

Ethical Reasoning, Evidence-Based Practice, and Quality Improvement

THIS CHAPTER AT A GLANCE...

A New Era

Moral and Ethical Reasoning

Critical Thinking Exercises 5.1

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Evidence-Based Practice and Quality Improvement

Research and Quality Improvement: All Nurses

Play a Part

Quality Improvement

Critical Thinking Exercises 5.2

Think, Pair, Share

Key Points/Summary

References

LEARNING OUTCOMES

After completing this chapter, you should be able to:

1. Develop or adopt a personal code of conduct based on your personal values.
2. Compare and contrast the terms *moral reasoning* and *ethical reasoning*.
3. Clarify your nursing responsibilities in relation to the American Nurses Association Ethics Code.¹
4. Compare and contrast the utilitarian and deontological ethics approach.
5. Address the roles of patients', nurses', and other bills of rights in giving ethical care.
6. Make ethically sound decisions based on patient circumstances and ethics codes and principles.
7. Explain the relationships among nursing research, evidence-based practice, and quality improvement.
8. Clarify the relationships among clinical outcomes, patient satisfaction outcomes, and quality improvement.
9. Explain why it's important to study outcomes, process, and structure to improve care practices.
10. Describe your responsibilities for research, evidence-based practice, and quality improvement.

KEY CONCEPTS

Autonomy, advocacy, beneficence, nonmaleficence, justice, veracity, fidelity, utilitarian approach, deontological approach, ethics code, ethical reasoning, moral reasoning, values clarification, research, evidence-based practice, quality improvement, patient satisfaction, clinical outcomes, nursing-sensitive indicators.

A NEW ERA

Sweeping changes in health care—treatment advances, longer life spans, and an increased focus on patient outcomes, cost containment, and organizational accountability—create new challenges. To meet some of these challenges, this chapter addresses moral and ethical reasoning,

research, evidence-based practice (EBP), and quality improvement (QI)—all central to your ability to succeed in this new era of health care.

MORAL AND ETHICAL REASONING

Faced with conflicting values and beliefs of patients and health care providers, today's nurses face complex ethical dilemmas; questions related to beginning of life, end of life, quality of life, and the distribution of resources are common. Let's examine how to reason your way through moral and ethical issues. Knowing how to do this can reduce stress and give you peace of mind because regardless of circumstances, you'll be equipped to make decisions that are in your patients' best interest.

Moral Versus Ethical Reasoning

The terms *moral reasoning* and *ethical reasoning* are sometimes used interchangeably. However, consider the difference between the two following descriptions:

- **Moral reasoning:** Thinking that's guided by *personal* standards of right and wrong (e.g., "I personally believe it's okay to tell little white lies now and then.").
- **Ethical reasoning:** Thinking that's guided by *professional* standards derived from the formal study of what criteria should be used to determine whether actions are justified (e.g., "I personally don't think that there's anything wrong with little white lies." "As a nurse, I won't tell white lies because the American Nurses Association [ANA] Code of Ethics stresses the importance of being honest and telling the truth.")¹

To understand the difference between moral and ethical reasoning, imagine that you're caring for a woman who is freely and knowledgeably asking for her tubes to be tied to prevent pregnancy. Morally (according to your personal standards), you believe sterilization is wrong. However, you know that professional standards and ethics codes stress that people have the right to make their own choices, based on their own beliefs. It's unethical for you, as a nurse, to tell her that sterilization is wrong.

Clarifying Values

Clarifying values is an important starting point for moral and ethical reasoning. Your values and beliefs affect your thinking at a subconscious level. Unless you spend considerable time getting in touch with your deep personal beliefs—and the implications of these beliefs—you're making "gut," not ethical, decisions.

There are two main ways of looking at values:

- **Personal values:** These are the beliefs, qualities, and standards that you're passionate about—things you hold "near and dear," for example, your sense of right and wrong. We all have significant emotional investment in our personal values. Yet, it often takes "serious thinking" to get in touch with them. Once you clarify what you believe, why you believe it, and how it affects your ability to be objective in various situations, you improve your ability to deal with moral and ethical issues.
- **Organizational values:** These are deeply held beliefs within an organization (e.g., a school or hospital). These values are expected to be demonstrated through the day-to-day behaviors of all organizational members. Examples of common organizational values are leadership, collaboration, honesty, integrity, dedication to customer service, and respect for diversity.

Think about what's important to you as a person and nurse. For example, what are your beliefs about how terminal illnesses should be managed, how people should treat one another, and how much autonomy and responsibility students and patients should have? Reflect on the values of

your school or hospital. Are they compatible with your own values? Think about where you stand in relation to the following quotes.

*An ethic of care respects individual uniqueness, personal relationships, and the dynamic nature of life. Essential to an ethic of care are compassion, collaboration, accountability, and trust.*²

—American Association of Critical Care Nurses

Everyone has an ethical framework—the question is how aware of it are they? We all need to clarify our ethical frameworks before we’re faced with dilemmas. Just as we’re too late if we’re flipping through our advanced life support book during a code, we can make some regrettable decisions if we haven’t given thought to how we’ll respond to difficult situations.

—Michael Riley, MSW, EMT-Paramedic (personal communication)

How Do You Decide?

So how do you make decisions about moral and ethical issues? The answer is that it’s not easy. These types of issues are rarely simple. Let’s look at how to handle situations that have no clear “right” answers—when each answer has its own merits and drawbacks, and it’s hard to say that one is better than another.

Moral and ethical problems are divided into three categories:

- **Moral uncertainty:** You’re not sure which moral or ethical principles apply. *Example:* A patient asks you whether you think his doctor is a good doctor. You don’t think the doctor is very competent. Do you tell him?
- **Moral dilemma:** You’re faced with a situation in which you have two (or more) choices available, but neither (or none) of them seems satisfactory. *Example:* A doctor takes you aside and tells you she’s sure your friend Susan has cancer, but she tells Susan, “I won’t know anything until the diagnosis is made by the lab next week.” When Susan begs you to tell her what the doctor knows, what do you do? If you tell her you don’t know, you’re lying. If you tell her what the doctor told you, you risk breaking Susan’s trust in her doctor.
- **Moral distress:** You know the right thing to do, but institutional constraints make it nearly impossible to do what is right. *Example:* You think a patient isn’t ready for discharge because his wife is unprepared to care for him. When you report this problem to the physician, you’re told the hospital has “no choice” but to discharge him. What do you do?

Did you know what to do in these examples? If so, on what did you base your decisions? Gut feelings? Personal values? Professional standards? Let’s go on to examine the ethics principles and codes you should apply in situations like those given here.

Five Ethical Principles

There are five ethical principles you should apply when making ethical decisions:³

1. **Autonomy.** People have the right to make legally acceptable decisions based on personal values and beliefs, adequate information that’s given free from coercion, and sound reasoning that considers all the alternatives.
2. **Nonmaleficence** (pronounced non-mal-FEE-sents): Avoid harm.
3. **Beneficence.** Aim to benefit others; balance benefits against risks and harm.
4. **Justice.** Treat all people fairly, and give what is due or owed.
5. **Fidelity.** Keep promises, and don’t make promises you can’t keep. Maintain confidentiality. Be honest and tell the truth (called veracity). Accept responsibility for the consequences of your actions.

Ethics Approaches

There are two main ethics approaches that guide your actions:³

1. **Utilitarian approach:** Whether actions are right or wrong is determined by the consequences of the actions. *Example:* You decide that it's right to stop a biological mother from seeing her child because his condition is unstable and you've been told he is afraid of her.
2. **Deontological approach:** Whether actions are right or wrong depends on a rule that's independent of the consequences. *Example:* You decide that the biological mother should be allowed to see her child because you believe in the rule that "mothers shouldn't be separated from their children."

GUIDING PRINCIPLE

The **utilitarian ethics approach** focuses on what's useful—actions are right when they promote the greater good and wrong when they don't. The **deontological approach** views actions as right or wrong regardless of consequences.³

Standards, Ethics Codes, and Patients' Rights

Standards, ethics codes, and statements of patients' rights also influence how you conduct yourself as a nurse. For example, the ANA's Code of Ethics stress that nurses must:¹

1. **Practice with compassion and respect for each person's dignity, worth, and unique individuality.** This applies to co-workers, families, and patients, regardless of the nature of health problems present, socio-economic status, or culture.
2. **Keep your primary commitment to consumers (patients, families, and communities).** It's your responsibility to promote, advocate, and protect the health, safety, privacy, and rights of consumers.
3. **Promote, advocate for, and protect the health, safety, and rights of patients.**
4. **Acknowledge that nurses have the authority, accountability, and responsibility for individual nursing practice.** This includes delegating tasks appropriately to provide optimum care.
5. **Respect your own worth and dignity.** Keep yourself healthy and safe. Strive to grow personally and professionally. Maintain competence by broadening your knowledge and seeking out learning experiences.
6. **Participate in establishing, maintaining, and improving the health care environment for both patients and workers.** The environment should support the development of moral virtues (qualities needed to make moral decisions—for example, having the courage to do the right thing). Nurses must work to ensure that the physical environment and employment conditions are conducive to providing high-quality health care.
7. **Advance the profession** through research and scholarly inquiry, professional standards development, and the generation of both nursing and health policy.
8. **Collaborate with other professionals** to protect human rights, promote health diplomacy, and reduce disparities. Work with the public to promote community, national, and international efforts to meet health needs.
9. **Work with nursing professional organizations** to articulate nursing values, maintain the integrity of the profession, and integrate principles of social justice into nursing and health policy. Principles of social justice stress the need to treat all people fairly, regardless of economic status, ethnicity, age, citizenship, disability, or sexual orientation.

GUIDING PRINCIPLE

Ensuring ethical care—identifying issues and taking responsibility and advocating for what is right—is a key feature of competent nursing practice.

Appendix E gives an example of a patients' bill of rights. Bills of rights (e.g., a pregnant patient's bill of rights and a nursing home resident's bill of rights) also guide how you respond to ethical issues. The ANA also has developed a Nurses' Bill of Rights (Box 5-1).

BOX 5-1 Nurses' Bill of Rights

Nurses have the right to a work environment that:

- Is safe for themselves and their patients
- Lets them practice in ways that fulfill their obligation to their patients and society
- Allows them to act in accordance with professional standards and legal practice scope (practice scope is addressed in the last chapter)
- Supports and facilitates ethical practice
- Allows them to freely and openly advocate for their patients and themselves without fear of retribution
- Provides fair compensation for their work, consistent with knowledge, skills, experience, and responsibilities
- Allows them to negotiate their conditions of employment, either individually or in groups

(Source: Summarized from <http://www.nursingworld.org/NursesBillOfRights>)

Advance Directives (Box 5-2) help us make decisions about cardiac resuscitation and other end-of-life treatments.

BOX 5-2 What Are Advance Directives?

Advance Directives include two documents, which may be combined into one document, called a *combination directive*:

1. **Living will:** Designates the types of medical treatments you would or wouldn't want in specific instances (e.g., whether you want to continue ventilator support if you become permanently unconscious).
2. **Durable power of attorney for health care:** Identifies who you want to make treatment decisions if there comes a time when you aren't able to do so for yourself.

Don't wait too late: Too many people wait until it's too late to address Advance Directives. Encourage people to talk with loved ones about what they would want if they were unable to speak for themselves. This eases the burden of making tough decisions about whether to refuse aggressive treatment that merely prolongs dying.

GUIDING PRINCIPLE

When there are no Advance Directives available and the patient is unable to respond, help family to make end-of-life decisions by asking them to focus on what *the patient* would want.

Applying Nursing Process

The following steps, organized according to the nursing process, help you develop an in-depth approach to moral and ethical reasoning.

Assess

Gather the information you need to identify the ethical issues. What are the patient's cognitive abilities (competent? incompetent)? How are his or her physical and emotional well-being? What decision is the patient and family trying to make? What conflicts exist? What are their values and beliefs?

Diagnose

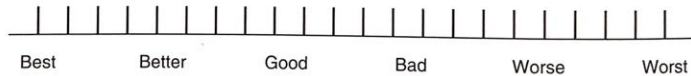
Analyze the data to identify:

1. **The main ethical issues** based on the perspectives of the patient and family. For example, Mrs. Morris, an elderly woman who lives alone, tells you she doesn't want her leg amputated and that she'd rather die than live as an amputee. Mrs. Morris's daughter tells you her mother is incompetent to make this decision. Who has the legal right to make this decision? Is Mrs. Morris competent? Does she have the right to refuse surgery? Does the daughter have the right to overrule her mother?
2. **The key stakeholders**—the people who will be most affected by care (patients and families) or from whom requirements will be drawn (caregivers, insurance companies, third-party payers, health care organizations).

Plan

1. **Clarify your personal values and how they influence your ability to participate in decision-making.** For example, in Mrs. Morris's case, do you believe that no one has the right to refuse lifesaving surgery? If so, how would this affect your ability to help Mrs. Morris with this decision? If you can't be objective, let your supervisor know so that another caregiver can assist with decision-making.
2. **Decide what your role will be.** Does this family rely heavily on your judgment? Do you just need to listen and help them sort out their thoughts? Who else will be involved in helping make decisions (e.g., chaplain or case manager)?
3. **Determine possible courses of action** (go "out of the box"—think about as many alternatives as you can). Would it be possible to have the daughter come in to discuss caring for her mother? Could social services help? Should you request an ethics consult?
4. **Determine the outcomes (consequences) of each of the courses of actions you thought about.** For example, what would happen if the daughter is incapable of caring for her mother—what role could the daughter have in this case?

List the courses of action, and rate them according to which choice is most likely to produce an outcome that gives greatest balance of benefits over possible harm. To do so, don't consider "good" versus "bad." Instead, ask where each choice fits on the following scale.



5. **Together with the key stakeholders**, develop a plan of action aimed at achieving the best outcomes based on the circumstances.

Implement

Put the plan into action, and monitor patient and family responses closely.

Evaluate

Assess the patient and situation to determine to what degree the outcomes developed during PLANNING are being achieved. Modify approach as needed.

The following are great Internet resources for moral and ethical reasoning:

- American Nurses Association, Center for Ethics and Human Rights: <http://www.nursingworld.org/ethics/>
- National Reference Center for Bioethics Literature: <http://bioethics.georgetown.edu/>
- American Society of Law and Ethics: <http://www.aslme.org>
- American Society of Bioethics and Humanities: <http://www.asbh.org>
- Nursing Ethics of Canada: <http://www.nursingethics.ca>
- Markkula Center for Applied Ethics, Santa Clara University: <http://www.scu.edu/SCU/Centers/Ethics/>

Legal Versus Ethical Implications

To end this section, let's briefly examine legal versus ethical implications. Legal aspects of nursing are guided by local, state, and national laws (if you go against laws, you face legal consequences). Ethical aspects of nursing are guided by professional standards and codes. When you're determining ethical courses of action, always ask: "What are the laws related to these actions?" Be sure you're aware of both the ethics and laws involved.

CRITICAL THINKING EXERCISES 5.1

Example responses are in Appendix A.

1. Fill in the blanks in *a to k* by choosing from the following words: consequences, deontological, good, utilitarian, virtues, accountability, confidentiality, veracity, fidelity, justice, beneficence, autonomy, personal, professional.
 - a. Ethical reasoning differs from moral reasoning in that it requires you to apply _____ standards rather than _____ standards.
 - b. The principle of _____ focuses on individuals' right to self-determination and to make legally acceptable decisions based on their own values and adequate information that's given free from coercion.
 - c. The principle of _____ aims to benefit others and avoid harm.
 - d. Treating all people fairly and giving what is due applies the principle of _____.
 - e. _____ has to do with keeping promises and not making promises you can't keep.
 - f. Being honest and telling the truth applies the principle of _____.
 - g. Keep information private applies the principle of _____.
 - h. Accepting responsibility for the consequences of your actions applies the principle of _____.
 - i. Qualities needed to do the right thing—for example, having the courage to advocate for your patients under difficult circumstances—are called moral _____.
 - j. Applying the _____ ethics approach means deciding that actions are right when they promote the greater _____ and wrong when they don't.
 - k. Applying the _____ approach means deciding that actions are right or wrong based on a rule and views regardless of _____.
2. Is it possible for an action to be ethical, but illegal? If so, would you choose your actions based on laws or ethics?
3. The following scenario is a true story of what happened when my father was admitted to intensive care. What would you do if you had been me in the following scenario?

SCENARIO CODE OR NO CODE: WHAT WOULD YOU DO?

My father was admitted to an intensive care unit and wasn't expected to live. I was approached by a physician, who asked, "Do you want us to resuscitate him if he arrests again?" Because my father never wanted to talk about these things, I didn't know what he'd want. I also didn't feel it was my place to answer. I called my mother and asked her the question. Here's how the conversation went:

Me: "Mom, they want to know if they should resuscitate Dad if he arrests again."

Mom: "You don't know what you're asking me."

Me: "Yes, I do. I know it's hard, but you're supposed to speak in his voice. Not what you want—what you think *he* wants."

Mom: "That's the problem. All my life when I've tried to guess his decisions, he's always done just the opposite. Even when I've said to myself, 'I think he'll do (whatever) only because it's the opposite of what I think he'd do,' I've still been wrong."

 **THINK, PAIR, SHARE**

With a partner, in a group, or in a journal entry:

1. Discuss the importance of clarifying personal and organizational values as addressed in: Donley, J. Lead with Values, available at: <http://nursing.advanceweb.com/Columns/Personal-Best/Lead-With-Values.aspx>
2. Think about your personal values in relation to the values clarification document at https://www.smartrecovery.org/resources/library/Tools_and_Homework/Other_Homework/Values_and_Goals_Clarification.pdf
3. Consider the ethical issues involved when parents try to sneak medication into their child's meals. (See "Treating a Son's O.C.D." by Randy Cohen at <http://www.nytimes.com/2010/04/18/magazine/18FOB-Ethicist-t.html>)
4. Download your state-specific Advance Directives by clicking on your state at <http://www.caringinfo.org/stateaddownload>. How do these directives make you feel? How do you feel about discussing them with clients, colleagues, or friends?
5. Discuss the Palliative and End-of-Life Assessment tool posted at <http://www.aacn.org/WD/Palliative/Docs/Player/main.html>
6. Discuss the ethical principles inherent in *Advancing Effective Communication, Cultural Competence and Patient- and Family-Centered Care: A Road Map for Hospitals* (available at http://www.jointcommission.org/Advancing_Effective_Communication/)
7. Address the ethics and laws involved in deciding whether a nonvaccinated child should be allowed to come to school when there's an outbreak of measles.
8. Consider the hypothetical case scenarios in the following article: Taylor, C. Do ends justify the means? The Code of Ethics for Nurses encompasses more than just patient care. Published Jan 23, 2014, Accessed from <http://news.nurse.com/article/20140123/NATIONAL06/140124003#.VNt7V9XfLU>
9. Decide where you stand in relation to achieving the learning outcomes 1 to 6 at the beginning of this chapter.
10. Discuss your thoughts on the following *Other Perspectives*.

OTHER PERSPECTIVES

Two Wolves in Each of Us

An old Indian tells his grandson, “There’s a battle between two ‘wolves’ inside all of us. One is Evil. It is anger, envy, jealousy, sorrow, regret, greed, arrogance, self-pity, guilt, resentment, inferiority, lies, false pride, superiority, and ego. The other is Good. It is joy, peace, love, hope, serenity, humility, kindness, empathy, generosity, truth, compassion, and faith.” The boy thinks about it and asks, “Which wolf wins?” The old Indian replies, “The one you feed.”

Unheard Screams

I was working in a clinic and had to persuade a pregnant teenager who tested positive for human immunodeficiency virus to agree to highly active antiviral therapy (HAART). After taking a deep breath to calm my emotions, I said, “I can’t tell you what to do. I can only support your decision. But I can tell you that infants have a much worse time dealing with HIV than adults. Whatever difficulties you have with the virus or the medication, multiply them and think about your baby having them. You must be prepared to deal with the consequences of whatever choice you make.” The doctor and I waited for a response. There was none. The young patient snatched the prescriptions and left the room. In that quiet room, I felt that there were silent screams. The patient was screaming her fear. I was screaming my anger. The physician was screaming his frustration. As loud as our screams were, in that little room you couldn’t hear a sound.⁴

—Jacqui Scipio-Bannerman, RNC

In Crises, Silence Is Golden!

Giving ethical care means working to do the best thing for your patients, giving them control, and allowing them to work through their own issues. I see too many basic errors in handling crisis situations. Simple principles such as maintaining “one voice” and providing enough space and time for patients to de-escalate are often ignored. Two common mistakes I’ve noticed when staff respond to patients or clients in crisis are the use of too much verbal interaction and premature use of intrusive intervention strategies. Our first instinct is to talk to a client; however, silence can be an extremely effective strategy to de-escalate a crisis situation. When I train staff, I stress that they should never try to force a situation to resolution if time and space may solve the problem. Many people intervene before it is necessary instead of allowing time to solve the problem.

—Matthew Riley, MA, BCBA, Owner, Behavior for Life

EVIDENCE-BASED PRACTICE AND QUALITY IMPROVEMENT

Thanks to electronic information management and the hard work of committed researchers, care has shifted from practices based in tradition (“We do it this way because that’s the way it’s always been done”) to EBP (“We do it this way because the most current research shows we get the best outcomes when we do it this way”).

Understanding how research, EBP, and QI are related clarifies the process of improving care. Study Figure 5-1, which describes these terms and shows the relationships among them.

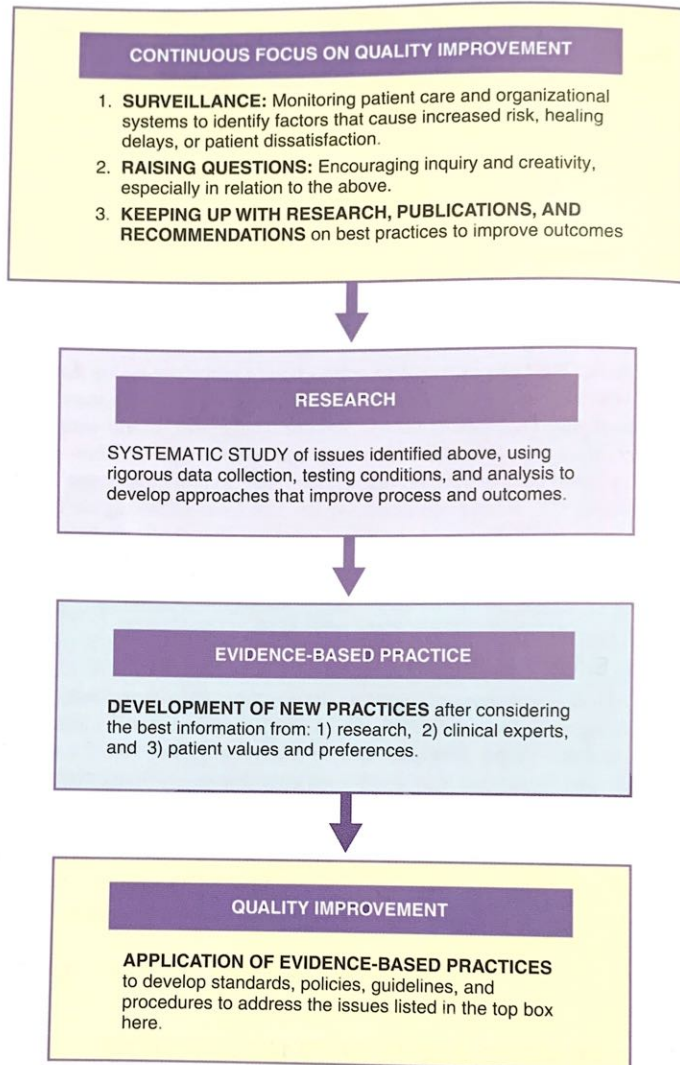


FIGURE 5-1 American Nurses Association standards stress that nurses must apply research to practice, continue to question current practices, and develop new knowledge. This figure shows how continually focusing on quality improvement (QI) leads to research. Research is then transformed to evidence-based practice (EBP). EBP is then incorporated into care practices leading to QI. (Source: © R. Alfaro-LeFevre Handouts, © 2015. <http://www.AlfaroTeachSmart.com>)

Transforming Knowledge to Evidence-Based Practice

EBP requires that knowledge be transformed by the systematic study of how evidence from research can best be applied in practice. Transforming knowledge from research to practice is something you don't do alone. The volume of scientific information is such that no one can do it all. You need the collaborative knowledge of a team of experts to interpret the data and decide how it can best be applied to practice.

Clinical Summaries and Practice Alerts

Because reading and critiquing research studies is time-consuming and requires significant expertise, clinical summaries are now a common way to make research more useable. Practice Alerts—important evidence-based information that affects patient care—give cutting-edge, evidence-based information to busy staff nurses. Many nurses receive practice alerts via e-mail, in the form of newsletters. The American Association of Critical Care Nurses (AACN) defines practice alerts as “succinct, dynamic directives that are supported by authoritative evidence to ensure excellence in practice and a safe and humane work environment. Practice alerts help nurses and other healthcare practitioners carry their bold voices to the bedside to directly impact patient care.”⁵ AACN's website (<http://www.aacn.org>) also offers a “Searching for Evidence Tool Kit” and protocols for practice, which provide bedside clinicians with the latest patient-care research findings. If you enter “Evidence-Based Practice” into the search field of virtually any health care organization, you can find many helpful resources to make nursing inquiry and research manageable.

Stevens Star Model[®] of Knowledge Transformation

To understand how knowledge is transformed from research to EBP, study Figure 5-2, the Stevens Star Model of Knowledge Transformation.⁶ This model helps ensure that care is driven by evidence, rather than tradition. It combines the best of what we know from research with the best of what we know from clinical practice to give current information that's clinically relevant.

Boxes 5-3 and 5-4 give resources for finding the most up-to-date information on clinical practice guidelines and EBP. Also remember that in Chapter 3, there are guidelines for accessing, analyzing, and applying information gained online and from other resources.

RESEARCH AND QUALITY IMPROVEMENT: ALL NURSES PLAY A PART

To give nursing care that's based on the best available evidence, we must continue to question current practices and develop new knowledge through nursing research. Yet many nurses don't understand the value of research. Often, they feel this way because they had little or no research training, the courses they took were overwhelming, or they don't have enough time and resources.

One way to get excited about research is to start by looking at some of the significant research findings we have gained in recent years. For example, think about the importance of the results from the following studies:

- Traditionally, we taught that mouth care must be done for hygiene and to prevent problems in the mouth. Research shows that poor mouth care can result in microbes colonizing the oropharynx. This colonization is a critical factor in nosocomial (hospital-acquired) pneumonia.

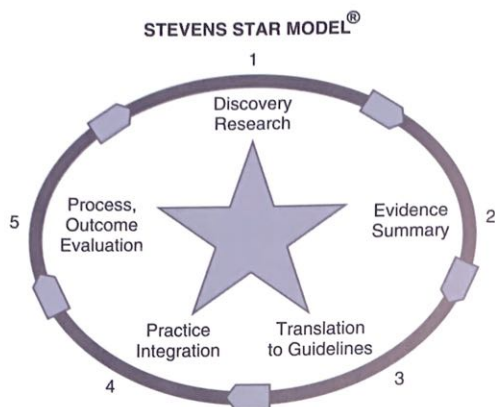


FIGURE 5-2 With the Stevens Star Model, research evidence moves through the following cycles and then is combined with other knowledge and integrated into practice. (1) **DISCOVERY**: New knowledge is discovered through traditional research and scientific inquiry. (2) **EVIDENCE SUMMARY**: A single, meaningful statement of the state of the science is developed (this is a complex task that takes a lot of critical thinking on the part of knowledgeable experts). (3) **TRANSLATION**: Evidence summaries are translated into practice recommendations and integrated into practice. Recommendations are made in clinical practice guidelines, care standards, clinical pathways, protocols, and algorithms. (4) **INTEGRATION**: Individual and organizational practices are changed through formal and informal channels. (5) **EVALUATION**: The impact on patient health outcomes, provider and patient satisfaction, efficacy, efficiency, and economic costs is continually examined. (Source: Reprinted with permission from Stevens, K. R. (2004). Stevens Star Model of EBP: Knowledge transformation. Academic Center for Evidence-Based Practice. The University of Texas Health Science Center at San Antonio. Retrieved from <http://www.acestar.uthscsa.edu>)

BOX 5-3 Search Engines and Health-Related Websites

Agency for Healthcare Research and Quality (AHRQ): <http://www.ahrq.gov>
 AHRQ Guideline Clearinghouse: <http://guidelines.gov/>
 Cumulative Index to Nursing and Allied Health Literature: <http://www.cinahl.com>
 Directory of Healthcare Sites: <http://www.lib.uiowa.edu/hardin/md>
 Google Scholar: <http://scholar.google.com>
 Google Health: <http://health.google.com>
 Health on the Net: <http://www.hon.ch>
 Healthfinder: <http://www.healthfinder.gov/>
 Mayo Clinic: <http://www.mayoclinic.com/>
 Microsoft Health Vault: <http://www.healthvault.com>
 NurseLinx.com: <http://www.NurseLinx.com>
 MedlinePlus: <http://www.medlineplus.gov>
 Medical videos, images, and sounds: <http://www.medicalvideos.us/>
 PubMed: <http://www.ncbi.nlm.nih.gov/pubmed>
 Canadian Health Network: <http://www.canadianhealthcarenetwork.ca/>
 Health Insite: <http://www.healthinsite.gov.au>

BOX 5-4 Clinical Practice Guidelines and Standards*

- 1. What are clinical practice guidelines (CPGs)?** CPGs are recommendations for how to manage care in specific diseases, problems, or situations (e.g., how to best manage smoking cessation or neonate umbilical cord care). CPGs are developed for specific use and designed by a collaborative panel of clinical and scientific experts. When scientific evidence is sufficient, practice guidelines are obvious and clear. When scientific evidence is insufficient, other sources of knowledge—for example, wisdom gained from clinical experts or specific cases—must be brought to bear on the recommendations to fill in the gaps in the research evidence. Evidence summaries and CPGs are the essence of evidence-based practice (EBP). EBP provides mechanisms for fulfilling our social responsibility to provide the best care in the most effective and affordable way. You will find many helpful links and resources at <http://www.acestar.uthscsa.edu/>.
- 2. What are the best EBP websites for updating practice standards?** For evidence summaries, the two best resources are the Agency for Healthcare Research and Quality (<http://www.ahrq.gov>) and the Cochrane Library (<http://www.cochrane.org>). For CPGs, the most definitive source is the National Guideline Clearinghouse (<http://www.guideline.gov/index.aspx>). This is a publicly available electronic repository of clinical practice guidelines, easily searchable by topics. AHRQ offers free access to evidence summaries and reports (on its home page, click on Evidence-Based Practice). They also archive CPGs. If you access archived CPGs, use the information only after updating them with the latest research on the topic. The Cochrane Library produces systematic reviews, which give a single statement that summarizes the state of the science and draws on all research on a given topic. A systematic review is the strongest level of evidence for clinical decisions.

*The author acknowledges the help of Kathleen Stevens, RN, EdD, ANEF, FAAN, Director, Academic Center for Evidence-Based Practice (ACE), University of Texas Health Science Center at San Antonio.

We now know that if we don't have evidence-based guidelines for giving oral hygiene, we put patients at risk for deadly pneumonia.⁷

- Nurses are concerned about inadequate registered nurse (RN) staffing. Research shows that having more RN staff reduces the number of infections, pressure ulcers, falls, and other adverse events such as failure to rescue (deaths after complications). It reduces the length of hospital stays and promotes early detection of complications and patient and nurse satisfaction.^{8–10} This type of data is very persuasive when justifying the need to hire more nurses.
- Restraining patients often creates the very problems we're trying to avoid.^{11,12} Many assume that restraining patients protects them from injury. On the contrary, we now know that applying restraints increases the incidence of costly, dehumanizing outcomes (e.g., serious injuries, pressure ulcers, depression, anger).
- Cancer patients who receive palliative care (care that focuses on quality of life) early in their treatment course may live longer than those who receive only standard treatments. Studies found that patients who started on palliative care—along with usual cancer care—soon after their lung cancer diagnosis lived nearly 3 months longer than people given only standard cancer care, even though this second group had more chemotherapy.^{13,14}

Staff Nurses' Roles

Nursing research, the cornerstone of QI, is a rigorous, disciplined use of critical thinking. Researchers need highly developed critical thinking skills—from knowing how to clearly identify the issue to be studied, to determining the best way to collect meaningful data, to analyzing and interpreting statistical data.¹⁵ Although it's beyond the scope of this book to address how to actually conduct research studies, this section addresses novice and staff nurses' roles in research and EBP.

Frontline nurses are in the unique position of being able to identify overall system problems that affect patient care. They bring important insights into deciding whether care practices are practical, consistent, and timely. For example, in one case, nurses noted that medications were always arriving late from the pharmacy. They did a study that showed that delays in medication administration increased the length of hospital stays. As a result, policies and procedures changed to ensure that medications came to the units in a timely way, ultimately shortening patients' length of stay.

To gain insight into staff nurses' roles related to research and QI, study the following frequently asked questions.

Frequently Asked Questions on Staff Nurses' Role

Q. If I'm a student or staff nurse, what are my responsibilities related to research and EBP?

A. As a student or staff nurse, you have five main responsibilities:

1. **Reflect on your daily practices**, thinking analytically about the patients and situations you encounter—seek out evidence of findings that might improve nursing care. For example, if you frequently care for people with postoperative leg edema after heart bypass surgery, you should be asking, I wonder if there are any new studies explaining why this happens and what can be done about it?
2. **Know the rationale behind your actions and the level of evidence that supports the rationale.** For example, are the rationales behind your actions supported by clinical practice guidelines? A textbook? Your instructor or another clinical expert?

GUIDING PRINCIPLE

There are different forms of evidence that may support clinical practices—from expert opinion to meta-analysis (analysis that combines data from all available studies on a certain topic). Each form is not equally persuasive in making the case that a certain clinical procedure should become a part of recommended care for a specific problem or population. Greater scientific rigor in producing clinical evidence gives stronger evidence for influencing clinical practice. The more important and unchanging the outcomes of care practices are, the greater is the need for sound supporting evidence (e.g., care practices for postoperative cardiac patients need supporting evidence that is much stronger than if you were trying to decide the most efficient way to deliver meals to patients on a certain unit).

The following gives an example rating scale for EBP.

Example of Evidence-Based Practice Rating Scale

LEVEL A: Actions are supported clinical practice guidelines (CPGs). CPGs are designed by a collaborative panel of clinical and scientific experts and give recommendations for how to manage care in specific diseases, problems, or situations to achieve the best outcomes, from safety, efficiency, satisfaction, and cost perspectives. The most definitive source for CPGs is the National Guideline Clearinghouse (<http://www.guideline.gov/index.aspx>). CPGs may also come from the AHRQ Evidence-Based Practice Centers (<http://www.ahrq.gov/clinic/epc/>) or from clinical specialty organizations—for example, the American Association of Critical Care Nurses (AACN).

LEVEL B: Actions are supported by a high-quality randomized controlled trial (RCT) that considers all important outcomes.

LEVEL C: Actions are supported by other evidence (e.g., well-designed clinical trials; lower quality RCTs; case-controlled studies with nonbiased selection of study participants and consistent findings; other evidence).

LEVEL D: Actions are supported by consensus viewpoint (agreement among all consulted experts) or expert opinion (agreement among most consulted experts).

Find a summary of the systems used to evaluate the strength of evidence at <http://www.thecrc.com/pdf/ahrq-system-strength.pdf>.¹⁶

3. **Raise questions that might prompt researchers to formulate questions to guide a study.** For example, you could ask your manager, “Because we seem to be having an increase in infections again, should we re-visit our hand sanitizing procedure? Is it practical? Are we applying EBP?”
 4. **Help researchers collect data.** If you’re asked to complete a questionnaire or to chart specific data for research purposes, it’s your professional responsibility to do so, diligently and accurately, as long as it doesn’t interfere with nursing care.
 5. **Acquire and share knowledge related to research and EBP.** We must constantly ask ourselves questions like “Am I making time to become familiar with EBP related to the clinical situations in which I’m involved?” and “Do I interact with others (peers, educators) to learn more about research and EBP?” If you find reading research articles tedious, get started by talking with peers and educators or perhaps joining a journal club. This helps you to learn in a dynamic, stimulating environment. Once you learn the basics, reading research articles becomes easier, more interesting, and even an enjoyable challenge!
- Q. If I have limited knowledge of research, how do I know whether there are results from research studies that I should be using in my practice?**
- A. As a student or staff nurse, it’s important that you ask your leaders and educators for help with finding and using research articles. However, be sure that you understand the following basic facts about choosing useful research articles and information:
1. **Choose refereed or peer-reviewed publications,** as we discussed in the section on Accessing, Analyzing, and Applying information in Chapter 3, page 57.
 2. **Remember that only a small percentage of the published literature contains evidence that is ready for clinical application.** It’s estimated that only 1 in 5000 ideas eventually makes it through all of the trials and the research stages to produce evidence with clinical outcomes.¹⁷
 3. **Always ask, “How valid and reliable are these results?” “How sure am I that this study was conducted in a way that I can trust that the results are accurate?”** Consider whether there’s vested interest on the part of the researchers or publishers. For example, how often have you heard a commercial that proclaims, “In a recent research study, our product was proved to be more effective than the other leading products”? Do you believe every one of these commercials? Probably not. Think independently, and ask questions. To help you with these issues, you can find self-paced tutorials and refreshers on research and EBP at the following URLs.

Research Tutorials and Refreshers

- Beginner’s Research Guide—Searching Steps: <http://library.nyu.edu/research/subjects/health/tutorial/steps.html>
- Guide for using online resources: <http://library.nyu.edu/research/health/tutorial/>
- Research Utilization and Evidence-Based Practice: <http://library.nyu.edu/research/subjects/health/tutorial/researchutilization.html>

Scanning Before Reading Research Articles

Knowing how to scan research articles saves you time. You can quickly eliminate irrelevant articles, giving you more time to focus on ones that are relevant. Here are some steps to systematically scan articles so you can choose the ones most relevant to your needs.

1. **Read the abstract first:** This summarizes the issues, the methods, and the results. If the abstract isn’t applicable to your clinical problem, you might choose to read no farther.
2. **If the abstract seems applicable, skip to the end of the article,** and then scan the article by reading the content under the following headings, in the order listed here:

- Summary (may also be listed as Conclusions)
- Discussion
- Nursing Implications
- Suggestions for Further Research

You may be able to eliminate articles just by reading the content under any of the above headings.

3. **If what you scanned is relevant, go on to read the entire study.** Give yourself plenty of time, and don't be discouraged if you find sections you don't understand. Instead, take notes on what you do understand. Come back to the more difficult sections at another time, after getting help from an expert or textbook (or both).
4. **After you read the article, ask yourself whether you understand the following:**
 - What's already known about the topic?
 - What did the researchers study, and why and how did they study it?
 - What did they find out, and are the results valid?
 - What do results imply, and how do they apply to my particular clinical situation?
 - Might the study be biased (e.g., when drug companies fund a study, there may be a vested interest)?
 - How do the results of the study compare with the results of other, similar studies? If other studies produced similar findings, the probability that the results are reliable increases.

Questioning Practices: Promoting Inquiry and Creativity

Too few nurses think "out of the box" and question care practices. Don't settle for the status quo. Question what you do, why you do it, what your patients' experiences are, and how patient care and nurses' jobs can be improved. Use the following strategies to promote inquiry and creativity:

- On a bulletin board, post a blank paper with "What Do You Want to Know?" at the top. For example, someone might write, "Does anyone know the best programs on managing wound infections?"
- Make reading research articles convenient. If you find a good article, post it on the bulletin board, and ask people to initial that they've read it. Reward nurses who bring in useful literature.
- Encourage nurses to critique practice protocols, and make suggestions for improvement.
- Keep a real or virtual suggestion box. On performance evaluations, recognize nurses who raise questions or come up with creative, practical solutions.
- Join an Internet listserv on which nurses with common interests share questions and information.

QUALITY IMPROVEMENT

Remember from Chapter 1 that being focused on improvement is characteristic of critical thinkers. QI has always been valued by successful health care organizations. QI is now tied to reimbursement for patient care. For example, according to the *Patient Protection and Affordable Care Act*, organizations must report data on improving clinical and patient satisfaction outcomes or be penalized financially (Box 5-5).

Here are examples of questions that might be studied related to clinical and patient satisfaction outcomes:

- **Clinical Outcomes:** What is our surgical incision infection rate? What are the characteristics of patients experiencing these infections? How was their care managed from beginning to end? What can be done to reduce these infections?

BOX 5-5 Quality Improvement and the 2010 Patient Protection and Affordable Care Act

Part of hospital reimbursement and funding from the Centers for Medicare and Medicaid Services (CMS) is determined by quality improvement measures as described below.

- Clinical process of care scores (account for 70% of reimbursement formula).** The process of care domains include core measure indicators—standard measures used across states to assess the outcomes of services provided to individuals and families—associated with heart failure, acute myocardial infarction, pneumonia, and the Surgical Care Improvement Project (SCIP), a national quality partnership of organizations interested in improving surgical care by significantly reducing surgical complications. SCIP Partners include the Steering Committee of 10 national organizations who pledged their commitment and full support for SCIP.¹
- Patient satisfaction as measured by HCAHPS (pronounced H-Caps) scores (account for 30% of reimbursement formula).**² HCAHPS stands for Hospital Consumer Assessment of Healthcare Providers and Systems. These surveys gain information about the overall patient experience by measuring patient satisfaction with the following aspects of care: pain control, promptness of care delivery, communication, discharge instructions, room and facility cleanliness, and whether the patients felt they were treated with courtesy and respect.

The information gained by these surveys helps hospitals target areas of improvement.

References

- The Joint Commission. (2014). *Surgical Care Improvement Project*. Retrieved from http://www.jointcommission.org/surgical_care_improvement_project/.
- HCAHPS fact sheet. (2012). (Website). Retrieved from <http://www.hcahpsonline.org/files/HCAHPS%20Fact%20Sheet%20May%202012.pdf>.

Source: R. Alfaro-LeFevre Handouts © 2015. <http://www.AlfaroTeachSmart.com>

- **Patient Satisfaction Outcomes:** What do our patients think and feel about how their care was managed? What strategies can we use to improve patient satisfaction? What can we do to recover patients' trust and increase their satisfaction after they experience care that they are unhappy with (Box 5-6)?

Three Approaches to Quality Improvement Studies

To ensure comprehensive ways of examining how we can improve care practices, QI studies three different aspects of care: outcomes, process, and structure:

- Outcomes evaluation (studies results).** *Example:* Studying the number of respiratory complications in postoperative patients
- Process evaluation (studies how care was given).** *Example:* Studying how frequently the respiratory status of patients was assessed and whether care was managed by a registered nurse
- Structure evaluation (studies the setting in which care was given).** *Example:* Studying the locations of the rooms of patients who had respiratory complications in relation to closeness to the nurses' station

Studying all three of these aspects gives you a comprehensive analysis that helps you improve practice. If you only examine outcomes (results), you won't be able to improve efficiency. You could be getting great outcomes, but there may be more efficient, cost-effective ways to achieve them.

Studying Nursing-Sensitive Indicators

Studying nursing-sensitive indicators (NSI) is also a key part of QI. NSI are patient outcomes that that are known to improve if there's a greater quantity or quality of nursing care (e.g., pressure

BOX 5-6 Patient and Consumer Satisfaction Strategies**Rounding**

Nurses routinely check on patients at regular intervals to ask questions about comfort, repositioning or toileting needs, whether they have things they want within reach, or whether they need anything else. Studies show that rounding increases satisfaction scores, reduces falls, and results in less use of call bells (reducing nursing interruptions).¹

Key Words at Key Times

Nurses routinely ask for permission and explain the “why” of their actions. For example, “I’m closing these curtains to give you privacy,” or “Do you want me to close this curtain to give you privacy?” An example of key times to use key words is when leaving patients’ sides (e.g., asking, “Is there anything else you need before I leave?”).²

Customer Satisfaction Recovery Strategies

Strategies used to recover trust and satisfaction when dissatisfaction with care is expressed. For example, the acronym LAST* helps you recover from incidences that caused dissatisfaction:^{1,2}

Listen. Encourage patients/consumers to tell you what happened. Listen attentively and avoid placing blame, becoming defensive, or thinking of excuses.

Apologize. You may not be admitting guilt; you’re apologizing on behalf of the organization.

Solve. Make sure you understand the problem from the patient/consumer’s perspective; then do something to solve it or find someone who can. Ask the person what you can do to make it right; tell him what you’re going to do, and report back once you’ve done it.

Thank. Thank the person for bringing the issue to your attention and for his or her patience and understanding. For more strategies, see Chapter 7, Skill 71, *Communicating Bad News* (page 183).

References

1. Press, I. (2006). *Patient satisfaction: Understanding and managing the experience of care* (2nd ed.). Chicago, IL: Health Administration Press.
2. Bombard, C., & Jordan, C. HCAHPS is all about patient satisfaction. Received from <http://ce.nurse.com/course/ce559/hcahps-is-all-about-patient-satisfaction/>.

*First developed by Froedtert Hospital, Milwaukee, WI. <http://www.froedtert.com/>

ulcers, falls, and intravenous infiltrations).¹⁸ With NSI, the structure of nursing care is indicated by the supply, skill level, and education/certification of nursing staff. Process indicators measure nursing care such as assessment, intervention, and RN job satisfaction.

Improving Patient Care and Nurses’ Work Lives

The ANA National Center for Nursing Quality (NCNQ[®]) addresses safety, nursing care quality, and nurses’ work lives.¹⁹ The center advocates for nursing quality through quality measurement, innovative research, and collaborative learning. The center tackles issues such as how staffing affects patient outcomes and nurses’ job satisfaction.

Your responsibilities related to QI are the same as the previously listed responsibilities for research and EBP. You can find ready-to-use tools for measuring and improving the quality of health care by entering “Quality Improvement Tools” in the search box at <http://www.ahrq.gov/>.

You Can Make a Difference

Research, EBP, and QI continue to be an essential piece of nursing practice. As a nurse, you can make significant contributions to these processes, thereby improving the care you and your family experience. Your contributions can help show nursing’s value to health care, providing the basis to gain the resources patients and communities need to improve their own health. Make

the commitment to question care practices, think outside the box, and keep the focus on improvement. What do we need to do to enhance clinical outcomes and patient satisfaction, while containing costs and retaining good nurses?

CRITICAL THINKING EXERCISES 5.2

Example responses are in Appendix A.

1. Fill in the blanks in *a to f* by choosing from the following words: improve, evidence, used, practice, transformed, rigorous, preferences, clinical, patient.
 - a. *Patient Protection and Affordable Care Act* requirements stress the need for QI that focuses on both _____ satisfaction and _____ outcomes.
 - b. Research is an objective, orderly process that uses _____ data collection and testing conditions.
 - c. EBP integrates the best research, knowledge from clinical experts, and patient _____ into clinical practice.
 - d. EBP requires that knowledge be _____ by the systematic study of how evidence from research can best be _____ in clinical _____.
 - e. QI focuses on continuous improvement by applying what's known from _____ based practice.
 - f. Nursing-sensitive indicators are outcomes that _____ if there's a greater quantity or quality of nursing care.
2. What is the purpose of clinical summaries and practice alerts?
3. Is the following statement true or false, and why? Staff nurses must make finding and critiquing applicable research results a part of their daily work.
4. Giving an example, define *consumer satisfaction recovery strategies*.

THINK, PAIR, SHARE

With a partner, in a group, or in a journal entry:

1. Discuss the strategies for improving patient satisfaction in the following article: Bombard, C. & Jordan, C. HCAHPS is all about patient satisfaction. Retrieved from <http://ce.nurse.com/course/ce559/hcahps-is-all-about-patient-satisfaction/>
2. Test your knowledge of research by doing some of the tutorials listed in the shaded section on page 135.
3. Go to <http://www.acestar.uthscsa.edu/acestar-model.asp> and discuss the eight underlying principles of knowledge transformation, and the various phases of the Stevens Star Model (see Figure 5-2). Then draw the Star Model without looking at it.
4. Read the following article and then discuss the ethics, research, and clinical challenges involved in restraining patients: When and How to Use Restraints. *American Nurse Today*, 10(1). Published January, 2015. Retrieved from <http://www.americannursetoday.com/use-restraints/>
5. Find a research article on a topic you find interesting. Then discuss the following:
 - What did the researchers study?
 - What were the key points listed in the discussion, nursing interventions, and summary sections?
 - What questions does this article raise?
 - How do you feel about applying the results to your practice?
 - Where can you find out more about this topic?

6. Visit some of the following websites, and discuss how you might be able to use the information found there.
 - AHRQ Quality Indicators: <http://www.qualityindicators.ahrq.gov/>
 - America Association of Critical Care Nurses Evidence-Based Resources: <http://www.aacn.org/WD/Practice/Content/ebp.pcms?menu=Practice>
 - National Institute of Nursing Research: <http://www.nih.gov/about/almanac/organization/NINR.htm>
 - National Data Base of Nursing Quality Indicators: <https://www.nursingquality.org/>
 - Research Utilization and Evidence-Based Practice: <http://library.nyu.edu/research/subjects/health/tutorial/researchutilization.html>
 - The Joint Commission (enter “evidence-based practice” into the search field): <http://www.jointcommission.org>
 - Joanna Briggs Institute: <http://www.joannabriggs.org>
7. Decide where you stand in relation to learning outcomes 7 to 10 at the beginning of this chapter.
8. Discuss your thoughts on the following *Critical Moments* and *Other Perspectives*.

▶ CRITICAL MOMENTS

Supporting a Spirit of Inquiry



Source: NASA Images Gallery, <http://www.nasa.gov>

Being curious and inquisitive is a hallmark of critical thinking. Inquisitive researchers have a challenging mission. Do what you can to support researchers, because you never know what knowledge their work will bring—studying one thing for a specific purpose often brings knowledge for another. For example, the following are just a few of the spin-off technologies we gained from National Aeronautics and Space Administration (NASA) research: heart monitors; laparoscopes; voice-controlled wheelchairs; portable x-rays; magnetic resonance imaging (MRI);

ultrasound; automatic insulin pumps; and light-emitting diode (LED) lights (give light for laparoscopes and are being studied for use in promoting bone growth and removing tumors that are hard to reach).²⁰

OTHER PERSPECTIVES

Promoting Culture of Inquiry

Research skills developed in a culture of inquiry can become part of individual professional practice. The face of nursing practice today continues to evolve as the profession moves toward seamlessly intertwining research and technology with high-quality and compassionate care. To ensure this challenging objective is met, nurses have a personal responsibility to apply research and own their clinical practices.²¹

KEY POINTS/SUMMARY

- Knowing how to reason your way through ethical issues, evidence-based practice issues, and quality improvement is essential to today's nursing practice.
- Moral reasoning is guided by *personal* standards; ethical reasoning is guided by *professional* standards.
- Clarifying personal and organizational values is a key starting point for moral and ethical reasoning.
- Moral problems are divided into three categories—moral uncertainty, moral dilemma, and moral distress.
- Understanding common ethical principles and approaches facilitates your ability to make ethical decisions.
- Five principles form a foundation for ethical reasoning: autonomy, beneficence, justice, fidelity, veracity, and fidelity.
- Practice standards, ethics codes, and bills of rights guide ethical conduct. The following are common values addressed in ethical codes and standards: maintaining client confidentiality; acting as client advocate; delivering care in a non-judgmental and nondiscriminatory way; being sensitive to diversity and culture; promoting autonomy, dignity, and rights; and seeking resources for solving ethical dilemmas.
- ANA standards stress that nurses must apply research to practice and continue to question current practices and develop new knowledge.
- Understanding the big picture of how research, EBP, and QI are related (see Figure 5-1) clarifies the process of improving care.
- According to the *Patient Protection and Affordable Care Act*, health care organizations must report data about QI-related clinical and patient satisfaction outcomes or face financial consequences.
- EBP requires that knowledge be transformed by the systematic study of how evidence from research can be best applied in practice.
- EBP combines the best of what we know from research with the best of what we know from clinical practice to give current information that's clinically relevant.
- To understand how knowledge is transformed from research to EBP, study Figure 5-2. The Stevens Star Model of Knowledge Transformation helps ensure that care is driven by evidence, rather than tradition.
- Research, the cornerstone of QI, is a rigorous, disciplined use of critical thinking. It requires highly developed critical thinking skills—from knowing how to clearly identify the issue to be studied, to determining the best way to collect meaningful data, to analyzing and interpreting statistical data.
- To ensure comprehensive studies of how to improve care practices, QI studies three different aspects of care: outcomes, process, and structure.
- QI includes studying NSIs (outcomes that are known to improve if there's a greater quantity or quality of nursing care).