stop crying, no matter what's done for him, you might infer that he's in pain.

Inference: Something we suspect to be true, based on a logical conclusion. *Example:* The underlined words in the preceding definition.

ILL 6.1 IDENTIFYING ASSUMPTIONS

Definition

Recognizing when something is taken for granted or presented as fact without supporting evidence (e.g., you might assume a woman on a maternity unit has just had a baby, *when* in fact, she has just lost one).

Why This Skill Is Needed for Clinical Reasoning

As humans, we tend to make assumptions, especially when we're in new or unfamiliar situations. Sound clinical reasoning requires that you make judgments based on the best available evidence. This means double-checking your thinking to overcome your brain's natural tendency to grasp things at an intuitive (gut) level. By identifying assumptions, you apply logic to the situation and avoid jumping to conclusions and making judgment errors. This skill is placed at the top of the list in this section because it's one of the most commonly addressed skills in the critical thinking literature (both nursing and non-nursing).

Guidelines: How to Identify Assumptions

The best way to identify assumptions is to *look for them* by asking questions like "What's being taken for granted here?" and "How do I know that I've got the facts right?" To identify assumptions, make sure that you have a complete picture of what's going on with the patient (addressed in the next skill, *Assessing Systematically and Comprehensively*). Other skills that help you identify assumptions are *Checking Accuracy and Reliability* (Skill 6.3), *Recognizing Inconsistencies* (Skill 6.8), *Identifying Patterns* (Skill 6.9), and *Identifying Missing Information* (Skill 6.10).

OTHER PERSPECTIVES

Avoid Assumptions Based on Culture

"Giving culturally competent care means being careful to avoid making assumptions about patients' beliefs based on cultural, ethnic, or religious background alone. For example, nurses ask me if all Hispanic patients believe in the "evil eye" (el mal de ojo). The answer is, "No." Each patient—regardless of culture—is an individual, with varying levels of education, experience, and assimilation into mainstream America. Learning the common beliefs, traditions, and health practices of other cultures is important. But, to truly give culturally competent care—to help patients feel respected and supported within their own beliefs—we must assess with an open mind and a true desire to understand each individual's perspective about what's influencing that individual's health."[1]

—Darlene N. Silver, MSN, RN, IBCLC

CLINICAL REASONING EXERCISES: IDENTIFYING ASSUMPTIONS

Example responses are in Appendix A.

1. Explain why the following statement is an assumption: "We need to teach this patient how to stick to a low-salt diet because he eats whatever he wants."
2. What could happen if you planned nursing care based on the preceding assumption?
3. Read the following scenarios, and then answer the questions that follow them.

SCENARIO ONE

Anita plans to teach Jeff about diabetes today. She's well prepared and decides she'll create a positive attitude for Jeff by telling him about all the advances in diabetes care. She doesn't have much time, so she introduces herself and starts telling him how much easier it is to manage diabetes than it used to be. She goes on to explain how easy it is to learn the required diet, monitor blood

sugar, and take insulin. Jeff listens to all Anita has to say, asks a few questions, and then leaves with his wife. As they drive off, he says to his wife in a discouraged tone, "She sure is a know-it-all, isn't she?"

a. In the preceding scenario, what assumption does it seem Anita made about creating a positive attitude?
b. What key thing did Anita forget to do that might have helped her avoid making this assumption?
c. Why do you think Jeff said Anita is a know-it-all?

SCENARIO TWO

Four-year-old Bobby is in the emergency department with his mother. He fell off his bike and had an initial period of unconsciousness lasting about a minute. He's been examined, has no skull fracture, and is now awake and alert and ready to go home with his mother. The nurse gives his mother a computer printout of instructions for checking Bobby's neurological status and says, "Let me know if you have questions."

a. In the preceding scenario, what assumption does it seem the nurse has made?
b. What might happen if the nurse's assumption is incorrect?

SCENARIO THREE

A friend told me the following story:

I was working evenings in the emergency department of a seaside hospital. We admitted a 54-year-old man, whom I'll call Mr. Schmidt. He told me, "I just got here for vacation, and I'm not feeling so great. I had pneumonia at home, got treated, and thought I was better. Now my breathing feels lousy again." A check of his vital signs while he was sitting quietly revealed the following: T 99° C, P 138 beats /min, R 36 breaths per minute, BP 168/80 mm Hg. As I helped him to the stretcher, he became significantly more short of breath. I checked his lung sounds and heard a lot of congestion. I notified the physician and voiced my concern that Mr. Schmidt seemed quite ill. The doctor examined him and ordered an electrocardiograph and chest x-ray study. During this time we got very busy. I was helping another patient when the physician came to me and said, "I want you to give Mr. Schmidt 80 mg of furosemide (a diuretic) IV now and discharge him." I looked at him skeptically and said, "Discharge him?" He said, "Yes. I'm sure the diuretic will help him get rid of this fluid." Tactfully, I asked, "Can we give him some time to see how he responds?"
The physician responded, "No. This place is wild. I'm sending him home. He's going to a private physician in the morning. He'll be fine once he gets rid of some fluid. Discharge him with instructions to call if he doesn't feel better." Reluctantly, I went to give Mr. Schmidt the furosemide. I still had trouble with the idea of sending this man home before knowing his response to the IV diuretic. Then I decided to use my own clout as a nurse: I had established a rapport with the Schmidts, and they trusted me. Before I gave the drug, I said, "I realize the doctor has discharged you, but I'd be interested to see if there's any change in blood pressure after you get rid of some fluid. How would you feel about sitting in the waiting room, and I'll check your blood pressure in an hour?" The Schmidts thought this was a good idea and went off to the waiting room. Only 45 minutes had passed when there was a shout for help. I ran

to the waiting room and found Mr. Schmidt on the floor having a grand mal seizure. He then stopped breathing. We were able to resuscitate Mr. Schmidt. He was admitted to the hospital, diagnosed with electrolyte imbalance and heart failure, and discharged a week later.

a. In the preceding scenario, what assumption does it seem the physician made about Mr. Schmidt's response to the furosemide?
b. Why do you think the nurse was so concerned about the assumption the physician made?
c. What assumption does it seem the nurse made about how the physician would respond to her if she cautioned him about discharging Mr. Schmidt?

SKILL 6.2 ASSESSING SYSTEMATICALLY AND COMPREHENSIVELY

Definition

Using an organized, systematic approach that enhances your ability to discover all the information needed to fully understand a person's health status (e.g., "What are the actual and potential problems? What needs aren't being met? What are the person's strengths and resources?").

Why This Skill Is Needed for Clinical Reasoning

Making judgments or decisions based on incomplete information is a leading cause of clinical judgment errors. Having an organized approach to assessment prevents you from forgetting something. For example, you might be interrupted while doing a physical assessment. If you use a printed or electronic assessment tool to record your assessment, you know exactly where you left off and where to continue. If you consistently use the same organized approach, you also form habits that help you be systematic and complete.

Guidelines: How to Assess Systematically and Comprehensively

Being purposeful and focused is the key to knowing how to assess systemically and comprehensively. You must decide the purpose of your assessment and use an approach that gets the information needed to achieve your purpose. For example, medical assessments focus on identifying diseases or organ or system problems, rather than problems with human responses or activities of daily living (key nursing concerns). If you use only a medical approach to assessment, you may miss key information needed to determine nursing needs (e.g., whether the person has a risk for falls). If you use only a nursing approach, you may miss signs and symptoms that indicate the presence of medical problems that need to be reported to the physician immediately (e.g., acute chest pain).

GUIDING PRINCIPLE

Always consider your direct assessment of the patient to be the primary source of information. Also collect information from secondary resources (patient records, caregivers, significant others, and print and electronic references (e.g., using drug references to determine side effects of patients' medications).

In compliance with health care regulations and standards, in most settings, you'll use standard print or electronic assessment tools to promote systematic and complete assessment. Some tools are designed for *database assessment.* Others are designed for *focus assessment* (see the Neurologic Focus Assessment Guide in Figure 6-1).

Electronic and print tools help you develop habits that promote an organized and comprehensive approach to assessment. But, keep in mind that these tools can't think for you. Just as you need basic mathematics "in your head" to use a calculator safely, you need to have some approaches "in your head" to give safe and effective care (and to pass the NCLEX®). The following are some points that can help you develop independent critical thinking and clinical reasoning skills related to assessment.

- Before using a tool, make the connection between what information is requested on the tool and why it's relevant. For example, suppose you use a neurological focus assessment tool and it says to collect data about how the pupils react to light. Ask why do I need to check the pupils, and what is the significance of how pupils react to light in context of determining neurological status?
- Consider both subjective data (patient's perceptions) and objective data (your observations).
- Remember that assessment tools don't prompt you to use all your resources. After you interview and examine your patient, ask, "What other resources might provide additional information about this person's health status (e.g., medical and nursing records, significant others, other health care professionals)?"
- No single tool fits all situations. Think independently. Change your approach to assessment, depending on the person's health status:
  1. If the person is acutely ill, assess urgent problems first (see Skill 6.13, *Setting Priorities*).
  2. If the person has a specific complaint, assess that problem first and then go on to complete the assessment in the same way you would if the person were healthy (see point 3).
  3. If the person is generally healthy, choose the method that meets your purpose and is most convenient. For example, use the head-to-toe approach, the body systems approach (see Figure 4-6, page 111), or the functional health patterns approach (see Box 4-10, page 110), or follow a standard assessment tool.
  4. Practice using various assessment tools, and be sure you understand why you collect each piece of data. This will help you learn what's relevant to various situations. Keep in mind that a body systems approach to assessment helps you collect data about *medical problems.* Nursing frameworks, such as functional health patterns, help you collect data about *nursing problems* (human function, activities of daily living, and human responses).
- Always assess the four major vital signs: temperature, pulse, respirations, and blood pressure. Also assess the "fifth and sixth" vital signs: pain and cough, respectively.* Ask about the presence of pain or discomfort, and assess closely as indicated. Ask the person to cough. Although asking the person to cough doesn't replace a thorough lung assessment, you can learn a lot from brief encounters. Say something like, "Can you cough for me, so I can hear how it

*Some consider pulse oximetry to be the sixth vital sign. Pulse oximetry—using a probe attached to the patient's finger or ear and linked to a computerized unit—monitors the percentage of hemoglobin saturated with oxygen.

NEUROLOGIC FOCUS ASSESSMENT GUIDE

VITAL SIGNS Temp.____ Pulse____ Resp.____ BP ____

(Check the boxes that apply below)

EYE OPENING
☐ Spontaneous ☐ To command ☐ To pain ☐ No response

MOTOR RESPONSE
☐ Obeys commands ☐ Localizes pain ☐ Flexion withdrawal
☐ Abnormal flexion ☐ Abnormal extension ☐ No response

BEST VERBAL RESPONSE
☐ Oriented ☐ Confused ☐ Inappropriate words
☐ Incomprehensible words ☐ No response

PUPIL REACTION
☐ Right eye:____ Size of pupil____ Reaction to light (brisk, sluggish)
☐ Left eye:____ Size of pupil____ Reaction to light (brisk, sluggish)

GAG REFLEX
☐ Present ☐ Absent ☐ Weak

PURPOSEFUL LIMB MOVEMENT

Right arm
☐ Spontaneous ☐ To command ☐ Paralysis
☐ Visible muscle contraction but no movement
☐ Weak contraction; not enough to overcome gravity
☐ Moves against gravity, not to external resistance
☐ Normal range of motion; can be overcome by increased gravity
☐ Normal muscle strength

Right leg
☐ Spontaneous ☐ To command ☐ Paralysis
☐ Visible muscle contraction but no movement
☐ Weak contraction; not enough to overcome gravity
☐ Moves against gravity, not to external resistance
☐ Normal range of motion; can be overcome by increased gravity
☐ Normal muscle strength

Left arm
☐ Spontaneous ☐ To command ☐ Paralysis
☐ Visible muscle contraction but no movement
☐ Weak contraction; not enough to overcome gravity
☐ Moves against gravity, not to external resistance
☐ Normal range of motion; can be overcome by increased gravity
☐ Normal muscle strength

Left leg
☐ Spontaneous ☐ To command ☐ Paralysis
☐ Visible muscle contraction but no movement
☐ Weak contraction; not enough to overcome gravity
☐ Moves against gravity, not to external resistance
☐ Normal range of motion; can be overcome by increased gravity
☐ Normal muscle strength

Limb Sensation (prick limb with sterile needle)
Right arm: ☐ Normal ☐ Decreased ☐ Absent
Right leg: ☐ Normal ☐ Decreased ☐ Absent
Left arm: ☐ Normal ☐ Decreased ☐ Absent
Left leg: ☐ Normal ☐ Decreased ☐ Absent
Seizure Activity: Describe in nurse's notes.

FIGURE 6-1 Neurologic Focus Assessment Tool.

sounds?" The person's ability (or inability) to comply with this request gives you a lot of information (e.g., whether the person has pain with coughing, whether there's congestion, or whether the person coughs well enough to clear the airway). These brief encounters can flag patients that need more in-depth monitoring and assessment.

CLINICAL REASONING EXERCISES: ASSESSING SYSTEMATICALLY AND COMPREHENSIVELY

Example responses are in Appendix A.

1. Imagine you're a school nurse and have been asked to do physical exams to screen students for possible medical problems. Identify an organized, comprehensive approach to assessing for signs and symptoms of medical problems.
2. Suppose you make a home visit to a woman who has a newborn child and seven other children younger than 12 years old. Both the baby and the mother are healthy. Identify an organized and comprehensive approach to assessing for nursing and medical problems.
3. Memory-jogs—also called mnemonics—can help you remember important information. In the clinical setting, your thinking will be guided by standard evidence-based tools. But, if you ever need to have things "in your head" (e.g., for a test), memory-jogs really help. In the following scenarios, you can practice using both memory-jogs and standard tools. As you read the following scenarios and complete the questions that follow them, think about the difference between using a mnemonic and a standard tool.

SCENARIO ONE

Pearl, an 89-year-old grandmother, is admitted with a fractured ankle. She has surgery, and a cast is applied. The cast goes from her toes to the knee. Her toes are visible, and she can wiggle them freely. A small window was cut in the cast over the dorsalis pedis pulse. Routine hospital protocols state that anyone with a cast must have neurovascular checks every 2 hours. You have a standard tool to follow for neurovascular checks, but you also want to remember assessment parameters for a classroom test you're going to take.

a. Use the following memory-jog to memorize the things you need to check when performing a neurovascular assessment:

Maggie **C**hewed **N**uts **E**very **P**lace **S**he **W**ent, which stands for this:

Movement, **C**olor, **N**umbness, **E**dema, **P**ulses, **S**ensation, **W**armth

Based on the preceding memory-jog, how would you assess the neurovascular status of Pearl's injured leg?

b. Why is it necessary to monitor each of the assessment parameters listed in the memory-jog to determine neurovascular status? What would you do if Pearl told you her toes felt numb and cold?

c. What would you do if Pearl told you her toes felt numb and cold?

SCENARIO TWO

You have to give Mr. Wu digoxin by mouth. You know that using the following memory-jog (TACIT) helps you remember what you need to monitor in patients taking medications.

- **T**herapeutic effect (Is there a therapeutic effect?)
- **A**llergic or adverse reactions (Are there signs of allergic or adverse reactions?)
- **C**ontraindications (Are there contraindications to giving this drug?)
- **I**nteractions? (Are there possible drug interactions?)
- **T**oxicity or overdose (Are there signs of toxicity or overdose?)

Assuming that you followed medication reconciliation standards (i.e., you made sure that Mr. Wu's drug regimen is correct and up-to-date), use TACIT to systematically gather information about how Mr. Wu is responding to the digoxin, and answer the following questions:

a. What, specifically, would you assess to decide whether to give the digoxin?
b. Why is it important to determine all of the things listed in the mnemonic TACIT?

SCENARIO THREE

You just admitted Gerome, who fell off his bike, hit his head, and had a short period of unconsciousness. He is now awake and alert but is admitted for 24 hours of neurological monitoring. The physician orders neurological assessments every hour.

Using the Neurologic Focus Assessment Guide (see Figure 6-1), respond to the following questions:

a. How would you assess Gerome to determine the status of each of the neurological assessment parameters addressed in the guide?
b. Why is each piece of data on the focus assessment guide relevant to determining neurological status?
c. What would you do if, on admission, Gerome demonstrates normal neurological assessment findings but 2 hours later demonstrates extreme drowsiness (i.e., he awakens only if you shake him and call his name)?
d. What would you do if one pupil started to become more sluggish in its response to light than the other?
e. What would you do if you noted a general pattern of the pulse getting slower than the baseline pulse?

SKILL 6.3 CHECKING ACCURACY AND RELIABILITY (VALIDATING DATA)

Definition

Collecting more data to verify (validate) whether information you gathered is correct and complete.

Why This Skill Is Needed for Clinical Reasoning

Clinical reasoning and judgments must be based on evidence. Verifying that your information is accurate, factual, and complete helps you avoid making assumptions and making decisions based on incorrect or incomplete data. Checking accuracy and reliability also promotes comprehensive data collection because you gather more data to double-check your information.

Guidelines: How to Check Accuracy and Reliability

1. Review the data you gathered, and ask questions like these:
   - Do the objective data (what you observed) support the subjective data (what the patient stated)? For example, if the patient complains of rib pain, how are the breath sounds and are recent x-ray films posted on the record?
   - How do I know this information is reliable?
   - How does this information compare with similar data collected in a different way or at another time (e.g., how does an oral temperature compare with a rectal temperature)?
   - Does this information make sense in the context of this particular patient's health status and situation?

2. Focus your assessment to gain more information about whether your information is correct. For example, an elderly person may have told you that she took her medicine. To verify this, interview significant others or caregivers, check pill containers to see if pills are gone, and ask whether there is any record kept when pills are taken.

GUIDING PRINCIPLE

More than one source, more likely of course. The more information you have coming from different sources, indicating the same thing, the more likely it is that your information is valid and reliable. For example, verify what your patient says by checking with family members and patient records.

CLINICAL REASONING EXERCISES: CHECKING ACCURACY AND RELIABILITY (VALIDATING DATA)

Example responses are on in Appendix A.

For each of the following, determine how to validate whether the information is accurate and reliable:

1. The off-going nurse tells you that Mrs. Molina is depressed and angry about being in the hospital.
2. Mr. Nola tells you his blood sugar was 240 when he tested it an hour ago.
3. You take a blood pressure from the left arm and find it to be abnormally high.
4. A team member tells you that Mr. McGwire needs teaching about diabetic foot care because this is his third admission for foot ulcers.

SKILL 6.4 DISTINGUISHING NORMAL FROM ABNORMAL/IDENTIFYING SIGNS AND SYMPTOMS

Definition

Analyzing patient data and deciding what's within normal range and what's outside the usual range for normalcy, then deciding whether abnormal data may be signs or symptoms of a specific problem. *Example:* If a 62-year-old man who takes no medications has a pulse of 42 beats/min, this is abnormal because a normal pulse rate rarely drops below 55 to 60 beats/min. Consider that this may be a sign of a heart problem.

Why This Skill Is Needed for Clinical Reasoning

Recognizing abnormal data (signs and symptoms) is the first step to problem identification. Signs and symptoms are like red flags that prompt you to suspect a problem. If you miss these red flags, you allow problems to go untreated.

GUIDING PRINCIPLE

If you identify signs and symptoms, but are unsure about what they indicate, activate the chain of command (report them to your instructor, supervisor, or appropriate care provider).

Guidelines: How to Distinguish Normal from Abnormal/Identify Signs and Symptoms

Identifying signs and symptoms requires you to apply knowledge of what are considered to be normal findings. If your patient's findings are outside the normal range, then you have identified an abnormality—a possible sign or symptom. Use all your senses (sight, hearing, touch, and smell) to gain all the relevant information you need (e.g., if you see cloudy urine, smell it to check its odor).

Ask the following questions:

1. How does my patient's information compare with accepted standards for normal for someone of this age, culture, disease process, and lifestyle? If the patient's information isn't within normal accepted standards, this is a possible sign or symptom of a problem.
2. Does my patient take any medications or have any chronic conditions that change normal function? For example, if someone is taking a medication that lowers heart rate, this abnormally low heart rate may be normal for him or her. Check action and side effects of all medications.
3. How does my patient's current information compare with the previously collected data? This question is especially helpful in situations in which the patient has chronic signs and symptoms and you need to decide whether the signs and symptoms are getting worse. For example, an asthmatic always may be slightly wheezy. However, if this same person is now wheezier than before, this increased wheezing is a sign of increasing problems.

CLINICAL REASONING EXERCISES: DISTINGUISHING NORMAL FROM ABNORMAL/IDENTIFYING SIGNS AND SYMPTOMS

Example responses are on in Appendix A.

1. Place an **S** next to the data in the following list that are signs or symptoms of a possible problem or signs or symptoms of a problem that's getting worse. Place an **O** if it's neither a sign nor a symptom. Place a question mark if you need more information to decide.
   - _____ a. Temperature of 99.68° F.
   - _____ b. Bilateral pulmonary rales.
   - _____ c. Someone tells you she rarely sleeps more than 3 hours at a time.
   - _____ d. Someone's nasogastric drainage has turned from brown to red.
   - _____ e. Someone's abdominal incision is slightly red around the sutures.
   - _____ f. A 2-year-old child is inconsolable when his mother leaves the room.
   - _____ g. Someone with no health problems has developed ankle edema.
   - _____ h. Someone tells you he bathes every other week.
   - _____ i. Someone on kidney dialysis never urinates.
   - _____ j. Pulse rate of 54 beats/min.
2. For each question mark you placed in the previous question, what else do you want to know before you decide whether the information is abnormal (and therefore a sign or a symptom)?

SKILL 6.5 MAKING INFERENCES (DRAWING VALID CONCLUSIONS)

Definition

Making deductions or forming opinions that follow logically, based on patient cues (subjective and objective data).

Examples of Cues and Inferences

Cue	Corresponding Inference
Frowning	Seems worried
White blood cell count = 14,000	Probable infection
Deaf	Probable communication problems

Why This Skill Is Needed for Clinical Reasoning

Your ability to interpret data and draw valid conclusions (make inferences) is essential to determining health status. If you draw incorrect conclusions, your clinical judgments will be flawed, which may cause the entire treatment plan to be flawed.

Making correct inferences helps you focus your assessment to look for additional relevant information. For example, if you infer that an elevated white blood cell count may indicate an infection, you know to look for signs and symptoms of infection (or vice versa).

Guidelines: How to Make Inferences (Draw Valid Conclusions)

Making correct inferences requires knowledge of:

- Signs and symptoms of common complications and health problems
- How humans often behave when faced with health problems (human behavior)
- The common needs of certain age groups (e.g., elderly versus young)
- Cultural and spiritual influences
- Knowledge of the patient as a person

For example, to make the inference of probable infection, you must know the signs and symptoms of infection. To draw conclusions about someone's lack of eye contact, you must know how eye contact is used in his particular culture (in some cultures, direct eye contact may be disrespectful). To draw conclusions about how to help a diabetic manage his care, you need to know what's important to him as person.

To avoid jumping to conclusions, begin your statements about inferences by saying, "I suspect this information indicates . . . ." Using this phrase reinforces that you to need to collect more data to decide if your suspicions are correct. Once you have enough evidence to support your inference, you can know that you are probably correct. Also remember that principles of critical thinking require you to think about alternative conclusions and ideas. If you make an inference, try to think of other things you could also reasonably infer. For example, you may infer that a patient is angry with you because she is shouting and irritable. Ask yourself, "Could she really be mad about something else?"

When drawing conclusions about signs and symptoms, remember "MMA" (Medications, Medical problems, Allergies). Consider whether the signs and symptoms could be related to medications, medical problems, or allergic responses that you need to report.

GUIDING PRINCIPLE

Remember: "More than one cue, more likely it's true—more than one source, more likely of course." Avoid making inferences based on only one cue or only one source (the more facts and sources you have to support your inference, the more likely it is that your inference is correct).

CLINICAL REASONING EXERCISES: MAKING INFERENCES (DRAWING VALID CONCLUSIONS)

Example responses are in Appendix A.

Make an inference about each of the following data (begin your inference by saying, "I suspect this information indicates . . . .").

1. A patient has a temperature of 102.8° F for 3 days.
2. A mother tells you she can't afford prenatal care.
3. A patient with diabetes is 100 pounds overweight and says his blood sugar is always out of control, even though he watches his food intake and takes his insulin regularly.
4. A 6-year-old child whose mother told you he broke his leg falling down the stairs keeps looking at his mother before answering your questions.
5. A usually active, alert grandmother has unkempt appearance and seems a bit confused.

SKILL 6.6 CLUSTERING RELATED CUES (DATA)

Definition

Grouping data together in a way that you can see patterns and relationships among the data. *Example:* Suppose you grouped the following cues together: 2 years old; temperature 100.8° F; pulse 150 beats/min; rash all over trunk; recent measles exposure; never had measles; screaming that he wants his mother. If you consider the relationship among these data, you should suspect that the child's rapid pulse is related to his screaming and elevated temperature rather than a sign of cardiac problems. If you consider all of the data, you'll probably suspect that these symptoms indicate the child may have measles.

Why This Skill Is Needed for Clinical Reasoning

Grouping information applies the scientific principle of classifying information to enhance ability to see relationships between and among data. It helps you get a beginning picture of patterns of health or illness. A good way to remember the importance of clustering related data is what I call "the puzzle analogy." When you put together a puzzle, you begin by putting all the edges of the picture in one pile, all the pieces of a certain color in another pile, and so on. Putting the pieces in piles helps you begin to see patterns. The same principle applies to health assessment data, but in health care you cluster signs and symptoms.

Guidelines: How to Cluster Related Cues (Data)

How you cluster data depends on your purpose:

- If you're trying to determine the status of medical problems or physiological responses, cluster the data according to body systems (see Figure 4-6, Chapter 4, page 111).
- If you're trying to determine the status of nursing problems, cluster the data according to a nursing framework (e.g., functional health patterns, see Box 4-9, Chapter 4, page 102).

Concept mapping is especially helpful for identifying relationships. Mapping relationships among patient cues helps you get a picture of how factors contribute to one another.

CLINICAL REASONING EXERCISES: CLUSTERING RELATED CUES (DATA)

Example responses are in Appendix A.

Read the following scenarios, and then answer the questions that follow them.

SCENARIO ONE

The baby-sitter next door calls and tells you that Jack, the 8-year-old she's watching, was stung by a bee on the ear an hour ago. She tells you the ear is swollen and asks you to come and check him. You go over and examine the child. He asks you if he might die "like the kid on TV did." The baby-sitter tells you she's afraid because she doesn't know where the mother is. You check the ear and find it red, swollen, and free of the stinger. When asked, Jack tells you he was stung before but that it wasn't as scary. Jack has no rash and no wheezing. He asks if he could have a Popsicle and watch TV. His pulse and respirations are normal.

Cluster the information from the preceding scenario that helps you determine the following:

a. Jack's physical health status
b. Jack's human responses
c. The baby-sitter's learning needs

SCENARIO TWO

Imagine that you just admitted Mr. Nelson, a 41-year-old businessman who has acute abdominal pain. He's never been in the hospital and tells you he hates everything about hospitals. He's been vomiting for 2 days and is unable to keep any food down. His abdomen is distended, and he has no bowel sounds. He is scheduled to go to the operating room at 2 PM for emergency exploratory surgery. He tells you he's worried because his brother died in the hospital. Suddenly he doubles over and says, "This is really getting worse!" You take his vital signs, and they are as follows: T 101° F, P 122 beats/min, R 32 breaths per minute, BP 140/80 mm Hg. These signs are the same as those taken an hour ago, except that before, his pulse was 104 beats/min.

Cluster the information from the preceding scenario that helps you determine the following:

a. Mr. Nelson's physical status
b. Mr. Nelson's human responses

LL 6.7 DISTINGUISHING RELEVANT FROM IRRELEVANT

Definition

Deciding what information is pertinent to understanding the situations at hand and what information is immaterial.

Why This Skill Is Needed for Clinical Reasoning

When faced with a lot of information, narrowing it to only the pertinent facts prevents your brain from being cluttered with unnecessary facts. Deciding what's relevant is also an example of one of the principles of the scientific method: classifying or categorizing information into groups of related (relevant) information.

Guidelines: How to Distinguish Relevant from Irrelevant

This skill is closely related to Skill 6.6, Clustering Related Cues. Here, however, we're looking at this skill a little differently. In clustering related cues, you simply put related information together (e.g., you put all the respiratory data in one place, all the nutritional data in another, and so on). In this skill, you analyze the data cues you put together and decide what information is related to a specific health concern. For example, if someone has constipation and you note that she has a sedentary life, poor fiber intake, and takes iron supplements, it's likely that this information is relevant to the constipation.

Distinguishing relevant from irrelevant is especially difficult for novices because being able to do this depends on having problem-specific knowledge and experience. If you're a novice, you'll find that this skill will get easier as you gain more clinical experience.

Here are some strategies that can help you determine what's relevant, even with limited knowledge:

1. List (or map) the abnormal data you collected. Then ask yourself, "Could there be any connection between this (abnormal data) and that (abnormal data)?" Putting all the information down on paper helps you see the big picture more clearly than trying to see it "in your head."
2. Ask the person or significant others, "Do you think there's any relationship between these (abnormal data) and those (abnormal data)?"

CLINICAL REASONING EXERCISES: DISTINGUISHING RELEVANT FROM IRRELEVANT

Example responses are in Appendix A.
Read the following scenarios, and then answer the questions that follow.

SCENARIO ONE

Imagine you work in community health and make a visit to Mrs. Roberts, who is 80 years old and had a cerebrovascular accident (CVA) a month ago. Today you notice she seems to be increasingly confused: She knows where she is, but forgets what day it is and doesn't seem to remember her daily routine. You know that confusion in the elderly can be caused by any of the following: medications, infection, decreased oxygen to the brain, electrolyte imbalance, and brain pathological conditions.

In relation to the preceding scenario, imagine you gathered the data listed in the following (a to f). Put an **R** in front of the things that are relevant to the confusion.

_____a. Recently started taking buspirone hydrochloride for anxiety
_____b. Temperature 100.8° F orally
_____c. History of myocardial infarction 5 years ago
_____d. Seems dehydrated
_____e. Has no allergies
_____f. Regular diet

SCENARIO TWO

You assess Mrs. Clark, a 32-year-old patient with diabetes who is in for a routine visit. When you ask how the new diet is going, she breaks down into tears, saying, "I'm never going to be able to do this!"

Consider the following data (a to g) in relation to the above scenario, and decide its possible relevance to her problem with sticking to the diabetic diet. Put an **R** in front of the things that are relevant.

_____a. Diagnosed with diabetes 2 months ago
_____b. Vital signs within normal limits
_____c. Complains of constipation
_____d. Married with three school-age children
_____e. Loves to cook
_____f. Has always been 50 pounds overweight
_____g. Allergic to aspirin

SKILL 6.8 RECOGNIZING INCONSISTENCIES

Definition

Realizing when pieces of information contradict each other. *Example:* Imagine that you're caring for Fred after chest surgery and he tells you that he has no pain. However, he moves very little and barely breathes when you ask him to take a deep breath. The way he's moving is inconsistent with his statements of being pain-free.

Why This Skill Is Needed for Clinical Reasoning

Recognizing inconsistencies prompts you to investigate issues more closely. It sends up a red flag that tells you to probe more deeply to get to the facts. It also helps you focus your assessment to clarify the issues. For example, with Fred, in the preceding section, you might say, "It seems to me that you aren't moving very well . . . . I suspect you have more pain than you admit. I want you to be comfortable, so that you move well and can take deep breaths to clear your lungs. Are you sure there isn't a particular spot that's bothering you?"

Guidelines: How to Recognize Inconsistencies

One way to recognize inconsistencies is to compare what the patient states (subjective data) with what you observe (objective data). If what the person states isn't supported by what you observe, you have inconsistent information and need to investigate further.

Recognizing inconsistencies requires problem-specific knowledge. For example, suppose you have the following data:

- **Subjective Data:** Patient states, "I must have strained my back lifting my child. My right side is killing me."
- **Objective Data:** Fever of 102.4° F; cloudy, foul-smelling urine.

If you know how back injuries usually manifest, you know that the subjective and objective data are inconsistent with a back injury and more consistent with a urinary tract infection.

To recognize inconsistencies with limited knowledge:

1. Determine the signs and symptoms of the problem you suspect by looking up the problem in a reference. For example, if you suspect pneumonia—something you should report immediately—look up the signs and symptoms of pneumonia.
2. Compare the information in the reference with your patient's data. If your patient's signs and symptoms are different from those listed in the reference, you have inconsistencies and must investigate further. Assess the person more closely, and consider other problems that the signs and symptoms might represent. For example, are the signs and symptoms more consistent with a cold or flu than pneumonia?

CLINICAL REASONING EXERCISES: RECOGNIZING INCONSISTENCIES

Example responses are in Appendix A.
Answer the questions that follow Scenarios One and Two.

SCENARIO ONE

You interview Cathy in the prenatal clinic 2 weeks before delivery. You ask her how she feels about the baby coming. She tells you she's happy that she gets to see the baby in only 2 weeks. When

you ask her if she has any questions about the delivery, she tells you she's been going to birthing classes with her boyfriend and feels like she knows what to expect.

You review her records and notice that her first clinic visit was 2 weeks ago, when she came with her mother.

a. Identify inconsistencies in the preceding scenario.
b. Explain what you might do to clarify the inconsistencies you identified.

SCENARIO TWO

You're in the grocery store and a 20-year-old woman comes up to you and says, "Please help me! I can't breathe, and my heart is racing." She is sweating profusely and says, "I feel like I'm having a heart attack and I'm going to die!" You help her sit down, then take her pulse, and find it to be 100 beats/min, regular, and strong. Her respirations are 36 per minute. She tells you she has no pain, but wants you to call an ambulance. You offer emotional support and ask someone to call 911. As you wait for the ambulance, she tells you this has happened to her several times before and that she has had an electrocardiogram, which showed normal cardiac function.

In the preceding scenario, how consistent are the signs, symptoms, and risk factors with those of a heart problem?

SKILL 6.9 IDENTIFYING PATTERNS

Definition

Deciding what patterns of health, illness, or function are indicated by patient data. *Example:* Suppose you cluster together cues of chronic productive cough, wheezing, and exercise intolerance and decide they indicate a pattern of respiratory problems. Keep in mind that identifying patterns means looking at signs and symptoms over a period of time, not just as single incidences. You may have a headache, but this isn't considered a pattern (unless you are having a lot of headaches).

Why This Skill Is Needed for Clinical Reasoning

Identifying patterns helps you do two things: (1) get a beginning picture of problems and (2) recognize gaps in data collection. When you recognize gaps in data collection, you can decide how to focus your assessment to gain that missing information. Using the puzzle analogy, when you put some pieces together, you start to see what the end picture will be.

Here's an example of how identifying patterns helps you discover missing information. Suppose you clustered together the following data:

- No bowel movement in 3 days
- Abdominal fullness
- States he's been "constipated off and on for the past month"

You'll probably decide that the preceding cues represent a pattern of bowel elimination problems. Having recognized this pattern, you know to focus your assessment to gain more information and decide exactly what the problem with bowel elimination is. For example, you ask, "What does off and on mean?" The person responds, "I get so constipated I have to take laxatives, and then I get diarrhea." This added information is likely to make you suspect that the bowel elimination problem may be caused in part by laxative abuse. You then explore his knowledge of how diet, fluids, and exercise influence bowel function. You also need to ask when the person last had a physical exam by a doctor and whether this bowel issue was evaluated (changes in bowel elimination is one of the danger signs of cancer).

Guidelines: How to Identify Patterns

To identify patterns:

1. Analyze the cues you put together and decide which of the following patterns they represent:
   - Normal Pattern (no signs and symptoms of the pattern present)
   - Risk for Abnormal Pattern (risk factors for the pattern present)
   - Abnormal Pattern (signs and symptoms of an abnormal pattern present)
2. After you get a beginning idea of the patterns, look for gaps in data collection by asking, "What other information might clarify my understanding of this pattern?"

CLINICAL REASONING EXERCISES: IDENTIFYING PATTERNS

Example responses are in Appendix A.

Match the patterns (a to e) with the data that support the patterns (1 to 5).

a. Potential (risk) for ineffective sexual-reproductive pattern
b. Potential (risk) for impaired bowel elimination pattern
c. Probably normal sleep-rest pattern
d. Impaired respiratory function pattern
e. Probably normal coping pattern

1. ____ Manages daily self-care; has husband cook all meals; passes the time by knitting blankets for the homeless. Eats little fiber; just started taking codeine every 4 hours; drinks about three glasses of water daily; spends most of her time in bed; normal bowel function
2. _____ Has just been diagnosed with genital herpes; single; worried about transmitting herpes to future sex partners and future children (during delivery)
3. _____ Bilateral rales; respirations increased to 34 per minute; coughing up thick, white mucus
4. _____ States, "I can cope with my illness, so long as I have help from my husband."
5. _____ Works nights; sleeps 4 hours in the morning and 3 hours just before going to work at night

SKILL 6.10 IDENTIFYING MISSING INFORMATION

Definition

Recognizing gaps in data collection and searching for information to fill in the gaps.

Why This Skill Is Needed for Clinical Reasoning

Recognizing gaps in information and filling in those gaps prevents you from making one of the most common clinical reasoning errors: making judgments based on incomplete information.

Guidelines: How to Identify Missing Information

Rather than relying on your own memory, the best way to identify missing information is to reflect on recorded data and ask, "What's missing here?" You may have to print out electronic information so that you can see more of it at once.

If you're not sure if you really need more information, ask questions like, "What difference will it make?" or "How will knowing this information change the approach to treatment?" If the information won't change your approach, then you may not need to take the time to gather it.

Other strategies for recognizing missing information include accomplishing all of the following clinical reasoning skills: identifying assumptions; checking accuracy and reliability; clustering related cues; recognizing inconsistencies; identifying patterns; and evaluating and correcting thinking.

CLINICAL REASONING EXERCISES: IDENTIFYING MISSING INFORMATION

Example responses are in Appendix A.

Go back to the Clinical Reasoning Exercises for the previous skill, 6.9 *Identifying Patterns.* Consider the information given in 1 to 5 and decide what information might be missing that could add to your understanding of the pattern.

SKILL 6.11 PROMOTING HEALTH BY IDENTIFYING AND MANAGING RISK FACTORS

NOTE: This skill deals with identifying risk factors in healthy people. The next skill, diagnosing actual and potential problems, deals with identifying risk factors in the context of people with existing health problems.

Definition

Maximizing well-being by detecting and managing factors that evidence shows contribute to health problems (e.g., sedentary lifestyles contribute to many health problems).

Why This Skill Is Needed for Clinical Reasoning

You don't wait for problems to appear to put a plan into action. By identifying risk factors, you apply the proactive predict, prevent, manage, promote (PPMP) approach, rather than the reactive diagnose and treat (DT) approach (see Chapter 4, page 75).

Guidelines: How to Identify and Manage Risk Factors

1. **Assess people's awareness of—and motivation for—identifying and managing risk factors.** For example, do they know what's required for adequate nutrition, rest, exercise, and spiritual and psychological well-being? Are they able and willing to do what's needed to reduce risks? Not knowing about risk factors and not wanting do something about them are risk factors in themselves.
2. **Keep growth and development in mind.** *Examples:*
   - A woman who is pregnant or planning on becoming pregnant must consider risk factors for both herself and the fetus when taking medications. Teach her that inadequate intake of folic acid increases risk for spontaneous abortion and other problems such as spina bifida in infants.
   - After menopause, women should be aware that they should be screened for osteoporosis (decreased bone density).
3. **Look for risk factors that are known to put people at risk for a variety of common problems.** *Examples:* Obesity, poor diet, high cholesterol, tobacco use, immobility, sedentary life, stressful life, poor sleeping habits, allergies, chronic illness, extremes of age (very young or old), low socio-economic status, illiteracy, sun exposure, and excessive use of medications, alcohol, or illicit drugs.
4. **Also assess for the following:**
   - Genetic, cultural, or biological factors (e.g., race, family history, and personal history predisposing one to health problems)
   - Behavioral factors (e.g., problems with anger management, attention-deficit disorders)
   - Psychosocial and/or economic factors (e.g., lack of emotional support, poverty)
   - Environmental factors (e.g., air quality)

- Age-related factors (e.g., women after menopause are at risk for osteoporosis; infants are at risk for ear infection)
- Sexual-pattern factors (e.g., whether the person is sexually active and with whom)
- Safety-related factors (e.g., whether seat belts are worn, children in car seats, whether the home environment is safe for children)
- Disease-related factors (e.g., someone with chronic lung disease is at risk for pneumonia; someone with diabetes is at risk for skin problems)
- Treatment-related factors (e.g., complicated medication or treatment regimen)

5. **Teach the importance of managing risk factors to prevent costly, debilitating illnesses.** For more strategies on risk management, go to the following web pages:
   - Harvard Center for Risk Analysis (http://www.hcra.harvard.edu), which is dedicated to promoting reasoned public responses to health, safety, and environmental hazards. It also gives statistics and approaches for problems like stroke, heart disease, suicide, cancer, and drowning and other accidents.
   - The Centers for Disease Control and Prevention (http://www.cdc.gov), which has a wealth of information on disease and disability prevention.
   - Healthy People 2020 (http://www.healthypeople.gov/), which challenges individuals, communities, and professionals to take specific steps to ensure that good health and long life are enjoyed by all.

You also can look up "risk factors" in the index of up-to-date textbooks or on Google. Usually you can find excellent tables on common diseases and risk factors that present information in an easy-to-grasp format.

CLINICAL REASONING EXERCISES: PROMOTING HEALTH BY IDENTIFYING AND MANAGING RISK FACTORS

Example responses are in Appendix A.

1. You assess a 25-year-old man and determine that he is healthy. What questions might you ask to identify risk factors for possible problems?
2. You assess a 72-year-old woman and find that she is healthy, but she says "I tend to be a little clumsy—I lose my balance." Why should you be concerned about this?
3. A 50-year-old man says, "I'm getting to the age where I should be doing more to look after myself, and I want to know more about my risk factors." How do you respond?

SKILL 6.12 DIAGNOSING ACTUAL AND POTENTIAL PROBLEMS

NOTE: This skill deals with identifying risk factors in the context of people with existing health problems. The preceding skill deals with risk factors in the context of healthy people.

Definition

Ensuring that the actual and potential problems your patient has are correctly named, based on evidence from the health assessment and patient records.

This skill includes (1) ensuring that signs and symptoms of health problems that are beyond your practice scope are referred to the appropriate health care professional, (2) choosing the name that best describes the problem (the definitive diagnosis), (3) determining the cause(s) and contributing factors of the problem, and (4) providing the evidence that leads you to believe the diagnosis, problem, or issue is present.

Why This Skill Is Needed for Clinical Reasoning

This skill is important for the following reasons:

1. Making definitive diagnoses (the most specific, correct diagnoses) is key to being able to determine the specific actions designed to prevent, manage, or resolve them. If you miss problems, are too vague about the problems, or name them incorrectly, you have made a diagnostic error that may cause you to:
   - Initiate actions that aggravate the problems or waste time
   - Omit essential actions required to prevent and manage the problems
   - Allow problems to go untreated
   - Influence others to make the same mistake you did
2. Ensuring accurate problem identification is the key to specific treatment. If you suspect a problem, but are unsure, don't jump to conclusions. Instead, report the problem by saying something like this: "I am not sure, but there seems to be some sort of issue with [fill in the blank] or . . . . there seems to be a pattern of [fill in the blank]."
3. You don't fully understand the problem(s)—or know what to do about them—until you know what's causing or contributing to them.
4. Predicting potential problems and complications helps you:
   - Know what signs and symptoms to look for when monitoring the patient.
   - Anticipate what could happen if things get worse and be prepared for complications.
5. Providing the supporting evidence that led you to the diagnosis helps others understand the problem better. For example, compare the two following problem statements, and decide which one gives a better picture of the problem.
   - Potential for violence
   - Potential for violence related to anger management problems as evidenced by history of previous violence and refusal to attend anger management programs

This gives a summary statement for a diagnosis. Alternatively, use a diagram or map as shown in Figure 6-2.

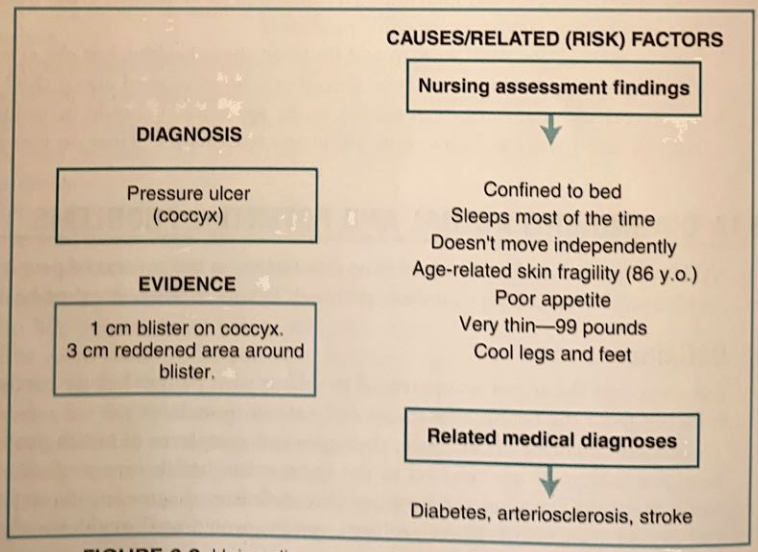


FIGURE 6-2 Using diagrams and maps to illustrate diagnosis.

Guidelines: How to Diagnose Actual and Potential Problems

As with Skill 6.5 *(Making Inferences)*, your ability to identify and predict problems depends on your knowledge of common health problems, human behavior, needs of certain age groups (e.g., elderly versus young), and cultural and spiritual influences. It also requires knowledge of the patient as a person. Experts can usually identify problems more quickly than novices because they've "seen it all before." They have better hunches about what the problems might be, and they move through problem identification in rapid, dynamic ways.

If your knowledge and expertise are limited, you are at risk for making any one of the following diagnostic (problem identification) errors:

- Making a diagnosis or naming the problem without considering whether the data may represent a different problem altogether (e.g., assuming indigestion signifies gastric reflux or upset stomach instead of possible coronary problems).
- Not considering all the relevant data because of a narrow focus (e.g., not looking for other coronary symptoms because you decide that the person simply has indigestion).
- Failing to recognize personal biases or assumptions. *Example:* Thinking that someone is faking pain because he doesn't look like he's in pain. (Knowledgeable nurses know that people handle pain differently and that often outward signs of pain are not present, even though the person is experiencing significant discomfort. This is especially true for people with chronic pain.)
- Overanalyzing ("analysis paralysis") and delaying taking action.

GUIDING PRINCIPLE

Problem and risk identification is at least 50% of the work of planning care.

Identifying Actual Problems

1. **Verify that your information is correct and complete.** If you're not sure what to do next, make patient safety number one. Report signs and symptoms to a more qualified nurse before going on to complete problem identification.
2. **Avoid drawing conclusions or identifying problems based on only one cue or one source** ("More than one cue, more likely it's true. More than one source, more likely of course.").
   - Cluster abnormal data (signs and symptoms): Cluster according to **body systems** to identify **medical problems** and according to a **nursing framework** to identify **nursing problems**. Looking at data from both medical and nursing perspectives helps you see different problems.
   - Consider the signs and symptoms, and ask yourself what information you could have missed.
3. **Create a list of problems that may be suggested by the signs and symptoms.** Box 6-1 gives an example checklist to consider possible problems.
4. **After you complete your list of suspected problems, compare your patient's signs and symptoms with the signs and symptoms of the problems you suspect.** Some call this phase "testing hunches (hypotheses)."
5. **Name the problems by using the term that most closely matches your patient's signs and symptoms.** *Example:* If your patient's signs and symptoms match the signs and symptoms of *anxiety*, better than *fear*, label the problem anxiety.

BOX 6-1 Checklist for Identifying Actual and Potential Problems

1. List current medications (include over-the-counter and herbal drugs). Ask yourself whether any of the patient's problems could be related to any of the medications (remember SODA).
   Side effect?
   Overdose?
   Drug interaction?
   Allergy or Adverse reaction?
2. List current and past allergies, diseases, surgeries, or trauma.
3. Consider whether any of the patient's current problems are related to questions 1 or 2 above.
4. Complete the following checklist:

	(Circle those that apply)			
Is there a problem with breathing?	Yes	No	AR[1]	Pos[2]
Is there a problem with circulation?	Yes	No	AR	Pos
Is there a problem with comfort?	Yes	No	AR	Pos
Is there a problem with nutrition?	Yes	No	AR	Pos
Is there a problem with urinary or bowel elimination?	Yes	No	AR	Pos
Is there a problem with fluid or electrolyte balance?	Yes	No	AR	Pos
Is there a problem with ability to think or perceive environment?	Yes	No	AR	Pos
Is there a problem with communication?	Yes	No	AR	Pos
Is there a problem with safety (risk for injury or falls)?	Yes	No	AR	Pos
Is there a problem with sleeping or exercising?	Yes	No	AR	Pos
Is there a risk for infection (self or transmission to others)?	Yes	No	AR	Pos
Is there a risk for impaired skin integrity?	Yes	No	AR	Pos
Is there a problem with coping or stress?	Yes	No	AR	Pos
Is there a psychological, developmental, self-esteem problem?	Yes	No	AR	Pos
Is there a socio-cultural problem?	Yes	No	AR	Pos
Is there a problem with roles, relationships, or sexuality?	Yes	No	AR	Pos
Does the person have a problem with taking medications?	Yes	No	AR	Pos
Does the patient require teaching?	Yes	No	AR	Pos
Is there a problem with health maintenance at home?	Yes	No	AR	Pos
Is this admission going to cause difficulties at home?	Yes	No	AR	Pos
Is there a problem with personal or religious beliefs?	Yes	No	AR	Pos
Is there a problem with coping or managing stress?	Yes	No	AR	Pos
Could this person be pregnant?	Yes	No	AR	Pos

Source: © 2015 R. Alfaro-LeFevre. www.AlfaroTeachSmart.com
[1]AR = At risk for problem (no signs and symptoms present, but risk factors are evident).
[2]Pos = Possible problem (insufficient data, but you suspect a problem).

6. **Determine what's causing or contributing to the problems.**
   - Always ask yourself whether it's possible that medications, medical problems, or allergies are causing the problems. If so, activate the chain of command to notify the professional most qualified to manage the problem.
   - Ask the patient and significant others if they can identify factors that are contributing to the problems.
   - Consider whether there are factors related to age, disease process, treatments, medications, or life changes that could be contributing to the problems.

7. **As appropriate, use the following strategies:**
   - Draw a map to clarify relationships among problems and signs, symptoms, or risk factors.
   - Use the Systematic Problem Analysis Worksheet (Figure 6-3) to systematically consider possible causative factors.
8. **If a summary diagnostic statement is required use the memory-jog PRE (problem, related risk factors, evidence) to describe the following:**
   P—Problem
   R—Related factors (risk and contributing factors)
   E—Evidence (patient data) that led you to conclude the problem exists
9. **Use "related to" to link the problem and its cause.** *Example:* Acute pain related to left rib fracture as evidenced by statements of extreme tenderness in the left rib cage area and x-ray films showing fractured rib.

SYSTEMATIC PROBLEM ANALYSIS WORKSHEET

Instructions:

1. List the focus problem, diagnosis, issue, or in box below.
2. Put a check mark in all boxes on the right that correspond to factors that contribute to the problem, diagnosis, or issue you identified.
3. Decide what factors must be managed and who will manage them.
4. Use back of page or figure of man as needed.

Actual / potential diagnosis, problem, or issue

CONTRIBUTING OR RELATED (RISK) FACTORS

1. Main reason for admission or contact?

2. Vulnerability—constitutional or age-related factors?
☐ Age ____ Weight ____ Height ____ Mental Status? ____
☐ Communication ability? ☐ Smoker? ☐ Drinker (alcohol)?
☐ Skin status? ☐ Nutrition-hydration status?
☐ Mobility or self-care problems?
☐ Bowel elimination or urine elimination problems?
☐ Immune system status? ☐ Overall health status/resilience?
☐ Other?

3. Allergy, medication, or treatment-related factors?
☐ Allergies? ☐ Considered all meds (Rx, OTC, herbal)?
☐ Treatments?

4. Co-existing medical problems, injuries, or pathophysiology?
☐ Neuro? ☐ Resp? ☐ Cardiac-circulatory? ☐ GI? ☐ GU?
☐ Diabetes? ☐ Hypertension? ☐ Depression? ☐ Other?

5. Environmental factors? Patient identified factors?
☐ Current environment (include work)? ☐ Role-related?
☐ Other factors?

6. Comfort factors? Mobility problems? Self-care problems?
☐ Pain level? ☐ Pain management? ☐ Self-mobile? ☐ Other?

7. Socioeconomic, spiritual, cultural factors?
☐ Family issues? ☐ Coping problems? ☐ Support systems limited?
☐ Other?

FIGURE 6-3 Systematic Problem Analysis Worksheet.

GUIDING PRINCIPLE

Diagnosis is incomplete until you identify not only the problems but also the underlying causes and contributing factors of the problems. You can't adequately prevent or treat the problems unless you understand both the problems and what's causing or contributing to them.

Predicting Potential Problems and Complications

1. Find out the patient's allergies, current and past medical and nursing problems, medications, treatments, or experience of invasive monitoring.
2. Look up problems and complications often associated with above. Chapter 4 (see Boxes 4-8 and 4-9) helps you predict potential complications.

   Examples: If the person has diabetes, there is a risk for foot ulcers and poor healing. If your patient just had a myocardial infarction (MI) and has an arterial line in place, determine common potential complications of MI (e.g., congestive heart failure, arrhythmias, pericarditis, MI extension, and cardiac arrest) and of the arterial line (e.g., thrombus or emboli).
3. Look for common risk factors as addressed in Skill 6.11, *Promoting Health by Identifying and Managing Risk Factors.* If the person has risk factors for a problem (but doesn't demonstrate signs and symptoms of the problem), name the potential complication. For example, if someone is taking an anticoagulant, the person has a potential for bleeding.

GUIDING PRINCIPLE

Clearly and specifically defining both the problem and its cause(s) helps you identify specific treatment and interventions to resolve it.

CRITICAL MOMENTS

Tolerating Ambiguity: A Good Thing—Or Not

Acceptance of ambiguity is often listed in the literature as a critical thinking characteristic. Certainly there are times, as the saying goes, that there's "no black or white—only gray." But you must ask, "How much ambiguity is acceptable in this particular situation?" For example, if you were sick, would you be happy with an ambiguous diagnosis or would you want it to be specific?

CLINICAL REASONING EXERCISES: DIAGNOSING ACTUAL AND POTENTIAL PROBLEMS

Example responses are in Appendix A.

SCENARIO ONE

You just admitted Nigel to the psychiatric unit. He is agitated but won't talk to anyone. You check previous records and note that he has a history of striking caregivers.

Write a summary statement that best describes the potential problem in the previous scenario. Alternatively, draw a map or diagram.

SCENARIO TWO

Elaine is in the recovery room after having an emergency appendectomy under general anesthesia. She's very groggy and extremely nauseated.

Based on the preceding scenario, predict Elaine's potential complications.

SCENARIO THREE

Susan is a single working mother of three children. She tells you that she has never been a very organized person and is having trouble coping with the many demands on her time. Her children look healthy and happy, but her house is cluttered and she appears disheveled.

Based on the preceding scenario, write a summary statement that best describes the problem, using the PRE (problem, related [risk] factors, evidence) format.

SCENARIO FOUR

Imagine that you're caring for a 41-year-old man with four fractured ribs.

What other information might you need to determine if he is at high risk for respiratory problems?

SKILL 6.13 SETTING PRIORITIES

Definition

In this section, setting priorities is defined in two ways: (1) differentiating between problems needing immediate attention and those requiring subsequent action and (2) deciding what problems must be addressed in the patient record.

Why This Skill Is Needed for Clinical Reasoning

This skill is important for the following reasons:

- **If you don't know how to set priorities, you may cause life-threatening treatment delays.** For example, if you don't assign high priority to dealing with symptoms of congestive heart failure (CHF), it can progress to pulmonary edema and death.
- **If you give equal attention to major and minor problems, you have the time you need to manage the most important ones.** Not only will your patients suffer, but you will constantly feel disorganized and overwhelmed.
- **All problems that must be managed to achieve the overall outcomes must be recorded in the patient record.**

Guidelines: How to Set Priorities

NOTE: *Managing Your Time* (Skill 7.6, in Chapter 7) gives additional strategies setting priorities inside and outside of the clinical setting. Chapter 4 details how to set priorities to delegate safely and effectively (page 108 to 109)

1. Ask patients to name the three main problems they are experiencing right now.

GUIDING PRINCIPLE

Patients rarely present with an isolated problem—they usually have several *interrelated* problems that contribute to one another (e.g., dehydration contributes to weakness, which contributes to increased risk for falls). Developing a problem list and determining relationships among the problems is key to setting priorities.

TABLE 6-1 Setting Priorities Using Maslow's Hierarchy of Needs

Priorities	Problems
No. 1	Survival needs (e.g., food, fluids, oxygen, elimination, warmth, physical comfort)
No. 2	Safety and security needs (e.g., risks for injury or infection, threats to feeling secure, emotional discomfort)
No. 3	Love and belonging needs (e.g., family problems, separation from loved ones)
No. 4	Self-esteem needs (e.g., need for privacy, respect, independence, and positive self-image)
No. 5	Self-actualization needs (e.g., need to grow and achieve personal goals; self-efficacy)

Summarized from Maslow, A. (1970). *Motivation in personality*. New York: Harper & Row.

2. Apply the principles and strategies listed in Table 6-1 and Box 6-2. Note that there's more than one way to set priorities. Choose the one that makes the most sense to you in context of each situation.

GUIDING PRINCIPLE

Always give high priority to safety issues (e.g., medication safety, fall and injury prevention, infection prevention, safety with activities of daily living, prevention of skin problems, hazards related to immobility, and patient education needs).

3. To determine what problems must be recorded in the patient record:
   - Clarify the overall expected outcome(s). *Example:* Mrs. Garcia will return home and be able to manage diabetic regimen independently. (How to determine expected outcomes is addressed in the next skill. To help you complete this section, outcomes are provided for you.)
   - Decide what problems must be addressed to achieve the overall outcomes. *Example:* Mrs. Garcia may have the following two problems, but only the first one relates to the *overall* outcome (and therefore must be addressed in the plan of care).
     1. Patient Education: Diabetes management, blood glucose, and insulin administration.
     2. Coping issues related to marital problems.

GUIDING PRINCIPLE

Apply the "80/20 Rule" to set priorities. Think of all the things you have to do for your patients as 100%. Then figure out the 20% that *must* get done to stay on track and keep patients safe. This is where you need to spend 80% of your time.

CLINICAL REASONING EXERCISES: SETTING PRIORITIES

Example responses are in Appendix A.

1. If the expected outcome is *will be discharged home in 5 days and able to manage colostomy care,* which of the following problems must be addressed in the patient record?
   a. Anxiety related to inability to return to work for 6 weeks

b. Patient Education: Colostomy care
c. Pressureulcer related to colostomy drainage

2. Applying the information on setting priorities in Box 6-2, what is the most immediate priority in the following scenario?

SCENARIO

Mr. Potter, a 64-year-old construction worker, is admitted with right calf thrombophlebitis. He is a smoker and has a cold, which is causing frequent sneezing and a productive cough. The doctor has ordered bed rest, warm soaks, and anticoagulants, with bathroom privileges for bowel movements only. Mr. Potter tells you he needs to use the bathroom. Then he mentions that he has been having chest discomfort.

BOX 6-2 Setting Priorities

Principles of Setting Priorities

1. **Make sure you have "the big picture" of all the patient's problems.** Make a list of current medications, medical problems, allergies, and chief complaints. Refer to them frequently because they may affect how you set priorities.
2. **Determine the relationships among the problems.** If problem Y causes problem Z, problem Y takes priority over problem Z. *Example:* If pain is causing immobility, pain management is a high priority.
3. **Setting priorities is a dynamic, changing process.** At times, the order of priority changes, depending on the seriousness and relationship of the problems. *Example:* If abnormal lab values are at life-threatening levels, they are likely to be highest priority; if your patient is having trouble breathing because of acute rib pain, managing the pain may be a higher priority than dealing with a rapid pulse, because the pain is causing the rapid pulse.
4. **Develop a multidisciplinary problem list, and refer to it frequently.** These types of lists promote team communication by giving the big picture of all patient problems that must be addressed.

Steps for Setting Priorities

1. Ensure patient and caregiver safety and prevent infection transmission.
2. Assign high priority to first-level priority problems (immediate priorities):
   Remember "ABCs plus V and L". *Exception:* With CPR for cardiac arrest, start chest compressions immediately (for up-to-date CPR guidelines, see http://www.americanheart.org).
   Airway problems
   Breathing problems
   Cardiac and **c**irculation problems
   +
   Vital signs concerns (e.g., fever, hypertension, hypotension)
   Lab values that are life threatening (e.g. low blood sugar)
3. Attend to second-level priority problems:
   - Mental status change (e.g., confusion, decreased alertness)
   - Untreated medical problems requiring immediate attention (e.g., a diabetic who hasn't had insulin)
   - Pain
   - Urinary elimination problems
4. Address third-level priority problems (later priorities):
   - Health problems that don't fit into the above categories (e.g., problems with lack of knowledge, activity, rest, family coping)

SKILL 6.14 DETERMINING PATIENT-CENTERED (CLIENT-CENTERED) OUTCOMES

Definition

Describing exactly what results will be observed in the patient to show the expected benefits of care at a certain point in time. *Example:* Twenty-four hours after endotracheal intubation for open-heart surgery, the patient will be able to breathe independently without the tube.

Why This Skill Is Needed for Clinical Reasoning

On a daily basis, outcomes (results) are often implied—if you're doing something to fix a problem, you obviously expect to see an improvement in the problem. However, in complex situations, outcomes are stated according to very specific rules, as noted in this section. Following the rules forces you to think things through and helps you record very specific outcomes that can be used to guide and evaluate care.

Identifying individualized patient-centered outcomes promotes efficiency because they help you:

- Explain why the treatment plan is worthwhile (they outline the expected benefits of care).
- Keep the focus on how the person is responding to care, the most important measure of how well the plan is working.
- Motivate key players—knowing the benefits and time frame for outcome achievement prompts patients and caregivers to initiate actions in a timely fashion.
- Determine priorities. You need to know exactly what you aim to do before you can decide what's most important and what must be done first.
- Determine specific interventions designed to achieve the outcomes. As the saying goes, "If you don't know where you're going, it's hard to figure out how to get there."

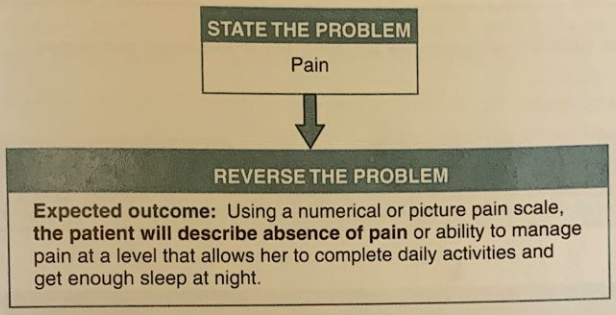
Guidelines: How to Determine Patient-Centered (Client-Centered) Outcomes

1. To describe expected outcomes, use terms that explain the benefits expected to be observed in the patient after care is given.
2. If you don't understand the difference between clinical, functional, quality-of-life, and other types of outcomes, or the interplay between outcomes and problems, study pages 91 to 92 in Chapter 4.
3. Partner with the patient and key stakeholders to develop outcomes together. Be realistic, considering:
   - Physical health state; overall prognosis
   - Growth and development; psychological/mental status
   - Spiritual, cultural, and economic needs
   - Expected length of stay
   - Available human, material, and financial resources
   - Other planned therapies for the client
4. Realize that expected outcomes may be identified from a **problem** or **intervention** perspective.
   - **Outcomes identified for problems** describe exactly what will be observed in the patient to show that the problems are resolved (or managed). For example, what will be observed when a patient no longer has trouble feeding himself?
   - **Outcomes identified for interventions** describe the desired response to the intervention. For example, what will be observed in the patient after you irrigate his nasogastric tube?

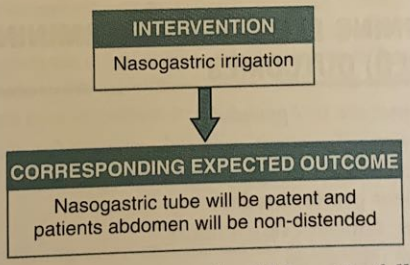
GUIDING PRINCIPLE

There's a dynamic relationship between problems, interventions, and outcomes. (1) If you aren't achieving desired outcomes, ask, "Are we sure that we identified the problems correctly?" "Are we sure that we're using the right interventions?" and "Have we included the patient and key stakeholders in decision-making?" (2) To prioritize care, be sure that you have clearly determined the problems, issues, and risks that must be managed to achieve the overall outcomes of the plan of care.

1. **To determine expected outcomes for problems.** Reverse the problem—describe what will be observed in the patient when the problem no longer exists or is managed at an acceptable level (see the following diagram).



2. **To determine expected outcomes for interventions.** Describe what will be observed in the patient to demonstrate that the desired response to the intervention has been achieved (see the following diagram).



3. **To ensure that outcomes are specific, they should have the following components:**
   - **Subject:** Who is expected to achieve the outcome? Or, what part of the patient will be observed to demonstrate the expected benefit?
   - **Verb:** What will the person do (or what will be observed) to demonstrate outcome achievement?
   - **Condition:** Under what circumstances will the person do it?
   - **Performance Criteria:** How well will the person do it?
   - **Target Time:** By when will the person be able to do it?

   Examples: "By Friday, Jim will walk with a walker to the end of the hall." Or, "By Friday, the skin on the bottom of the heel will be intact and free from signs of irritation."

4. **Use measurable verbs that are observable and measurable (actions you can clearly see, hear, feel, or smell).**
   - **Use verbs like these:** Explain, describe, state, list, demonstrate, show, communicate, express, walk, gain, and lose.
   - **Don't use verbs like these:** Know, understand, appreciate, feel (these aren't measurable because no one can read someone else's mind to find out if they know, understand, appreciate, and so on).
5. **In complex cases, develop both short- and long-term outcomes. Use short-term outcomes as stepping stones to long-term outcomes.** *Examples:* (Short term) "After 1 week, Fred will be able to bathe and dress himself with assistance." (Long term) "After 4 weeks, Fred will be totally independent in performing his morning care.

Use SMART to remember key features of expected outcomes:[2]
***S**pecific*
***M**easurable*
***A**greed upon by all parties*
***R**ealistic*
***T**ime-bound*

6. **To give a summary statement to guide evaluation, use "as evidenced by" to describe exactly what behaviors will indicate that the outcome has been met.** *Example:* "The patient will demonstrate diabetes management as evidenced by ability to state how insulin works, perform glucose monitoring, adjust insulin dose according to blood sugar level, and use sterile injection technique."

CLINICAL REASONING EXERCISES: DETERMINING PATIENT-CENTERED (CLIENT-CENTERED) OUTCOMES

Example responses are in Appendix A.

Determine a specific, client-centered outcome for each of the following:

1. Pressure ulcer related to age, obesity, and prolonged bed rest
2. Suction patient prn (as needed)
3. Irrigate Foley catheter every 4 hours
4. Endotracheal intubation
5. Leg muscle weakness related to prolonged bed rest as evidenced by inability to walk the length of the hall without assistance

SKILL 6.15 DETERMINING INDIVIDUALIZED INTERVENTIONS

Definition

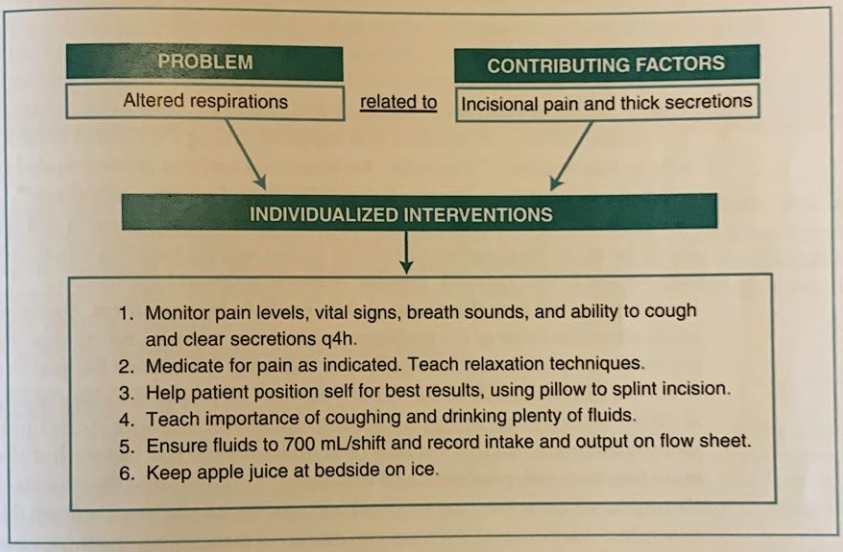
Identifying specific nursing actions that are tailored to the patient's needs and desires and designed to (1) prevent, manage, and eliminate problems and risk factors; (2) reduce the likelihood of undesired outcomes and increase the likelihood of desired outcomes; and (3) promote health and independence.

Why This Skill Is Needed for Clinical Reasoning

To prevent and resolve health problems, you must know how to develop safe, individualized interventions that are specific to each patient's particular situation. Keeping a focus on individual patient needs and desires gives the patient a sense of autonomy and helps you design a plan that's more likely to be followed. Knowing how to tailor the interventions to increase the likelihood of success and decrease the likelihood of harm is the key to improving efficiency and patient satisfaction.

Guidelines: How to Determine Individualized Interventions

1. Get patients and caregivers (e.g., families) involved in decision-making early. They are the ones who can help you tailor interventions in ways that are likely to succeed. Tell patients that your role is not only to take care of them, but to help them know how to take care of themselves when you're not there.
2. Identify interventions that aim to monitor and manage both problems and the underlying cause(s) or contributing factors, as illustrated in the following box.



3. Give high priority to designing interventions aimed at managing the factors contributing to the problems. For example, if your patient does not move or cough well after surgery because of incisional pain, a high-priority intervention will be to manage the pain.
4. Use the worksheet in Figure 6-3 (page 167) to systematically consider all the things that may contribute to a given problem. After you identify all the things contributing to the problems, decide what can be done to manage the contributing factors and who is responsible for managing them. For example, if your patient has a pressure ulcer and is diabetic, realize that the diabetes is a contributing factor and specify who is responsible for managing the diabetes. Sometimes there are contributing factors that you can't do anything about, but you still need to consider them. For example, you can't do anything about a risk factor of a woman being 86 years old. However, keep in mind that this woman is at risk for many potential problems and is less resilient because of her age; therefore you should monitor her more closely.

GUIDING PRINCIPLE

Be sure that your independent interventions are not attempting to treat a problem that needs medical management by a more qualified professional. *Example:* Unrelieved pain may indicate there's a life-threatening problem that needs immediate medical attention; continuing to treat the pain may mask critical symptoms and put the patient at significant risk.

5. Always ask, "Are there risk factors we need to manage?" If so, identify interventions to monitor and manage the risk factors. *Example:* If the person is bedridden, this is a risk factor for pressure ulcers. Monitor skin status carefully, and make a plan for repositioning the person.
6. Identify the problems and risk factors that must be monitored and managed to achieve the overall outcomes, and then ask the following:
   - "How will we monitor the status of the problems and risk factors?" ("What will we assess?" "Who will assess it?" "How often will we assess it?" "How will assessments be recorded?")
   - "What must be done to (1) manage or eliminate the risk (contributing) factors?" (2) "Manage or eliminate the problems?" (3) "Promote safety and reduce risk for harm?" (4) "Teach the person what he needs to know to be independent?"
7. Consider the interventions you identified, and ask the following:
   - "Have I predicted the expected benefits for this patient in this situation?"
   - "Have I predicted undesired responses and identified ways to minimize them?"
   - "Do I know the level of evidence that supports getting the desired results to my interventions in this situation?" *Example:* "Are your interventions recommended by textbooks? By policies, procedures, or standard plans? By clinical practice guidelines?"
   - "What can we do to increase the likelihood of getting desired results and reduce the risk for doing harm (getting undesired results) in this specific patient's situation?"
8. Remember the PPMP (predict, prevent, manage, promote) approach:
   - **Predict potential complications, and be ready to manage them.** Sometimes you can't do much about the cause of the problems, but you can prevent and manage the symptoms and potential complications of the problems. *Example:* If someone has just had his jaws wired shut, you can't do much about it, but you must be prepared to handle the potential complication of aspiration by having suction equipment and wire cutters nearby.
   - **Identify interventions that not only treat problems and risk factors, but also promote optimum function, independence, and well-being.** *Example:* Stress the benefits of walking at least 20 minutes a day. Be sure that patients have a paper and pen to write down things they need to remember. Ask patients for things you can do to make things more convenient for them.
9. Keep in mind both direct-care interventions (things you do directly for or with the patient, such as helping him get out of bed) and indirect-care interventions (things you do away from the patient, such as monitoring lab results).

GUIDING PRINCIPLE

When determining interventions, remember, SEE, DO, TEACH, RECORD: Consider what you need to see (assess), what you or the patient needs to do, what you need to teach, and what you must record. *Example:*

See: Assess ability to walk with walker in the room before allowing the patient to go out in the hall alone.

- **Do:** Have him walk the length of the hall three times per day.
- **Teach:** Reinforce that research shows that walking will increase muscle strength and reduce fatigue.
- **Record:** Record pulse and blood pressure before and after walking at least once per day.

CLINICAL REASONING EXERCISES: DETERMINING INDIVIDUALIZED INTERVENTIONS

Example responses are in Appendix A.

1. Determine specific interventions for each of the following problems and corresponding outcomes.

Problem	Corresponding Expected Outcome
a. Risk for dehydration related to diarrhea and insufficient fluid intake	Will maintain adequate hydration as evidenced by drinking 4 quarts of clear liquids per 24-hour period
b. Anxiety related to insufficient knowledge of hospital procedures	By the end of today, will relate knowledge of hospital procedures and express ways of managing anxiety
c. Pain related to arthritic joints as evidenced by statements of pain with range of motion for the past 20 years	After application of heat and assistance with range of motion, will rate pain on a scale of 0 to 10 and express that joint pain doesn't prohibit movement or sleep

2. Imagine you're doing a home visit with an 86-year-old woman who is asthmatic and is on chemotherapy for ovarian cancer. She is independent, but likes to spend much of her day reading in bed. She is 5 feet tall and weighs 93 pounds. Determine all the factors she has that may contribute to a risk for pressure ulcer. Then decide what, if anything, will be done to manage each contributing factor.
3. Answer the questions after the following scenario.

SCENARIO

You make a home visit to a Russian family with three children, ages 5, 7, and 10. Their home is next to a forest full of deer ticks. The mother is upset because she keeps finding ticks on the children, and she knows Lyme disease comes from tick bites. She's told the children not to go into the forest, but she suspects they disregard her instructions. Now the mother is considering punishing the children when she finds a tick on them, hoping this will make them more careful.

You look up Lyme disease and learn that the best treatment is prevention of tick bites. You then identify the following problem and expected outcome:

Problem: Infection risk related to tick bites.

Expected outcome: The children will have a decreased risk for tick bites and infection as evidenced by their wearing insect repellent when outside, avoiding tall grassy areas, and monitoring themselves and each other for ticks.

a. What might happen if the children are punished when a tick is found on them?
b. What might happen if you reward the children for finding ticks?
c. What interventions might safely motivate the children to participate in spotting ticks and avoiding bites?
d. What are specific interventions you could use to achieve the expected outcome listed for this situation?

SKILL 6.16 EVALUATING AND CORRECTING THINKING (SELF-REGULATING)

Definition

Reflecting on thinking for the purpose of safety and improvement—for example, looking for flaws, deciding whether your thinking is focused, clear, and in enough depth—then making adjustments as needed.

Why This Skill Is Needed for Clinical Reasoning

Developing sound clinical reasoning skills requires you to self-regulate, which means reflecting on your thinking and asking yourself questions like "Am I clear about what's going on here?" "What could I be missing?" "How can I be sure that my reasoning is correct?" "Am I holding myself to high standards?" "Do I know what I'll do if things go wrong?" "What creative approaches might work here?" "What peers or experts can I get to dialogue with me so that I better understand the thinking that should go into a situation like this?"

GUIDING PRINCIPLE

To avoid errors in clinical judgment, don't settle for the first conclusion or idea you have. Reflect on thinking, and consider alternative conclusions, problems, explanations, and solutions. Successful nurses aren't successful because they can come up with one right answer or explanation—they come up with many, and then choose the best one.

Guidelines: How to Evaluate and Correct Thinking (Self-Regulate)

Evaluating and correcting thinking is an ongoing process. Because the nursing process is a major tool for clinical reasoning, Box 6-3 gives example questions you should be asking at various phases of the nursing process.

There are no Clinical Reasoning Exercises for this skill, because opportunities for evaluating and correcting thinking have been provided throughout the other skills sections.

BOX 6-3 Reflecting on Nursing Process Phases

Assessment

- To what degree were the patient and key stakeholders involved in the process?
- How well do I understand my patient's perceptions?
- What assumptions could I have made?
- How complete is data collection?
- How accurate and reliable is my information?
- How well do I understand my patient's perceptions?
- Have I considered what data I need from both nursing and medical perspectives?

Diagnosis and Outcome Identification

- How well have I included the patient and key stakeholders in determining realistic outcomes?
- Are my outcomes clearly stated in measurable terms?
- How sure am I of the conclusions I've drawn (inferences I've made)?
- Should I be reporting some signs and symptoms immediately—could this be a medical problem that requires more qualified management?
- How well does the patient's data support that the problems I identified are correct?
- Have I missed any other problems that could be indicated by the patient's data?
- Am I clear about the underlying causes, contributing factors, and risk factors?

Continued

BOX 6-3 Reflecting on Nursing Process Phases—cont'd

- How clearly and specifically are the problems and outcomes described?
- Am I clear about the definitive diagnoses?
- Have I identified "muddy issues" that may need to be clarified?
- Have I identified both nursing problems and problems requiring a multidisciplinary approach?
- Were patient strengths and resources identified?
- Have I determined the priority risks and problems that must be recorded on the plan of care?
- Have I made sure that safety issues and patient education needs were identified?

Planning

- To what degree did I involve the patient and key stakeholders in setting priorities and developing the plan?
- What immediate priorities could have been missed?
- Have I missed any problems that must be addressed in the plan of care?
- How well do the outcomes reflect the benefits I expect to see?
- Are the expected outcomes realistic, clear, and client-centered?
- Have I considered the undesired responses and identified interventions to reduce the likelihood of getting them?
- Did I consider both the problems and the outcomes when identifying interventions?
- Did I consider client preferences when developing the plan, and did I use client strengths and resources?
- Have I predicted patient responses and individualized interventions to this specific patient and situation?
- Have I decided where the priority problems and risks and the corresponding interventions must be recorded?

Implementation

- How well did I involve the patient and key stakeholders in executing the plan?
- Are the problems still the same?
- Am I missing any new problems?
- Am I keeping the focus on client responses?
- Should I be doing anything differently? Are the interventions still appropriate?
- Do I need to address any safety issues?
- Have I identified and recorded changes we need to make?

Evaluation

- Where does the patient stand in relation to achieving major desired outcomes?
- How accurately and completely have I completed each of the previous phases?
- What do the patient and the key stakeholders have to say about their progress?
- What suggestions do the patient and key stakeholders have for improvement?

SKILL 6.17 DETERMINING A COMPREHENSIVE PLAN/EVALUATING AND UPDATING THE PLAN

Definition

Ensuring that the priority problems and corresponding outcomes and interventions are recorded on the patient record; keeping the plan up-to-date.

Why This Skill Is Needed for Clinical Reasoning

Developing a comprehensive plan and ensuring that the major care plan components are recorded (1) forces you to think about the most important aspects of giving care, (2) promotes communication between caregivers, and (3) provides data for evaluation, research, legal, and

insurance purposes. Ongoing evaluation—continually reflecting on how the plan is working and what changes must be made—helps you make adjustments early, making care safer and more efficient.

Guidelines: How to Develop a Comprehensive Plan/Update the Plan

1. Being able to determine a comprehensive plan requires all of the skills listed in this section and knowing the purpose and components of the recorded plan.

PURPOSE AND COMPONENTS OF PLAN OF CARE

Purpose

1. Promotes communication between caregivers
2. Directs care, interventions, and documentation
3. Creates a record that later can be used for evaluation, research, legal, and insurance purposes

Care Plan Components (use the memory-jog EASE)

Expected outcomes
Actual and potential problems that must be addressed to reach overall outcomes
Specific interventions designed to achieve the outcomes
Evaluation statements (progress notes)

2. Identify the major problems and interventions yourself. Then:
   - Check the patient record to see whether the problems and interventions are addressed by pre-established plans, policies, or doctor's orders.
   - Compare your patient's situation with the interventions on pre-established plans. Modify or add interventions if needed.
3. To evaluate and update the plan, compare what's recorded in the plan with what you actually find when you assess the patient.
   - Determine progress toward expected outcomes. For example, if the expected outcome states will be free of signs of infection around incision, assess the incision for signs of infection (e.g., redness, drainage, heat, and tenderness).
   - Monitor problems closely; watch closely for new risk factors or problems. If risk factors or problems change, update the patient record as indicated.
   - Monitor patient responses to interventions. If you aren't seeing the expected results, together with the patient, decide what needs to change to improve results.
   - Modify interventions as needed, changing the record as needed.

GUIDING PRINCIPLE

You're responsible for monitoring for care variances (a care variance is when a patient hasn't achieved outcomes by the time frame noted on a plan of care). If you identify a care variance, ask, (1) "What additional assessment do I need to do to determine whether this delay is justified?" (2) "What can be done to improve the likelihood that the person will achieve the outcomes of the plan?" and (3) "What resources and multidisciplinary approaches might help?" Then take appropriate action.

CLINICAL REASONING EXERCISES: DETERMINING A COMPREHENSIVE PLAN/EVALUATING AND UPDATING THE PLAN

Example responses are in Appendix A.

1. Consider each of the following expected outcomes and corresponding patient data, and decide whether the outcome has been achieved, partially achieved, or not achieved.
   a. **Expected outcome:** Will manage own wound care by day 3 after surgery as evidenced by ability to demonstrate how to manage wound packing. **Data:** Patient says that managing wound packing shouldn't be his concern and feels he's incapable of doing so.
   b. **Expected outcome:** Will drink at least 4 quarts of fluid as evidenced by keeping a written record of fluid intake. **Data:** Patient's record indicates 5 quarts of fluid intake daily.
   c. **Expected outcome:** The baby will be discharged home with parents able to perform CPR. **Data:** Father demonstrates CPR well. Mother has trouble establishing airway.
2. Develop a comprehensive plan, identifying two priority problems for the following scenario. Include an overall expected discharge outcome, outcomes for each problem, and specific interventions.

SCENARIO

It's Monday, June 29. You admit Mrs. Ankiel, who has just suffered anaphylactic shock after a bee sting. She is expected to be discharged by Tuesday, June 30. The doctor gives Mrs. Ankiel an emergency epinephrine injection kit and tells her, "The nurse will teach you how to use it." Mrs. Ankiel still has hives all over her body and says her itching feet are driving her crazy. You find that placing her feet in cool water every so often helps her discomfort. She is still slightly wheezy from the bee sting reaction.

When you ask her about using the injection kit, she replies, "No way!" Her husband, who is retired, says, "I'll be glad to learn." It's decided that it's satisfactory to discharge Mrs. Ankiel on June 30, with her husband able to demonstrate how to give epinephrine in an emergency.

3. Imagine that you're using a critical pathway to guide your patient's care. It states that on the first day after surgery, the patient should have the Foley catheter out and be voiding normally. It's now the second day after surgery, and when you check the intake and output record, you see that she is voiding 30 mL every hour. What should you do, and why?
4. Suppose you're reviewing someone's chart to determine if a comprehensive plan of care is present. What four care plan components will you look for?

REFERENCES

1. Silver, D. (February, 2015). *E-mail communication.*
2. Bartle, P. SMART: Characteristics of good objectives. Retrieved from http://www.scn.org/cmp/modules/pd-smar.htm.