EVIDENCE-BASED PRACTICE FOR NURSES

Appraisal and Application of Research
Evidence-Based Practice for Nurses: Appraisal and Application of Research, Fourth Edition, drives comprehension through various strategies that meet the learning needs of students, while also generating enthusiasm about the topic. This interactive approach addresses different learning styles, making this the ideal text to ensure mastery of key concepts. The pedagogical aids that appear in most chapters include the following:

### Key Terms

- abstract
- applied research
- barriers
- basic research
- cycle of scientific development
- deductive reasoning
- descriptive research
- discussion section
- early adopters
- empirical evidence
- evidence-based practice (EBP)
- exploratory research
- inductive reasoning
- innovation
- introduction
- Jewish Chronic Disease Hospital study
- knowledge gap
- list of references
- methods section
- model of diffusion of innovations
- Nazi experiments
- Nuremberg Code
- predictive research
- pyramid of evidence
- qualitative research
- quantitative research
- replication study
- research methodology
- review of literature
- theoretical framework
- Tuskegee study
- Willowbrook studies

### Chapter Objectives

At the end of this chapter, you will be able to:

- Define evidence-based practice (EBP)
- List sources of evidence for nursing practice
- Identify barriers to the adoption of EBP and strategies to overcome them
- Explain how the process of diffusion facilitates moving evidence into nursing practice
- Define research
- Discuss the contribution of research to EBP
- Categorize types of research
- Distinguish between qualitative and quantitative research approaches
- Describe the sections found in research articles
- Describe the cycle of scientific development
- Identify historical events that shaped the development of nursing as a science
- Identify factors that will continue to move nursing forward as a science
- Discuss what future trends may influence how nurses use evidence to improve the quality of patient care
- Identify five unethical studies involving the violation of the rights of human subjects

### Key Terms

- abstract
- applied research
- barriers
- basic research
- cycle of scientific development
- deductive reasoning
- descriptive research
- discussion section
- early adopters
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### Chapter Objectives

These objectives provide instructors and students with a snapshot of the key information they will encounter in each chapter. They serve as a checklist to help guide and focus study.

### Key Terms

Found in a list at the beginning of each chapter and in bold within the chapter, these terms will create an expanded vocabulary in evidence-based practice.
Critical Thinking Exercises
As an integral part of the learning process, the authors present scenarios and questions to spark insight into situations you may face in practice and help you to think critically.

FYI
After an outcome has been selected and measured, data are compiled and evaluated to draw conclusions. Disseminating the effectiveness of an innovation is a challenge, and conclusions must not extend beyond the scope of the data. Evaluation is facilitated when appropriate outcomes and associated indicators are chosen. If the outcome is not clearly defined, then the measurements and subsequent evaluation will be flawed. For example, suppose that you are a member of an interdisciplinary team that has developed a nursing protocol that reduces the amount of time a patient remains on bed rest after a cardiac catheterization procedure from 6 hours to 4 hours. The outcome selected is absence of bleeding from the femoral arterial puncture site. No other indicators are measured. The results obtained after implementing the protocol revealed that there was an increase in bleeding at the femoral arterial puncture site in the 4-hour bed rest patients compared to the 6-hour bed rest patients. Before concluding that a shorter bed rest time leads to an increase in femoral bleeding, a few additional questions need to be considered. First, was absence of bleeding defined in a measurable way? Because bleeding might be interpreted in several different ways, a precise definition of bleeding should have been provided to ensure consistency in reporting. Second, when should patients be assessed for absence of bleeding? To the absence of bleeding to be assessed when the patient first ambulates or at a later time? Input from staff can help clarify outcome measurement. The staff prior to changing the nursing protocol could have clarified these additional questions. Alternatively, if the protocol was implemented without any change in the scope of the data, evaluation is facilitated when appropriate outcomes and associated indicators are chosen. If the outcome is not clearly defined, then the measurements and subsequent evaluation will be flawed.

Another consideration in outcome evaluation is to obtain data relative to current practice for comparison purposes. To document the need for practice change and to support a new protocol, baseline data might need to be collected.

Quick tidbits and facts are pulled out in chapter margins to highlight important aspects of the chapter topic.

Test Your Knowledge
These questions serve as benchmarks for the knowledge you are acquiring as you move throughout the chapter.
apparent. Organizing the review with a grid is a positive strategy to overcome the barrier of lack of time because it reduces the need to repeatedly sort through articles during future discussions. Also, within this text’s digital resources, you will find a grid to use for this exercise. Two articles (Cohen & Skantar, 2008, Tornatore, Sartor, Mazzocoli, & Palese, 2012) are summarized as an example.

Read Ekliger, Hagen, Gustos, and O’Neill (2009). Enter information about this article into the first two columns. In column 1, use APA format, like in the example, because this is the most commonly used style for nursing publications.

**RAPID REVIEW**

- Today’s work environment requires that nurses be adept at gathering and appraising evidence for clinical practice and assisting patients with healthcare information needs.
- Literature reviews provide syntheses of current research and scholarly literature. A well-done literature review can provide support for EBP and systematic reviews.
- An understanding of the scientific literature publication cycle provides a basis for making decisions about the most current information on a topic.
- Primary sources are original sources of information presented by the people who created them. Secondary sources are results, comments, reviews, or interpretations of primary sources.
- Many research journals involve peer review.
- There are many ways to categorize sources. Scholarly, trade, and popular literature is one way. Another categorizing system involves periodicals, journals, and magazines.
- There are four types of review: narrative, integrative, meta-analysis, and systematic.
- Understanding how sources are structured can simplify a search of the literature.
- Sources can be identified through both print resources and electronic databases. Topics, subject matter, and format may vary but all include citation information.
- Helpful strategies to use when conducting a search include citation chaining, measurements of recall and precision, keyword and controlled vocabulary searches, Boolean operators, truncation, and later reference.

**Right Review**

This succinct list at the end of the chapter compiles the most pertinent and key information for quick review and later reference.

**Apply What You Have Learned**

With this outstanding feature, you will be challenged to apply your newly acquired knowledge to specific evidence-based practice scenarios and research studies.

**References**


Some researchers claim their work is nursing research because the researcher is a nurse or because the researcher studied nurses. But it is the focus on nursing practice that defines nursing research. The mere fact that research was conducted by a nurse or that nurses were studied does not necessarily qualify the research as nursing research. Historically, and even today, approaches to practice are often based on “professional opinion” when research is absent.

Case Example 5-1 provides such a historical illustration. It also demonstrates the value of systematically studying the effects of interventions.

Case Examples
Found in select chapters, these vignettes illustrate research questions and studies in actual clinical settings and provide challenges for students to think critically.

2.2 Keeping It Ethical

At the end of this section, you will be able to:
- Discuss international and national initiatives designed to promote ethical conduct
- Describe the rights that must be protected and the three ethical principles that must be upheld when conducting research
- Explain the composition and functions of IRBs at the organizational level
- Discuss the nurse’s role as patient advocate in research situations

Ethical research exists because international, national, organizational, and individual factors are in place to protect the rights of individuals. Without these factors, scientific studies that violate human rights, such as the Nazi experiments, could proceed unchecked. Many factors of ethical research, which evolved in response to unethical scientific conduct, are aimed at protecting human rights. Human rights are the freedoms to which all humans are entitled, often used to include the right to life and liberty, freedom of thought and expression, and equality before the law. (Brooks, 2007). Rights cannot be claimed unless they are justified in the eyes of another individual or group of individuals (Habers, 2000). When individuals have rights, others have obligations; that is, they are required to act in particular ways. This means that when nursing research is being initiated, nurses participating in such research have rights, and all nurses are obligated to protect these rights.

International and National Factors: Guidelines for Conducting Ethical Research

One of the earliest international responses to unethical scientific conduct was the Nuremberg Code. This code was contained in the written verdict at the trial of the German Nazi physicians accused of performing premature killing medical experiments. Written in the Nuremberg Code (Table 2-3) identified that voluntary consent was absolutely necessary for participation in research. Rights that included harms, produced results that benefited society, and allowed participants to withdraw or not was deemed ethical. The Nuremberg Code became the standard for other codes of conduct.

Some researchers claim their work is nursing research because the researcher is a nurse or because the researcher studied nurses. But it is the focus on nursing practice that defines nursing research. The mere fact that research was conducted by a nurse or that nurses were studied does not necessarily qualify the research as nursing research. Historically, and even today, approaches to practice are often based on “professional opinion” when research is absent. Case Example 5-1 provides such a historical illustration. It also demonstrates the value of systematically studying the effects of interventions.
FOURTH EDITION

EVIDENCE-BASED PRACTICE FOR NURSES

Appraisal and Application of Research

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DEDICATION

For Mom, whose love and support are endless.

—N. A. S.

To my husband, my children, and my granddaughters and grandson, who enrich my life in every way.

—J. M. B.
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We are most pleased to offer the Fourth Edition of this text. For this revision, we have extensively altered the “Apply What You Have Learned” feature. The new topic is adherence with hand hygiene, changed from medication errors in the last edition. We selected this clinical problem because it involves all healthcare providers in all settings and significantly impacts patient outcomes. Additionally, nurse educators are well-positioned to help students gain an appreciation for hand hygiene guidelines and build good hand hygiene habits. This feature continues to unfold in a manner that integrates chapter content with each step of the EBP process. Concrete strategies, in the form of exemplars and checklists, allow readers to master competencies needed to perform these activities in the clinical setting.

A new feature of the textbook includes two diagrams that summarize statistical analyses (Chapter 13) and designs (back cover). In response to user feedback, we updated the “Hierarchy of Evidence” to include types of evidence for each level. In Chapter 12, we made edits to the 5 Ss to better distinguish this hierarchy from the Hierarchy of Evidence.

We are even more committed to the premise that baccalaureate-prepared nurses, given the emphasis on leadership, critical thinking, and communication in their curricula, are ideally positioned to advance best practices. Therefore, nursing faculty must teach students educational strategies that develop a lifelong commitment to examining nursing practice critically in light of scientific advances. Although many texts and references deal with the principles, methods, and appraisal of nursing research, few sources address the equally important aspect of integrating evidence into practice. Because there is a growing expectation by
accrediting bodies that patient outcomes are addressed through best practice, it is imperative that books be available to prepare nurses for implementing best practices. This edition of this textbook continues to provide substantive strategies to assist students with applying evidence at the point of care.

The American Association of Colleges of Nursing (AACN) charges nursing programs with preparing baccalaureate nurses with the basic understanding of the processes of nursing research. This book includes content related to methods, appraisal, and utilization, which is standard in many other texts. Furthermore, the AACN expects BSN-prepared nurses to apply research findings from nursing and other disciplines in their clinical practice. The framework for this text is the model of diffusion of innovations (Rogers, 2003), which gives readers a logical and useful means for creating an EBP. Readers are led step-by-step through the process of examining the nursing practice problem of hand hygiene using the innovation–decision process (IDP). It is recommended that faculty use this text with students to guide them through assignments that might effect actual change in patient care at a healthcare facility. Schmidt and Brown (2007) described this teaching strategy more fully. Because students typically express that research content is uninteresting and lacks application to real life, we have tried to create a textbook that is less foreboding and more enjoyable through the use of friendly language and assignments to make content more pertinent for students.

The primary audience for this textbook is baccalaureate undergraduate nursing students and their faculty in an introductory nursing research course. All baccalaureate nursing programs offer an introductory research course, for which this text would be useful. Because the readership has grown, we recognize that nursing graduate programs are also using this textbook.

This edition continues to follow the five steps of the IDP: knowledge, persuasion, decision, implementation, and confirmation. This organizational approach allows the research process to be linked with strategies that promote progression through the IDP. The chapters follow a consistent format: chapter objectives, key terms, major content, test your knowledge, case study, rapid review, and reference list. Critical thinking exercises and user-friendly tables and charts are interspersed throughout each chapter to allow readers to see essential information at a glance. Textbook users will be pleased to find more consistency between chapters in this edition. The Hierarchy of Evidence and questions to consider when appraising nursing studies are printed inside the back cover for easy reference.

The unique feature of integrating ethical content throughout the chapters remains. Organizing content in this manner helps students to integrate ethical principles into each step of the research process.
As a learning strategy, chapters are subdivided so that content is presented in manageable “bites.” Students commented that they liked this feature. As in the Third Edition, chapters begin with a complete list of all objectives addressed in the chapter. Objectives are repeated for each subsection and are followed by content, and each subsection ends with a section called “Test Your Knowledge.” Multiple-choice and true-or-false questions, with an answer key, reinforce the objectives and content. Chapters also include critical thinking exercises that challenge readers to make decisions based on the content. Users will find significant alterations to the digital resources available to readers.

New challenges arose while we wrote this Fourth Edition. Publishers are becoming less inclined to allow their materials to be reproduced. Therefore, we are disappointed that we can no longer offer the full-text reference articles within this text’s digital resources. In response to this challenge, we have significantly transformed the Apply What You Have Learned exercise for Chapter 4. Students are provided with directions so that they can search for the articles themselves, thereby reinforcing behaviors that will be required of baccalaureate-prepared nurses, who need to keep up with the ever-changing healthcare environment. We are pleased with the result because this alteration has actually strengthened the exercise. For readers’ convenience, following is a table containing the evidence used throughout the Apply What You Have Learned exercises.

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<tr>
<th>Citation</th>
<th>Chapter(s)</th>
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<tr>
<td>Chhapola, V., &amp; Brar, R. (2015). Impact of an educational intervention on hand hygiene compliance and infection rate in a developing country neonatal intensive care unit. International of Nursing Practice, 21, 486–492.</td>
<td>1, 4, 8</td>
<td>Chhapola (author)</td>
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**Citation** | **Chapter(s)** | **Search Terms (Limiters)**
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**Articles to Search in CINAHL**
McLaws (author)

“methodological difficulties” (title)

**Obtain From JBI**

**Sources From the Web**
National Cancer Institute | 2 | http://phrp.nihtraining.com/users/login.php


Emotional Intelligence (EQ) Assessment | 17 | http://www.ihhp.com/free-eq-quiz/

The New Enneagram Test | 17 | http://9types.com/

World Health Organization | 3 | http://www.who.int/gpsc/5may/Hand_Hygiene_Why_How_and_When_Brochure.pdf?ua=1

**Available in the Digital Resources**
**Resource** | **Chapter** | **Description**
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Grid | 4 | Visit this text’s accompanying digital resources to find links to these materials.

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REFERENCES

As with every endeavor, many individuals make accomplishing the goal a reality. We wish to begin by expressing our gratitude to the contributors who shared our vision to create a text that can excite undergraduate nurses about evidence-based practice. The efforts of Karen Stacy, Patti Reid, and Julie Ault to protect sacred writing times were instrumental in allowing us to meet deadlines. Without their help and understanding, writing sessions would not have been as productive as they were. Special thanks are in order for Jones & Bartlett Learning staff, especially Amanda Martin, Christina Freitas, and Alex Schab, who offered invaluable editorial assistance. We are grateful for the ways Jones & Bartlett has developed and marketed the book over the four editions, and we are delighted how the use of the book has surpassed our expectations. This success can be attributed to nursing faculty who are also committed to our vision of creating nurses who base their practices on evidence. Finally, we are indebted to our families, who afforded us the time to complete this book. They provided invaluable support throughout the process.