COMMON ACUTE ILLNESSES

A Problem-Oriented Textbook with Protocols

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ILLNESSES A Problem-Oriented Textbook with Protocols

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For information about obtaining individual copies of the protocols presented in this book, write to: The Ambulatory Care Project, Beth Israel Hospital, Kirstein Hall, 3rd Floor, 330 Brookline Avenue, Boston, Massachusetts 02215.

Foreword

The problems of access to primary health care services are well known to both health care providers and the public they serve. Patients want care that is prompt, effective, and economical from a knowledgeable and caring health professional. To date, the majority of this first-contact care has been given by physicians. There is growing evidence that the range of problems brought by patients for health care services – life stresses, failures in coping with life's problems, and the need for social support – requires the services of groups of health professionals working together toward the common goal of reducing barriers to such services. As additional health care providers are included in decision making about health care, it is increasingly important that standardized methods be developed to guarantee quality control through auditing of the care provided.

As with all new and developing strategies for action, protocols must be placed in proper perspective as one of the many tools used by practitioners in the course of making clinical judgments. Some practitioners have expressed concern that protocols encourage dehumanization of care, envisioning uncaring robots slavishly following a written protocol for action. I believe quite the contrary. In freeing the practitioner from the concern of missing an important cue, or forgetting to collect certain data, protocols allow the health care worker to practice the art of caring for patients without the constraint of undue emphasis on technical aspects of care. No one would expect an airplane pilot to memorize all the technical aspects of the job. The danger of letting routine matters slip by is too great. In health care, the novice practitioner cannot focus on the human aspects of care – alleviating anxieties, looking for significant cues, and providing needed support – until the basic diagnostic and management skills are mastered. Protocols, used correctly, provide a guide to action and assure thoroughness and consistency following a tested standard.

Drs. Komaroff and Winickoff have presented a masterful contribution toward improving the care of patients seeking relief from common symptoms. The protocols in this book go beyond routine "checks" in caring for patients. They include a flexible, logical problem-solving approach to care. The authors have made explicit the judgment and logic developed through years of clinical practice and provide the distilled essence of clinical judgment. As a teaching tool for new health practitioners, this book will be a valuable supplement to the more formalized texts of pathophysiology. As a guide for the practitioner faced with diagnostic and management problems daily, this book will be as invaluable as having a trusted and experienced mentor at one's side constantly.

Rheba de Tornyay, R.N., Ed.D.

Introduction

PHILOSOPHY AND PURPOSE

What does this book have to offer that is new, different, and valuable? This is the first question one asks on picking up a new book, and we should begin by addressing it.

Three aspects of the book make it valuable: we describe explicit, formal *strategies* in the care of adult patients who come to a *primary care* setting seeking treatment for a variety of *common symptoms.* The strategies are designed primarily for use by students and practitioners other than physicians, that is, nurses, nurse-practitioners, physician assistants, and medical students. Physicians entering a primary care practice may also benefit from the discussions of diagnostic and treatment strategies. All individuals who might use the protocols will be referred to hereafter as practitioners.*

Why the focus on symptoms, primary care practice, and formal strategies? Because we believe this focus is a necessary supplement to traditional clinical education and textbooks. Traditional education is often disease-oriented rather than problem-oriented. We are taught about the biological mechanisms that cause a particular disease and the symptoms and signs that are associated with that disease. However, in caring for a patient with a particular symptom, the primary question is not What are the symptoms associated with various diseases? but, rather, What are the various diseases that could be causing this patient's symptoms?

The answer to the latter question does not naturally follow from disease-oriented knowledge. Most textbooks and educational programs do include discussions of differential diagnosis. But, more often than not, the discussion focuses on a disease rather than a symptom: the question raised is, How does one distinguish myocardial infarction from the diseases of pulmonary embolus or bacterial pneumonia? and not What are the various diseases that could be causing the symptom of chest pain?

Furthermore, the discussion of differential diagnosis is often quite general. We are taught that in the differential diagnosis of myocardial infarction we should "consider" a host of other diseases, but the question of *how* we go about considering these other diseases and distinguishing them from one another is not directly addressed. Lastly, the discussion seems often to concentrate primarily on diseases in the stage at which hospitalization is necessary, rather than when they can be handled on an out-patient basis.

Most people would agree that it is valuable to focus on problems as well as diseases and to synthesize an approach to these problems. In our judgment the next step is clear. The strategy in approaching the problem should be formalized, made explicit, used in practice, and evaluated. And that process is what this book is primarily about.

Content and Structure of the Book

We consider seven common groups of symptoms (syndromes) found in adults (generally, aged 16 and older) with the following problems: respiratory tract infection; urinary tract and vaginal infections in the female; genitourinary infections in the male; headache; low back pain; abdominal pain, nausea, vomiting and diarrhea; and chest pain. Together, these symptoms account for well over 50 percent of all patient visits for problems other than routine physical examinations and management of known chronic diseases.

A chapter for each of the seven syndromes provides a description of relevant anatomy and physiology and various diseases that could produce that particular syndrome.

We then present an explicit strategy for approaching each syndrome in the form of a *protocol.* First, we outline the questions on history (subjective), the elements of the physical examination (objective), and the laboratory tests that provide important clinical information. Since each patient is different, we describe a logical scheme for collecting just that information that is most valuable, depending on the findings in a particular patient. Given the clinical findings in each patient, the protocol then recommends an appropriate impression (or diagnosis), plan for treatment, follow-up, and patient education. To supplement the practitioner's oral advice to the patient, we present a written information sheet that can be taken home by the patient.

Each chapter explains why the clinical approach, or the protocol, is as it is. Our explanation includes references to published studies we have conducted of the protocols, as well as references to important books and articles in the clinical literature. Each

*In standard medical writing, pronouns referring to doctors are almost invariably masculine, while those referring to nurses and allied health personnel are usually feminine. Particularly since we do not wish to perpetuate this sexual stereotype, we will use the male pronoun throughout this book in referring to all human beings, practitioners as well as patients, except when patients with an exclusively female condition (e.g., vaginitis) are being discussed.

chapter also contains a description of how to take the history, perform the elements of the physical examination, and perform the laboratory tests included in the protocol.

At the end of the book is a glossary of terms used throughout the book.

This book makes no pretense of presenting as complete or detailed a discussion of certain clinical issues as can be found in textbooks of medicine, nursing, and physical examination. We presume the reader has had clinical education and/or experience, and will use the library to pursue, in depth, issues that are of special interest. We have attempted to condense essential knowledge from many different clinical sciences into one book.

The Protocols

A unique feature of this book is our presentation of explicit strategies – protocols – for approaching several common syndromes. Before discussing the role of protocols in patient care, we should first consider the process of patient care itself.

Patient care is both a science and an art; the patient represents a biological puzzle to be solved, as well as a human being whose social status, emotional condition, and understanding must be considered. Good patient care requires good science: the careful and systematic collection of clinical data and reasoned, informed decision-making regarding diagnosis and treatment. But good patient care also requires something more, namely, sensitivity to a patient's fears or misunderstandings about a problem; recognition of a patient's "hidden agenda" for seeking care; perception of underlying psychosocial problems that require attention; skill in explaining the problem, its treatment, and the need for adhering to the treatment program; the ability to reassure the patient and to convey warmth and sympathy, confidence and competence.

What contribution can a protocol make to the science and art of patient care? A protocol is nothing more than a method for making a process of thinking explicit. Since science tends to be more rational and less intuitive than art, protocols usually express a strategy for dealing with the scientific aspects of a patient's problem. Protocols guide the practitioner in making valid decisions about diagnosis and treatment. The protocols presented in this book are generally of this type. However, protocols can also serve as reminders in the art of patient care, particularly the process of patient education. The protocol can specify the main points that should be clarified for the patient: the nature of the illness, its treatment, and the need for follow-up care. The protocols presented in this book, along with the associated educational materials, demonstrate these points.

No two patients, even patients with the same problem, are exactly alike. For one thing, the diagnostic and treatment questions are not always addressed in the same way; one does not always ask the same questions, perform the same physical examination, or order the same laboratory tests in two patients with the same complaint. Rather, the approach is *individualized.* A protocol for a particular complaint encourages an individualized approach because it recommends *different* actions in patients with different clinical findings.

No two patients with the same problem have exactly the same human response to that problem, either. The art of caring for the patient requires flexibility and sophistication to deal with this variability. Although protocols may assist to some degree, we believe that the art of patient care is essentially a function of the education, experience, and innate qualities of the practitioner.

What should be the role of protocols in patient care? Our description of each protocol in this book may seem to imply that we believe patient care involves only following a protocol. Nothing could be farther from the truth. We describe each protocol as a precisely defined sequence of data collection and decision-making. This is for purposes of clearly describing the clinical logic of the protocol. However, even a carefully and extensively tested protocol can never anticipate all the factors that might affect the science of patient care in each individual case. And protocols can be of only partial assistance in the art of patient care.

Therefore a protocol should *never* be followed rigidly or mindlessly. A protocol should represent a floor under, not a ceiling over, the practitioner. It should serve as a support, not a constraint. Clinical information should be obtained according to the natural flow of conversation, and not in a manner dictated by the sequence described in the protocol. If the practitioner believes there is a reason to deviate from the approach suggested in a protocol, the reason should be made explicit and the protocol should not inhibit action. Furthermore, the practitioner who ignores or mishandles the human aspects of care, who focuses only on the scientific aspects, or who *only* follows the protocol, is providing inadequate care.

We believe there are several advantages to the use of protocols. First, one's efforts in developing a protocol, or in analyzing a protocol developed by

others, help to focus one's thinking about a particular clinical problem. One can think through a number of surprisingly difficult questions involved in the care of a "simple" problem. A systematic and thorough approach can be planned in advance, so that one does not have to think through all the difficult questions under the pressures and distractions of a busy patient-care session.

Second, one can establish general *standards of care* for one's practice, and can establish mechanisms for auditing the practice in accordance with these standards.

Third, protocols have served as instruments of communication and understanding as nurse-practitioners and physicians' assistants work together with physicians in defining their *interdependent* professional roles.

Fourth, there may be *legal safeguards* for all involved practitioners if the protocols clearly spell out and defend a particular course of action, especially if that strategy has been tested in practice. Indeed, several states have recently changed their nurse practice acts, physician assistant laws, and regulations to encourage the development and use of jointly agreed on protocols.

Specific Protocols Presented

The protocols presented in this book have been developed over the past five years by a group of well-trained and experienced physicians and nurses. Each of the protocols has been used in several hundred patient encounters, some in several thousand encounters. Each protocol has been tested in a controlled study designed to evaluate the quality, efficiency, and cost of care. Most of these studies have been published previously in major medical and nursing journals and are summarized in the book. The protocols presented here have been revised anywhere from five to nine times on the basis of past experience and advances in knowledge. Prior to the publication of this book, the protocols and associated educational materials had been purchased by thousands of practitioners.

Studies by our group and others [1–14] indicate that practitioners guided by the protocols, in comparison with physicians using traditional methods, give patient care that is equally thorough, and that leads to comparably accurate diagnosis and appropriate referral or treatment. Practitioners guided by the protocols also achieve comparable relief of patients' symptoms and patient satisfaction, and provide care that is efficient in terms of practitioner time, medication, and test ordering and that may, as a result, reduce the costs of care (studies on this point are preliminary).

Having said all this, we do not mean to claim that these protocols are perfect or even to suggest that their content and logic cannot be challenged. Indeed, any protocol makes recommendations that are open to challenge. We have applied value judgments with which others may disagree; we attempt to present explicitly such value judgments for the reader's consideration. Furthermore, the clinical literature often does not contain adequate information to allow anyone to make a confident decision about the best action in a particular case. For those who may take issue with the content of a particular protocol, or with the use of protocols in general, we hope that this book will nevertheless be considered valuable, because it presents in each chapter the anatomy, physiology, pathology, and clinical data collection skills relevant to a common problem in the ambulatory patient.

Several points need to be emphasized about the use of these protocols in the care of individual patients. The care of a patient, including the acts of diagnosis and treatment, remains the joint responsibility of the practitioner and the physician with whom he or she works. Hence the providers of care should carefully examine the content and logic of the protocols in light of their own practice and the specific circumstances presented by each individual patient. Also, the recommendations of any protocol are obviously based on the assumption that clinical data have been collected accurately. Hence the providers of care must develop mechanisms to ensure such accuracy. Lastly, it must be remembered that each of these protocols is intended as a problem-solving approach to treating patients over a specific age with specific complaints. The protocols are not intended to deal with other complaints or to serve as a problem-seeking health maintenance screening examination.

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Contents

Common Acute Illnesses

1

The Protocol Logic

The protocols that will be described here all adhere to the same general structure and use a special scheme to display clinical logic. A more familiar way of representing logic is the flowchart. Figure 1-1 contains a portion of the flowchart logic required in caring for a woman with symptoms of urinary tract or vaginal infection; Figure 1-2 displays logic that is more extensive.

We preferred to develop another way of displaying medical logic. We wanted to present the logic on a *checklist* that a practitioner could use to rapidly record a thorough data base of the clinical findings, the impression, and the plan. And we wanted to visually condense logic that looks very complex and that (with normal-size printing) would occupy many pages, such as the logic shown in Figure 1-2.

Figure 1-3 shows the format we developed. This checklist protocol for symptoms of urinary tract infection (UTI) and vaginitis displays exactly the same logic as is shown in Figure 1-2 and does so on one side of a piece of paper.

In the upper right-hand corner there is space to record the patient's name and identifying information. In the upper left-hand corner there is space to describe briefly the patient's chief complaint. This protocol is organized into Subjective, Objective, and Plan sections; other protocols are organized with somewhat different headings.

Each piece of clinical information is recorded with a check mark in either the yes or the no box beside each question. Number values can be written on the protocol; there is space to the right of the related question (e.g., Temperature ⩾ 100_____). There is some space at the lower right and on the back for comments about the patient's condition and recording of the impression and the plan, if they have not already been indicated by the protocol, and for additional information or comments.

The protocol logic assumes that questions will be answered in a specific order: first down the left column and then down the right, skipping boxes only where indicated. In practice, practitioners familiar with the protocol typically would interview or examine patients in their own style, according to the natural flow of conversation, recording data on the protocol only at the end of the interview (perhaps as the patient is dressing). You would not have to ask some questions of the patient directly because you would already know the answer; for example, the question "age greater than or equal to (⩾) 45."

A protocol must be efficient in practice and, therefore, should not recommend collecting every piece of clinical information on every patient. Each protocol contains recommendations to skip over data that are not very useful to collect in a patient with certain findings. There are three ways the protocol signals that questions can be skipped over.

1. *Dots.* First note that the questions on a protocol are clustered together in groups. Assume that you were recording information on the protocol and following the logic. You would place a check mark in either the yes or no box for each question. If the box in which you placed a check mark contained a dot, this would be a signal that the remaining questions in that group could be skipped over, and you could proceed to the first question in the next group.

For example, look at question 3 on the protocol (Fig. 1-3). If the patient did have pain or burning on urination, you would place the check mark in the yes box (which does not contain a dot) and would proceed to question 4, which asks about where the pain or burning was felt. If the patient did *not* have pain or burning, the check mark would be in the no box which *does* contain a dot; hence, you could skip questions 4 and 5 (which are irrelevant if the patient does not have dysuria), and proceed to question 6.

2. *Letters.* If you were to place a check mark in the box that contains a letter, this would be a signal that you could skip over all the questions between where you were and the spot farther along in the protocol where the same letter appears *outside* (at the left side of) the yes and no boxes for another question.

For example, assume you were to place a check mark in the no box on question 31, which contains the letter *A*. This would be a signal that you could skip over to question 39, where the letter *A* is located to the left of the boxes.

3. *Stop boxes.* If you place a check mark in a box containing the word *stop,* this is a signal that you can cease going any farther in the protocol, generally because the situation warrants consultation with a physician and further collection of data is probably not worthwhile.

For example, if you were to place a check mark in the no box on question 56, which contains a *stop,* this would be a signal that the remaining questions (57–62) did not need to be answered.

The protocols also contain a *color-coding;* however, to reduce the expense of printing this book, we use different kinds of black-and-white shading in place of colors.

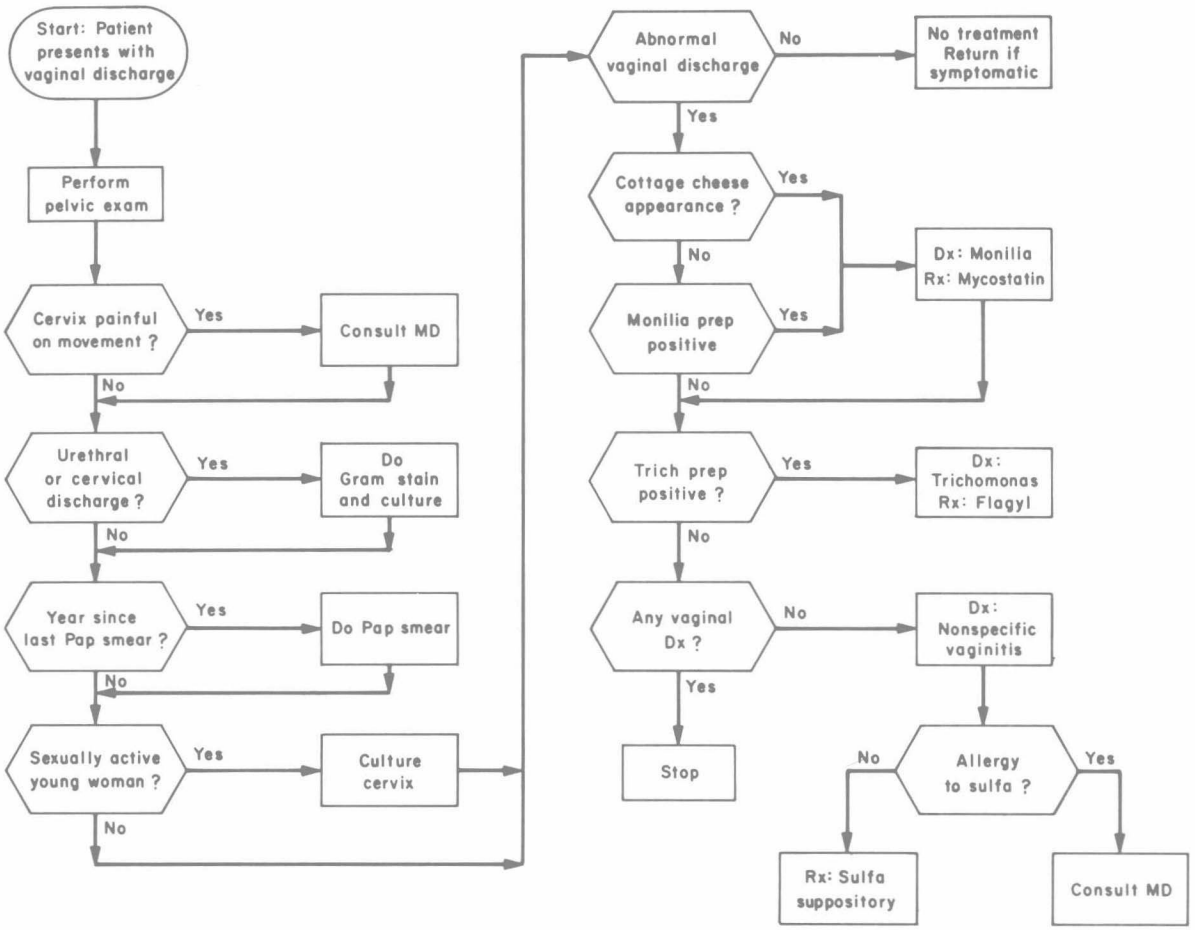

Figure 1-1. Stage II algorithm.

The different shadings serve two general purposes. They link together clinical information that is similar in some respect; and they help indicate a recommended action, such as ordering a test, making a certain diagnosis, or ordering a certain treatment. The recommended instructions are printed in *italics* to the right of a question and are surrounded by a particular shading. A check mark in a box with a particular shading corresponds to the recommended instruction covered by the same shading.

For example, look at question 62 on the protocol. The yes box is shaded with dense diagonal lines (▨). This correlates with the recommendation in italics to *Consult MD*. The no box is shaded with diagonal lines (▨) and corresponds to the recommendation to treat with ampicillin.

The shaded boxes are also used to identify similar symptoms for future reference. In this particular protocol, for example, the boxes shaded with vertical lines (▥) indicate symptoms of vaginitis; the boxes shaded with dots (▩) indicate symptoms of a urinary tract infection.

Throughout all the protocols, the boxes shaded with dense diagonal lines (▨) are used to identify those answers which suggest the possibility of a complicated disease and for which the physician should probably be consulted. The protocol itself will contain questions such as "Any dense diagonals?" or "Any vertically striped boxes checked?". These are questions necessary to represent the logic of the protocol and are questions that you would ask yourself in recording data on the protocol.

This may seem somewhat confusing at this point, but as each protocol is explained later in the book, the logic should become familiar and easy to follow.