Clinical Wisdom and Interventions in Acute and Critical Care

A Thinking-in-Action Approach

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SECOND EDITION

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Second Edition

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Contents

Foreword

This new edition of *Clinical Wisdom* is intended for undergraduate and graduate nursing students who are learning critical care, for educators teaching clinical reasoning, and for those seeking to improve systems of care and leadership in clinical practice. However, the concepts laid out in this book will resonate with all who confront the complex and demanding business of clinical reasoning and action in dynamic patient care situations. This is not an ordinary, well-done, and accurate text on critical and acute care nursing; it is, instead, a lavishly detailed guide to the essence of becoming an expert nurse.

The approach is grounded on the findings of ethnographic studies of critical and acute care nurses building on the substantial previous work of Patricia Benner and the other authors. Different in its construction from most nursing or medical texts, it takes advantage of the depth of detail and intrigue found in "nurse stories." Every chapter is replete with real-life incidents used to illustrate the complex ideas and ambiguities inherent in caring for the critically ill and their families. Nurses and doctors and other health care professionals have always told stories to articulate and explain their work. As a historian, I find these stories invaluable in comprehending the day-to-day practices of those who care for the sick. This book weaves the stories told by caregivers and learners into the authors' framework for understanding nursing knowledge and practice. Arguing that "expert critical care nurses are always dwelling in meaningful stories . . . [to help them in] keep[ing] an up-to-the-minute clinical and human grasp of the significance of the situation" (p. 14), the authors illustrate "thinking-in-action" and "reasoning-in-transition" by embedding the concepts in real time, in context, and with all the complications likely to be found in real practice situations.

This text does not simplify or reduce critical care to principles in an attempt to make it easier to learn. Instead, the book provides an amazingly whole picture enabling the learner to visualize what critical care is really like and to comprehend the expectations placed on critical care nurses. A good example is Chapter 9, "Facing Death: End-of-Life Care and Decision Making." Here the text and the nurse stories illustrate how the illness experience cannot be seen as a series of decisions built on one another. Instead, in any illness, the patient's understanding of the illness, caregivers' understanding, and family understanding all unfold unevenly over time. In this sense, learning expert practice is a search for knowing how to go ahead with imperfect knowledge. When patients are dying, critical care nurses must reframe their imagination of the right care for the patient from curative action to palliative action. The author directly confronts the difficulties caregivers face in being the persons who actually withhold care or intervene. Death in critical care situations is underdiscussed; this excellent chapter goes a long way to improve that insufficiency.

This book richly illustrates the larger concepts of clinical grasp and inquiry and clinical forethought, devoting two chapters to ways or styles of practice found and described by expert nurses. Following chapters are built on nine domains of practice organized around common clinical goals and concerns. Each chapter includes a summary of the intent of the text to guide the learner.

Although there are three authors, the transitions are remarkably smooth and the text is easily readable. I believe many clinicians and educators will read this book for interest, whether they practice or teach in critical care or not. The text is also written clearly enough to be accessible to informed lay readers. Any medical reporter who wants to understand how caregivers think and work and what happens in critical care would benefit from reading it.

Perhaps, the most important accomplishment of this text is its insistence on incorporating all the elements of critical care: clinical reasoning and thinking ahead, caregiving to patients and families, ethical and moral issues, dealing with breakdown and technological hazard, communication and negotiating among all participants, teaching and coaching, and understanding the linkages between the larger systems and the individual patient. Moreover, the text repeatedly reveals the limitation of relying on taxonomies, simple categorization, or protocols as a way to convey understanding of, or even to actually practice critical care. Instead, the authors insist that, to get the best answer, experts must create "the best account of the clinical situation under the circumstances of uncertainty" (p. 5). The marriage of a narrative understanding of the specific situation with reflection allows the caregiver to use scientific knowledge melded and suffused by the time, place, and conditions of care, which, in turn, leads to clinical wisdom.

I believe this outstanding book will secure a place on most educators' and expert clinicians' bookshelves. Every once in a while a better book comes along; this is one of those times.

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Foreword II

In 1999, as editor of *Canadian Journal of Nursing Research* (CJNR), I received a copy of *Clinical Wisdom and Interventions in Critical Care: A Thinking-in-Action Approach* for review. The title intrigued me. It was the first time I had seen the use in nursing of such phrases as *clinical wisdom* and *thinking-in-action* rather than the more familiar *clinical understanding* or *reflection-on-action*. Then I noted that Patricia Benner was its first author. I was familiar with Dr. Benner's previous books and her many writings and had developed a deep and abiding respect for the quality of her scholarship. And so, it was with great anticipation that I picked up the book and began to read.

I was not disappointed. Even today, almost 11 years later, I can still recall my excitement as I read each chapter. I knew then that the groundbreaking book I was holding would lead to new understandings of how nurses nursed. What Benner, Hooper Kyriakidis, and Stannard had captured was the essence of nursing and the thinking behind clinical judgment and decision making. They had detailed with great clarity the work of nurses: the thinking and decision-making processes involved in clinical judgment, the nature of moral and ethical comportment, and what caring looks like in the practice world of critical care. The authors had also captured—through compelling stories, observations, vignettes, and nurses' narratives—the complexities involved in nursing acts that had gone unnoticed, unrecognized, and underappreciated. They had put words to actions and described processes in precise terms that had previously eluded description. Moreover, they had discovered the power of the narrative to express in vivid detail the moment-to-moment, day-to-day acts of nursing. In this book, interpretative phenomenology found a champion as a valid methodology for generating knowledge about nursing phenomena—and brought credibility to this approach because of the rigor of scholarship involved.

At the time, I believed that this would be an important book for clinicians, educators, and even administrators. During the intervening years, I found myself returning to this book regularly, using it as a resource for different purposes. It continued to speak to me, and with each reread, I uncovered new layers of meaning. It was thought provoking, relevant, and instructional. The messages it contained were timely and timeless. Thus, I was intrigued to learn of a second edition and curious as to what new insights these authors had discovered during the intervening decade.

The new edition takes into account the changing circumstances and context of the health care system and reflects the development of nursing. Much has transpired during the past decade. As the authors point out, the boundaries between the acute and critical care health care systems have blurred, and many hospitals are offering multiple layers of critical care from stable critical to intensively critical. In short, many of our tertiary care hospitals are critical care facilities, both fast-paced and demanding. They require skilled and wise nurses to deal with high levels of uncertainty, ambiguity, unpredictable clinical situations, rapidly unfolding clinical trajectories, and complex patient situations. Nursing is carried out in challenging practice environments that are in flux, which require attending to the needs

of and demands from many people including other nurses, physicians, and staff. All this is happening in an environment that is ever more reliant on sophisticated technology to identify, solve, and manage problems. The pressures and stresses that nurses experience day after day are palpable. Within this context, the nurse's role is to keep the patients at the center of care—getting to know them as a person, recognizing their unique ways of responding to insults, and advocating for them to provide care that is grounded in understanding, knowledge, and wisdom.

The term *clinical wisdom* continues to intrigue me. What differentiates *clinical wisdom* from *clinical understanding* or *clinical knowledge*? Belenky, Clinchy, Goldberger, and Tarule (1986) in their now classic book, *Women's Ways of Knowing*, provide some insights. Understanding involves some familiarity and acquaintance with the person or a task. On the other hand, knowledge goes beyond mere understanding. It includes understanding and an intimacy that can only be achieved through developing a connection with the person or task by empathy or seeing the situation through a different lens other than one's own. The most developed knower is passionate and a connected participator. Wisdom moves the process of knowing further along. As the saying goes, "Knowledge has a way of coming and going whereas wisdom tends to stick around" (Baird, 2000). *Clinical wisdom*, as Benner, Hooper Kyriakidis, and Stannard have shown, emerges when nurses become passionate knowers and transform understanding and knowledge into clinical wisdom. It is expressed in maxims and principles derived from understanding and intimate knowledge of clinical practice. It is at the heart of nurses' ethical and moral comportment that ultimately defines nursing excellence. Throughout the book, we are privileged to have access to nurses' clinical wisdom and how it is acquired. In the process, we come to appreciate the wisdom of these authors.

As with the first edition, Benner and her colleagues continue to make the invisible visible and the inaccessible accessible. They articulate and label the processes underlying clinical judgment and clinical decision making. With exquisite, in-depth precision, they describe the habits of thought and action in the nine domains of nursing practice. They include what happens during moment-to-moment clinical assessments and judgments and everyday skillful ways of practicing. They shed light on what goes on in nurses' heads. They help us enter the nurses' world of interpretive decision making: the importance of perceptual acuity and attunement, selecting what is salient, being open, and moving from universal knowledge of evidence-based research to how general population knowledge applies to a specific patient. The authors uncover and discover the thinking of reflecting-in-action and reflecting-on-action. They teach us the importance of sustained curiosity for the detective work of nursing—to understand and solve puzzles. This book illustrates how nurses learn patterns of patient responses by comparing incidences between and within situations, and thus, developing knowledge that can be generalized. They have succeeded in helping us, their readers, understand the intricacies and complexities of thinking-in-action through the narrative by getting nurses to tell stories.

Nurses' rich and detailed narratives, which form the core of each chapter, give this book its texture and depth, and place it in a class of its own. Each story is compelling, more so than any television script with its main plot and subplots and array of characters. Here, nurses are given voice. They speak of the scope of their practice and the nature of their work. We experience nursing as frontline health care workers do—the challenges they grapple with, the dilemmas and the ambiguities they face, their angst, disappointments, failures, and triumphs. We enter the practice world of nursing and learn from what nurses have learned.

The stories and how the authors present them illustrate graphically the central role that nurses play in safeguarding patients from harm, making sure that patients' wants and needs are heard, preserving patients' dignity, serving as patient and family advocates, and rescuing patients from near misses caused by inexperienced doctors, other nurses, and so forth. The stories also capture the power that nurses have in the health care system because they are with patients 24/7. They explain why nurses are the glue that makes and keeps the health care system working. They illustrate the depth and breadth of knowledge that skilled nurses need to do their job and why nursing requires individuals who are smart, strong, savvy, and sophisticated to deal with crises, dramas, plots, and subplots that require their constant attention. These stories remain, revealing and teaching us long after the page is turned and the chapter completed. They also serve double duty. As they inform about nursing, illustrating clinical wisdom and thinking-in-action, they are excellent teaching tools for learning to nurse.

Each story has been selected for a purpose and followed by a commentary. Benner, Hooper Kyriakidis, and Stannard are superb teachers. They draw our attention to what is salient and compelling about a story. They use the story to help link formal knowledge to practical knowledge, thereby integrating theory and practice. The authors uncover clinical wisdom and in clear, unambiguous language make theoretical concepts come alive in the practice world. They then offer new insights by interpreting the stories through different lenses, drawing on knowledge from diverse disciplines—such as philosophy, sociology, psychology—to add depth and understanding to nurses' work. They then suggest ways of being and doing, as well as identify maxims and principles to serve as a framework for moral and ethical caring. Although all chapters follow this structure, Chapter 8, "Preventing Hazards in a Technological Environment" and Chapter 9, "Facing Death: End-of-Life Care and Decision Making" are excellent illustrations of this approach.

This edition goes beyond the first edition, incorporating pedagogical approaches to assist inexperienced nurses develop expertise in practice through situated and experiential learning. It integrates the insights from Benner, Stuphen, Leonard, and Day's (2010) work on educating nurses for the future and takes their insights from classroom to the clinical setting, focusing on nurses' needs for lifelong learning, with pedagogical strategies woven into each chapter. The importance of educating is underscored with the addition of "Chapter 13, Educational Strategies and Implications." In a significant way, this book ties the threads of Benner's career quest for understanding, uncovering, and describing what constitutes expert, ethical, and caring practice—what it is, how it happens, what experiences help to develop it. This journey began 36 years ago in Benner's groundbreaking work that documented the stages of clinical competence and skill acquisition in her classic book, *From Novice to Expert* (Benner, 1984), and expanded on in *Expertise in Nursing Practice* (Benner, Tanner & Chesla, 1996, 2009). This current book, the second edition, represents an integration of more than 40 years of experience and insights that Benner has gained with different collaborators.

This book is one from which all nurses can learn—students and new nurses who are first learning to nurse, nurses who want to become advanced practitioners, and seasoned clinicians. All nurses need to develop a sense of salience—recognize what is most urgent or significant as they identify and then define the problems. The process is complex as it involves perception and engagement skills. Every situation is charged with emotion that, in turn, affects perceptions, thoughts, and subsequently judgments. However, it is the recognition and the development of salience that is the heart of clinical grasp (understanding). It is the bedrock of sound clinical decision making.

Benner and her colleagues make a compelling case for using the narrative as an educational strategy and teaching tool. They believe that clinical learning is experienced as a story. It is by nurses' own stories and listening to (in this case, reading) the narratives of other nurses that inexperienced, as well as experienced, nurses can develop their expertise. It is in the telling of and reflecting on stories of practice that nurses learn about clinical issues, issues that can be generalized from a particular patient and situation to a different population and another setting. Stories help nurses learn how to identify and articulate best nursing practices, practice situation-responsive nursing, uncover moral struggles, and come to appreciate how vision and imaginings help them to see possibilities and recognize opportunities. They argue against the use of classificatory systems, prescriptive lists, evidence-based protocols and the like, as these approaches are not designed to capture the patient's and family's experiences. The current use of such systems is a "one-size-fits-all" approach, when, in effect, professional nursing requires—no it demands—a situation-responsive approach that respects the uniqueness of each patient and family, their situation, history, experience, and circumstance.

With the first edition of *Clinical Wisdom and Interventions in Critical Care*, Benner, Hooper Kyriakidis, and Stannard left their footprint. With this second edition, they have left an even deeper footprint. They have given us the knowledge, language, methods, and tools for developing expertise in clinical practice. Now, we need to heed their wisdom and follow their footsteps to help nurses fulfill their social contract of caring for patients and families with knowledge and compassion.

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Preface

This book presents a way of thinking about clinical inquiry, reasoning, judgment, and experiential learning in clinical practice. It is about human expertise and wisdom in the practice of nursing. This work gives language to clinical and moral imagination and multiple domains of excellent practice. We hope that nurses will read the articulation of key domains of acute and critical care and will have the spontaneous response: "You have put into words what I have always known in my practice but had not expressed." Experiential learning in practice is a way of knowing and developing clinical knowledge in its own right and clinicians always know more in their practice than they can put into words (Polanyi, 1958/1962). Nurses develop a tacit, yet demonstrable knowledge learned in their practice over time that may not yet be articulated well in theory and that might not yet be fully explained in science (Gallagher, 2009; Hooper, 1995; Polanyi, 1958/1962; Sunvisson, Haberman, Weiss, & Benner, 2009). Part of the reason for this "hidden knowledge" or undisclosed knowledge in practice is the culmination of many comparisons of whole clinical situations where clinicians add to their perceptual acuity, their clinical practical wisdom, skillful clinical reasoning through patient changes, tacit knowledge, and their abilities to make qualitative distinctions in particular clinical situations. This allows for nurses (and other expert clinicians) to recognize early warnings to changes in patients' condition (Benner, 2000) and think-in-action in clinical practice. In sum, we hope that readers will experience a sense of self-discovery about clinical wisdom in nursing. Although this study is about critical care and acute care nursing practice, it is centrally about nursing knowledge and practice. In that regard, nurses, along with the clinicians they practice with, will find points of mutual entry and meaning, including the interprofessional and intraprofessional contrasts discussed.

This work presents the aspects of clinical understanding and reasoning not captured in static formal models that have been traditionally used to teach decision making. It is based on the premise drawn in Benner, Tanner, and Chesla (2009) that there is an eclipse of clinical judgment and reasoning in formal decision-making models based on probability assessments at particular points in time. It was argued in *Expertise in Nursing Practice* (Benner et al., 2009) that clinical reasoning involves reasoning about a particular patient across time and that the gains and losses in understanding of the patient's changing condition creates the clinician's understanding of the situation. In moving from Point A to Point B, expert clinicians take into account the gains and losses in understandings and meanings inherent in the sequencing of patient changes. Much of clinical judgment and understanding of the patient's condition is based on understanding actual trends and trajectories in the patient's condition. Such thinking-in-action and reasoning-in-transition about particular patients requires an agent-centered understanding of ethical and clinical reasoning.

Clinical reasoning is a form of practical reasoning. The nurse is situated in particular clinical situations, makes sense of them (Gallagher, 2009; Lave & Wenger, 1991; Weick, 2009) and acts. In the Carnegie National Study of Nursing Education (Benner et al., 2010), it was found that nursing faculty and nursing students alike conflated clinical reasoning and

critical thinking. Critical reflective thinking is *necessary* for all kinds of professional clinicians; however, it is not sufficient for clinicians because critical thinking cannot replace situated clinical reasoning across time about particular patients. For example, in a situation of resuscitating patients, the advanced cardiac life support (ACLS) algorithms and standard practices are adjusted, when needed, according to the patient's particular clinical situation and responses. There is no time to reexamine the ACLS algorithms from the ground up at the point of resuscitation except in relation to a particular patient's sensitivities or intolerance to particular medications (known in advance or discovered during the crisis). In a crisis, one thinks in action and engages in the best clinical problem solving about the particular patient in the moment. One does not typically have time to stand back and think critically and reflectively about the event until the crisis is over. Clinical reasoning *uses* science and theory about well-established standards of good practice. Critical thinking is required for practice breakdown situations, and where the received standards of practice need to be questioned and reexamined based on new knowledge and science. For example, taking care of new patient populations with new clinical characteristics, such as returning wounded warriors, requires both critical thinking and creative clinical imagination. Nurses practice more effectively when they use multiple forms of reasoning as the situation calls for different approaches and frames of reference (Benner et al., 2010).

Wise ethical and clinical judgments require the ongoing thinking-in-action and patient and family relationships with nurses and physicians. The matching of patient findings against a predefined template or the application of artificial intelligence can provide decision support, but can never replace the engaged clinical and ethical reasoning of the clinician whose judgment is shaped by the context of the situation.

Few workers in artificial intelligence would disagree with this statement, yet much of our educational materials are developed as if the clinician makes clinical and ethical judgments in the same way that would be derived from decision analysis techniques (Dreyfus, 1992). We view this work as a necessary complementary approach to teaching clinical judgment and critical thinking because it depicts the logic of practice (Bourdieu, 1990) that expert clinicians use (Benner et al., 2009). Additionally, it demonstrates how clinical practice and clinical judgment in nursing and medicine will always require clinician- and patient/family-centered reasoning about the particular across time more than abstract decision-making models, no matter how useful these models may be. For example, when using aggregated scientific evidence about best practices (i.e., evidence-based practice), the clinician is still required to judiciously decide on interventions with the particularity of the patient in mind and judiciously and critically evaluate scientific evidence.

Since the work from *Novice to Expert* (Benner, 1984), the author has been engaged in dialogue with nurse educators about the implications of the Dreyfus model of skill acquisition for clinical teaching and learning (Dreyfus & Dreyfus, 1986). *Expertise in Nursing Practice* (Benner et al., 2009) pointed to many of the educational implications presented in this work. However, in this book, we seek to illustrate the educational implications by providing a thick description of nurses' thinking-in-action and reasoning-in-transition. The book provides a window to central areas of experiential learning required for the development of expertise in nursing practice. Throughout the book, numerous and varied suggestions and examples are provided to assist in the development of nurses toward expertise. Because there is a considerable gap between the patient care demand for expert reasoning and judgment and the availability of expert nurses to provide that level of care

(Burritt & Steckel, 2009), we have highlighted various practical ways of situated teaching and coaching at the bedside where experiential learning is optimal.

Clinicians manage the limits of short-term memory and the enormous array of information available at any point in time by focusing on the most relevant findings, changes, or issues at hand (a sense of salience gained directly from clinical experience). The expert's judgment is always situated. Consequently, *identifying* the most relevant problem(s) is crucial for good priority setting and good clinical judgment. In teaching the nursing process (an adapted version of the scientific problem-solving process), the focus is on the problem-solving process, rather than first defining the problem. Little attention is given to identifying the most salient or relevant problem(s) or concerns. However, it is from situating one's thinking-in-action and problem solving on the most salient issue(s) at hand that the expert nurse develops a strategy for information management and action. We believe that providing a description of clinical judgment and thinking-in-action in this situated way, more closely simulates how clinicians think and act in practice. As such, we describe two pervasive habits of thought and action in Chapters 2 and 3, clinical grasp and clinical forethought, and then nine domains of practice, our "strong clinical situations," in Chapters 4 through 12. These descriptions will assist learners and teachers and can also help leaders better create environments that support the demands of good practice. The "strong clinical situations" or domains of clinical nursing practice include the "telos" or aims of practice; that is, the "in order to do *X* and accomplish *Y* for the sake of scientific evidence of best practice and/or for the sake of patient/family concerns and preferences for treatment." Practice is always situated in actual particular situations that can be captured only dimly and relatively in context-free abstractions and formal theory.

The specific medications used in clinical situations presented here must not be considered "the best" or "lasting approaches." We *do not* intend the reader to slavishly follow concrete actions and therapies used in particular clinical situations because practice standards, new medications, and clinical evidence about interventions are constantly changing. What *can* be taken from the situated examples are clear: the nurse's grasp of the situation, his or her clinical forethought, critical and creative thinking, skilled know-how, and concerns and aims of the patient/family and health care team. The examples should be read imaginatively, with the readers rehearsing what they might do in similar situations. None of the situations are "ideal." They are based on the situated possibilities of nurses working with real colleagues, patients, and families. Certainly, this kind of treatment is most useful for the student nurse and clinician who want to enrich the clinical imagination they possess.

We found that the original inductively generated articulation of domains of practice held as we reviewed 271 new exemplars from across specialties. We chose new exemplars as necessary: when updating a previously used exemplar or when the new exemplar added new insights. Some practices current 11 years ago when *Clinical Wisdom* was first published have since become obsolete or dramatically altered. We sought to replace all such exemplars. However, if the point of the exemplar was primarily about the nurse's creativity and response to a difficult situation and one that offered rich insights, we kept that exemplar while updating particulars. Because practice changes rapidly, there is no way to keep an account of any practice up to the minute. As Weick (2009) points out, the organization is "impermanent." We did highlight stories that were timeless, in terms of the challenges they presented to the nurse, and that demonstrated expert nursing practice at the time. Thirty years from now, this work may well be used as a "historical account" of clinical nursing practice circa 2010.

WHO MIGHT BE INTERESTED IN THIS WORK

First, practicing critical and acute care nurses and nursing students (undergraduate and graduate) who are preparing to work with acutely or chronically critically ill patients and families are the readers for whom this work was designed. This work organizes the major domains of nursing practice for acute and critically ill patients. The domains include the purposes and ends of nursing practice as well as instantiating excellent communication, caring practices, and relational skills. The examples provide a guide for experiential learning and presents many firsthand reports, which will aid students' own experiential learning. The book helps faculty bridge the practice–education gap and the separation of classroom teaching and the clinical. The book is also designed for nurse educators who are teaching acute and critical care nursing practice, clinical reasoning and critical thinking, and clinical judgment in nursing practice. Preceptors, nurse educators in hospitals, and advanced practice nurses will find many practical approaches for helping beginning clinicians, as well as strategies for helping competent clinicians to move to proficient and expert stages of practice.

This book is also designed for advanced practice nurses, nursing managers and administrators, clinical leaders, and those interested in developing or revising organizational systems or information infrastructures for nursing practice. Chapter 11 describes the frontline system design and repair done daily by expert nurses, and Chapter 12 presents a view of leadership based on directing and shaping excellent clinical practice. This chapter captures the ways that those who design, develop, and repair care delivery systems must understand, the links between excellent nursing practice, and good outcomes, and this frontline description provides the first step in that process. Means and patient outcomes are linked in the narratives to better understand how good patient outcomes are created. Chapter 13 presents pedagogical implications and uses of this work, both in schools of nursing and in practice settings.

We believe that this book can also be useful to physicians entering practice, because it gives realistic descriptions of the practical realities in acute and critical care practice. We also believe that less experienced physicians may find descriptions of the habits and domains helpful, because of the similarities in skilled know-how that every clinician must develop to become expert. It can provide many practical directions about cross-disciplinary and cross-experiential level communication. We challenge the physician reader to notice the many positive examples of physician practice and teaching among the instances, where nurses describe making a case to physicians or describe nurse–physician conflict and collaboration. The difficult communications, as well as the successful ones, are described in the hope of improving communication and collaboration between nurses and physicians.

Finally, we believe that contemporary debates and discussions of biomedical ethics would be furthered by including the practice-based approach to teaching ethical and clinical reasoning presented in this book. This work richly demonstrates how ethical and clinical reasoning are linked and articulates notions of good embedded in the clinical practice of nursing and medicine. In this way, this book offers a needed voice for ethics directed by the quest for good practice—everyday ethical comportment rather than a focus on dilemma or practice breakdown ethics. The work offers insights about the role of emotion in moral perception, discernment, action, and relationship. The exemplars demonstrate the ethics of vulnerability, care, and responsibility (Martinsen, 2006) as well as the multifaceted ethics of patient/family advocacy. The work is in the Aristotelian tradition, but takes up relational ethics in the tradition of Kierkegaard (Dreyfus, Dreyfus, &

Benner, 1996; Rubin, 2009) and Løgstrup (1997). Following the work of Taylor (Benner et al., 1996; Rubin, 2009; Taylor, 1985a, 1985b, 1989, 1993), the book illustrates how the method of making qualitative distinctions and reasoning-in-transition are central to ethical and clinical reasoning. We hope that this work will improve the development of expert practice in students and practicing clinicians, enrich the educational strategies that educators embrace to integrate knowledge acquisition and situated *use* (Eraut, 1994) into practice, and strengthen situated coaching and learning in authentic contexts. This work delineates clearer ways that administrators need to support development of expert clinical knowledge in practice settings and ways that administrators and clinicians need to seek out the clinical wisdom of strong clinical leaders to better inform decisions that affect clinical practice.

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Abbreviations

ABBREVIATIONS OF CLINICAL UNITS

CCU	coronary care unit
CVICU	cardiovascular intensive care unit
ED	emergency department
eICU	electronic intensive care unit
ICN	intensive care nursery
ICU	intensive care unit
L&D	labor and delivery
Medsurg	medical surgical
MICU	medical intensive care unit
OR	operating room
PACU	postanesthesia care unit
Peds	pediatrics
PICU	pediatric intensive care unit
Rehab	rehabilitation
SCN	special care nursery
SICU	surgical intensive care unit

COMMON MEDICAL ABBREVIATIONS USED IN CRITICAL CARE

A-fib	atrial fibrillation
A-line or **Art Line**	arterial line
ABC	airway, breathing, circulation
ABG	arterial blood gas
ACLS or **ALS**	advanced cardiac life support
APN	advanced practice nurse
ARDS	adult respiratory distress syndrome
Bicarb	sodium bicarbonate
Biox	pulse oximeter
BLS	basic life support
BP	blood pressure
BPD	bronchopulmonary dysplasia
Bronch	bronchoscopy
CA	cancer
CABG	coronary artery bypass graft (surgery)
CBC	complete blood count
CHF	congestive heart failure
CNS	clinical nurse specialist

CO_2	carbon dioxide
COAG	coagulation times
COPD	chronic obstructive pulmonary disease
CPAP	continuous positive airway pressure
CPR	cardiopulmonary resuscitation
Cric	cricothyrotomy
CRNA	certified registered nurse anesthetist
CSF	cerebrospinal fluid
C-section	Caesarian section (C/S is also used)
CVP	central venous pressure
CVVH	continuous veno-venous hemofiltration
CXR	chest x-ray
Defib	defibrillation
DEX	glucometer DEX
DIC	disseminated intravascular coagulopathy
DNAR	do not attempt to resuscitate
DNR	do not resuscitate
Dopa	dopamine
DT	delirium tremors
Echo	echocardiogram
ECMO	extracorporeal membrane oxygenation
EKG	electrocardiogram
EMT	emergency medical technician
Epi	epinephrine
ET tube	endotracheal tube (ETT is also used)
$ETCO_2$	end tidal CO_2
FFP	fresh frozen plasma
FiO_2	fraction of inspired O_2
Gases	refers to arterial blood gases
GI	gastrointestinal
HIPAA	Health Insurance Portability and Accountability Act
HR	heart rate
IABP	intra-aortic balloon pump
ICP	intracranial pressure
I:E ratio	inspiratory-to-expiratory ratio
IMV	intermittent mandatory ventilation
INT	interviewer
INT notes	interviewer notes
I&O	intake/output
iSTAT	bloodwork
IV	intravenous
K^+	potassium
KCl	potassium chloride
KUB	kidney-ureter-bladder
Levo	levophed
Lytes	electrolytes
MAP	mean arterial pressure

Meds	medications
Mets	metastasis
MI	myocardial infarction
Mics per kilo	micrograms per kilogram
MSOF	multisystem organ failure
MUGA	multigated acquisition
Neo	neosynephrine
Neuro	neurologic
NG tube	nasogastric tube
Nitro	nitroglycerin
NP	nurse practitioner
NPO	nothing by mouth
NS	normal saline
O_2	oxygen
PA line	pulmonary artery line
$PaCO_2$	partial pressure of CO_2 in arterial blood
PaO_2	partial pressure of O_2 in arterial blood
PCWP	pulmonary capillary wedge pressure
PEEP	positive end expiratory pressure
PIP	peak inspiratory pressure
Pneumo	pneumothorax
PRBC	packed red blood cells
PRN	as needed
PT	prothrombin time
PTT	partial thromboplastin time
Pulse Ox	pulse oximeter
PVC	premature ventricular contraction
RDS	respiratory distress syndrome
Resus	resuscitation
RT	respiratory therapist
SaO_2	saturation of arterial O_2
Sat or **sats**	oxygen saturation
SvO_2	mixed venous oxygen saturation
SVR	systemic vascular resistance
TBI	traumatic brain injury
TPA	tissue plasminogen activator
TPN	total parenteral nutrition
Trach	tracheostomy
VAD	ventricular assist device
Vent	ventilator or ventilated
V-fib	ventricular fibrillation
VSD	ventricular septal defect
V-tach	ventricular tachycardia (**VT** is also used)