

ADAMS' PHYSICAL DIAGNOSIS



JOHN W. BURNSIDE, M.D.

Adams' Physical Diagnosis

An Introduction to Clinical Medicine

FIFTEENTH EDITION

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the Pennsylvania State University



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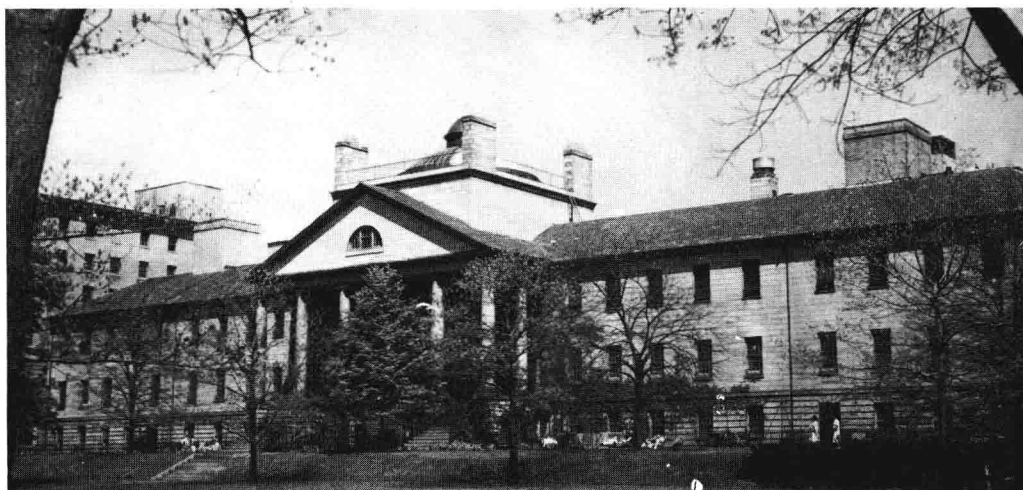
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Physical Diagnosis

Combining the Tradition of Two Institutions of Service in Medicine



*The Bulfinch Building
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The Milton S. Hershey Medical Center, 1973

To
Wayne Daniel Burnside
My Father and Friend

PREFACE

This is less the fifteenth edition of a textbook than it is the fifteenth edition of a concept. In 1900 Dr. Richard C. Cabot wrote the first edition of a text on physical diagnosis. Thirty-eight years later he invited his young colleague, Dr. F. Dennette Adams, to collaborate on the preparation of the twelfth edition. Subsequent editions were the product of Dr. Adams' sole labor of love. Content and form changed completely but the basic precept of presenting tools of diagnosis to young physicians remained.

Dr. Adams, whose diligence and patient sensitivity is surpassed only by his enormous experience, has now passed the baton to me. The charge is the same and the latitude provided an expression of confidence of which I hope to be worthy.

Dr. Adams enormously expanded on the clinical material as a reflection of the explosion of medical information. The exponential growth of that body of information prohibits a similar expansion of this textbook. How, then, does one provide the where-with-all of physical diagnosis without attempting to encompass all of clinical medicine?

The solution, it appears to me, is to provide a framework of technique and a pathophysiologic thought process which might allow the student to define a disease even if he has never encountered it or read of it before. Most texts of physical diagnosis have been either "how to" books or have been disease oriented, i.e., given disease X, the findings are Y and Z. The former lacks stimulation and the latter lacks reality.

A patient presents first with symptoms; therefore a consideration of the history for each area or organ system seems appropriate. Basic methods of inspection, palpation, percussion and auscultation then elicit signs. Every sign has a pathophysiologic reason for its presence. Understand the reason and a pattern must surely emerge, pointing the physician toward the nature of the illness.

At the very least the student should arrive at the index point for his text and journal search. Hopefully he will come to the process itself—not the eponym but the aberrations responsible. It matters little that the process has been fully described and recorded. Conversely, deducing this on his own perpetuates the thrill of discovery and retards the insinuation of preconceptions on data collection.

This edition, then, is old and new. Old with the idea of providing the tools; new with de-emphasis of rote and more concern with the thought process. This old-new tact is perhaps reflected by the two institutions from which it arises. The Massachusetts General Hospital, steeped in tradition, forwards excellence as the only acceptable tenet of training. The Milton Hershey Medical Center of the Pennsylvania State University accepts that tenet with a challenge to time burnished concepts by the question "What now is the best way?"

How do I thank those who have helped me directly or indirectly with the preparation of this book? Obviously, a roll call will offend those inadvertently overlooked and a listing will be of little note to the reader. If my teachers recognize parts of themselves enclosed within, I hope they will be pleased. The professionals of The Williams and Wilkins Company have extended the opportunity to write this book and their advice and counsel during its preparation befitted the most acknowledged author—all extended to an untried novice. Their only charge, one I accept willingly—sans tache.

John W. Burnside, M.D.
Hershey, Pennsylvania

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INTRODUCTION

The purpose of this book is to introduce to you the techniques of physical diagnosis, to explain the findings of common or particularly illustrative disease states, and to help you construct a framework within which to grow as a clinician. The techniques of physical diagnosis are not hard to learn. The information you glean from those techniques depends on perseverance, repetition, and reproducibility of methods. cursory examinations yield cursory data. Single observations rob you of the parameter of time. Sloppy methods are best left undone. The time expended is great at the outset but an economy as you become more proficient.

Many illustrations of common or meaningful physical findings are included to help you put the techniques into context. Some illustrations are presented because the physical findings are, if not diagnostic, highly suggestive of a given disease. Some are shown to evoke your interest because we cannot explain the findings—the state of the science does not yet allow it. Many of the photographs are of common findings. You will soon see them in living patients, and the pictures are to help you recognize them. Finally, the pictures are fun. Leaf through and study some of the photographs. Think about what you are seeing and then read the captions. The latter are purposely lengthy so that they will be informative without the text.

Physical diagnostic technique is the framework upon which to build your clinical career. A firm structure encourages expansion. Embellishments come with experience and your individuality. Without a foundation, cantilevering into a subspecialty is hazardous. The framework, however, should not become constrictive or a labor of compulsion. If the findings fail to fit what is expected, look for

another explanation. It is startling how many physicians stop thinking when faced with discrepancies between what is found and what is expected. Their framework is too rigid to allow challenge and new construction.

This book is written for students in medicine. This is a very tall order for any author since all good physicians are life-long students. More specifically, this book is written for students in medical school and house officers recently graduated. This makes the challenge no less impressive. There is no similar 5- or 6-year span during which you will learn as much or during which your labors will be as intense. A conscious effort has been made to allow for selective reading according to your needs and experience. While certainly less than encyclopedic, I hope that this will remain a useful reference book both for your own continuing education and for the time when you are privileged to teach your younger colleagues.

Many medical schools are departing from the traditional separation of pre-clinical instruction and patient-oriented activities. While it is not my purpose to comment on these changes, they do blend in another variable. Here, too, allowance is made for selective reading. The only suppositions are that you are eager to learn, sensitive to discomfort in others, and mature in your relations with people. Basic pathophysiology is included not to offend the wise but to help the novice understand the logic of the physical findings.

Medicine makes a number of demands. Observations, data recording, and communication keynote a scientific approach. We will be concerned primarily with observations—how to make them and their significance. Most observations are obtained through our special senses occasionally aided by devices to heighten our

sensitivity, e.g., the stethoscope, ophthalmoscope, etc. Interpreting significance depends on groupings and associations of various findings all explained by the pathophysiology of the illness.

Data recording involves the medical record. This is the log and protocol of the physician. This vital document has largely been ignored or at best mistreated by your predecessors. Doctors faced with many uncontrolled variables resort to similarly random methods of data keeping. If we are to make progress in understanding the patients with complex diseases or patients with multiple disease interfaces, a reproducible way of recording observations is mandatory. We will focus more on this shortly.

Communication involves diction, using the right word or words to express what we mean. Throughout this text an attempt is made to provide you with specific meanings. Clarity is the goal in communication with colleagues and patients.

Regrettably, eponyms are common in medicine. They substitute familiarity for understanding. We all take solace in knowing that someone before us has made a similar observation. For some reason, however, attaching a name to a disease or physical finding retards inquiry. Try always to define diseases to the level of understanding. It is humbling but stimulating. For instance, hereditary hemorrhagic telangiectasia is a far more telling phrase than the syndrome of Osler-Webber-Rendu. Subsequent chapters will include some eponyms. I apologize in advance—it is a service to communication and history.

You and the Patient

You have opted to be a public servant. People will seek you out for a service which you can provide. At the onset, the patient may have little choice but to find you at the bedside. Later, he will have a choice. The lay public have been accused of being inept judges of quality of care. This may be true, but what they do know is whom they can talk to, who listens, and who makes them feel better just by his presence. Ignorance of or lack of attention to the matter of the doctor-patient relationship

will prevent the brightest doctor from helping a single patient.

The Interested Physician

People are interesting. Your career choice indicates that you are interested in human disease. Try always to remember that your patients are people with illnesses and not "interesting cases."

Most students of medicine pass through three stages in their acquaintance with a given disease. Initially they are excited by seeing a disease for the first time. There is an exhilaration of discovery. Later comes the petulance of "just another case." Finally, and most productive, is the recognition of the subtleties and nuances which declare that no two patients are quite alike.

Interest in the individuality of patients will prevent you from offending them. The latest in fashions may assert your individuality but may not help you communicate with the octogenarian. Your patient expects moderation from you and sensitivity to what frightens or annoys him. Avoid the latter.

Interest in a patient involves more than concern about his illness. A good doctor-patient relationship occurs when the physician attends to the patient's feelings about his life and illness. Basic emotions of anger, fear, pleasure, joy, helplessness, and rage are seldom far from the surface. These feelings are worth ferreting out: they color the disease and give it more meaning than the black and white of a text. The doctor whose concerns are for more than the disease soon has the patient as an ally.

Privileged Communication

The patient expects and the law demands that the dialogue is confidential. The medical record is a privileged document and is accorded legal status. Information should be shared among those professionals responsible for the care of the patient. When shared with other professionals, the patient's identity deserves protection. Failure to do this is the genesis of many hospital coffee shop tragedies. Candor results when your patient understands the respect you have for what he tells you.

Patient Controls

To a large extent, the patient controls his care. At the outset, he controls the interview by how much he divulges. Later, he may prohibit what he considers assaults on his person, and, finally, he may decide not to take medicines or undergo surgery. You must function within these restraints and limitations.

The patient's control of the interview depends on many factors. You can influence these by an attitude of acceptance and understanding. When the patient knows that his story is confidential, is free from moral judgement, and is heard sympathetically, his reticence will usually dissolve. Patients frequently look on illness as payment for moral transgressions. In their attempts to understand, "Why me?" they will look to their past, their families, their business, etc. Levity about their illness is an affront. Belittlement of their attempts to explain their disease is intolerable. Gentle attempts to provide the patient with insight into the nature of the illness are rewarded by a patient who is less fearful, perhaps less self-deprecating, and usually more cooperative.

The patient may prohibit parts of the physical examination. Success or lack of it in obtaining a history affects the ease with which you can do the physical examination. Physical contact is frightening to some patients, especially strange contacts by strange people. A reasonable explanation of what you are going to do before you do it will facilitate things. Much of the reluctance is resolved by leading the patient to look upon the examination as a joint effort.

Strong emotions in the doctor are quickly sensed by the patient and negatively interpreted. If you become angry and demanding, your patient will withdraw or respond in kind. When a patient cries, look on it as a reaction to be accepted. When he is angry, look for the genesis. When he is demanding, find out what he really wants. Emotions are not impediments to understanding illness; they are part of the illness.

In spite of all efforts an occasional patient will withhold historical information, prohibit a complete physical examination, and thwart therapeutic efforts. When this occurs, it is a

signal of other problems, usually psychiatric, which should be recognized.

Your Controls

Most of the determinants of the doctor-patient relationship are yours. Most are obvious and undisputed. Some require comment, and a few are hard to learn.

Patients usually expect that your questions and actions will be directed toward taking care of them. An occasional patient will remind you how much control that requires. There should be no question who is conducting the interview.

During the interview, control the questions and answers. Difficulty arises with the verbose patient or with the opposite, the silent stare. Is the verbosity a smoke screen or merely difficulty in sticking to the point? Is the silence a manifestation of anger, fear, or inattention? You have the right to expect answers to your questions. Prodding and interruptions may be necessary. It is sometimes even necessary to show authority. You might be reticent to exert these controls as a student not primarily involved in the patient's care. Reticence, however, only makes this difficult skill harder to learn.

Another privilege which is yours is access to any and all information about the patient. All of the patient's past history should be available to you. The patient may be unable to judge relevance. Once again, however, when the patient understands how you will use such information, he generally speaks freely. Here, too, your status as a student must not be an impediment.

Moral Judgements in Medicine

I allude to this topic primarily to condemn it. There is no illness, behavior pattern, or life style which deserves comment on its rightness or wrongness. Although any of these might be personally abhorrent to you, strive to separate these feelings from dealings with patients. Questions of morality interfere with sound medical judgement.

This is not to say interference is to be avoided. On the contrary, we wish to stop the alcoholic from drinking, to stop the self-de-

structive patient from suicide, and to stop the anti-social person from harming others. Generally, our goal is to correct the abnormal. It is the attitude of "you made your bed now lie in it" which is to be condemned. The only valid question we ask is, "Are the conditions contributing to disease and will a change contribute to his well being?"

Honesty in Medicine

Honesty is a clear virtue, but we are all sometimes sorely tempted to make exceptions. Distortions of the truth sometimes seem appropriate under the guise of "what's best for the patient." Rarely is this true.

If we are honest about honesty, the real temptation is to protect ourselves. Who likes to tell a patient that he is only a student doctor? Who likes to admit that he doesn't know what is wrong with a patient? Who likes to tell a patient he has a fatal disease? Examine the motives for the distortion of the truth and then be honest.

The History

The characterization of disease occurs through its symptoms and signs. *Symptoms* are the patient's complaints, or his recognition of something abnormal. *Signs* are findings elicited by physical examination. The medical history, then, is the elucidation of the patient's symptoms.

Done with care and direction, history taking provides the greatest source of information for the time expended. Although we are primarily concerned with the present illness, we need to know data about the milieu of the disease. Hence, we ask about prior departures from health, about the life style, and about the family history. In addition, we recognize that the patient may not be aware that what he experiences is abnormal. That is why we perform a "systems review," a series of system-oriented questions designed to uncover abnormalities.

Setting the Stage

Much of what was alluded to in the section "You and the Patient" now comes to bear. An

understanding, cooperative, and motivated patient gives a far more cogent history.

Physical comforts require attention. A quiet, well lighted room espouses confidence. Attention to privacy helps the patient appreciate your concern that his words will be taken seriously and confidentially. Physical discomfort taxes the patient. Usually such discomfort is obvious and an expression of concern tells the patient that you are aware of his plight. Discomfort secondary to the illness may be hard to bear. It is even worse when discomfort is added by you. A distended bladder, for instance, caused by a long interview might be reflected in terse responses to your questions.

Present Illness

The *present illness* is the reason for the hospitalization or office visit. Foremost on the patient's mind, the present illness is readily explored. The history of the present illness may establish the diagnosis; it almost always points to the major area of pathology or the major mechanism of disease. Dissection of the present illness proceeds from a broad base and progressively hones in and defines the symptoms.

The *chief complaint* stated by the patient is the broad base from which to start. Most chief complaints are characterized by *pain, dysfunction, a change from the steady state, or an observation made by the patient.*

Pain, dysfunction, and observations usually point to an identifiable area. Pain in the chest obviously calls attention to the chest and its associated structures. Difficulty urinating or blood in the stools as examples of dysfunction and observation likewise have anatomic connotations. Changes from a steady state do not localize well. Fever, malaise, weight loss, or emotional lability may defy anatomic localization. Instead, a blood-borne malady or abnormality of a ubiquitous tissue, septicemia, or occult neoplasms may be at fault.

Encourage the patient to be as specific as possible about his chief complaint. Ask him to relate the quality and quantity of the symptom to a common reference. Is the pain like a toothache or stabbing? Is the bloody sputum a teaspoonful or a cupful?

If a gross anatomic localization is possible, logic dictates that we pinpoint the organ or

organ system involved. The relation of the symptom to the structure and function of the organs in question is next in order. Thus, abdominal pain which is crampy suggests disease of a hollow peristaltic viscus. Chest pain aggravated by deep breathing might indicate irritation of a serous membrane.

What aggravates or alleviates the symptom? Here as well, the structure and function of organs or organ systems point the way. Midpigastriac pain relieved by milk or antacids suggests acid peptic disease. Chest pressure aggravated by exercise might be angina pectoris.

Time relationships are very helpful. The duration of the present illness separates the acute from the chronic. Symptoms persisting for years are unlikely to be caused by malignancy or infection. Changes in the symptoms as a function of time help to establish the progression of a disease. Have the symptoms been persistent, recurring, getting worse or better? If periodic, have the cyclic lengths been changing?

Patients frequently volunteer associated symptoms or events. These must always be taken seriously no matter how bizarre or non-physiologic they sound. This not only expresses your respect for the patient as an observer but may be fruitful in uncovering occult disease. Muscular weakness associated with heat intolerance and weight change, all of which follow an emotional upset, sounds unrelated, yet this is a common history of thyrotoxicosis.

The patient cannot be expected to link all possible relationships. Here, your freedom to follow various lines of questioning is valuable. Avoid developing a rote form which is so restrictive that you cannot follow leads in the conversation. This naturally presupposes that you listen and think simultaneously.

In summary, then, the *present illness* is developed from the chief complaint by asking: What is the problem? Where is the problem? What is it like and how severe is it? How does it relate to implicated organ structure and function? What are the temporal relationships? What makes it better or worse? What are the associated manifestations? A few of these points are demonstrated in the following example.

A young woman was admitted to the hospital because of chest pain. She related that the pain began suddenly 1 week earlier and was getting progressively worse. She described it as sharp pain located anteriorly, and she further volunteered that it was relieved by sitting up and leaning forward. On further questioning, a history of fever and malaise was elicited. The examiner, now considering inflammatory diseases of the mediastinum, especially the pericardium, found that the patient had complaints referable to other serous membranes. Pleurisy had been diagnosed 2 years earlier, and a mild non-deforming arthritis prompted the patient to take aspirin every day. This history led the physician to collate the findings of a facial rash and pericardial friction rub into a presumptive diagnosis of systematic lupus erythematosus.

We will return to the specific applications of these principles in subsequent chapters.

The Past History

The *past history* is a survey of all previous illnesses and contacts with physicians. Specific emphasis may be indicated by information obtained in the present illness.

Review the past history chronologically. Prenatal, parturient, and postnatal information is relevant to investigation of hereditary or congenital illness. Thus, a heavy birthweight might indicate parental diabetes for which the patient is at risk. Birth trauma might explain retardation or limb paresis. Breech birth can be a clue to congenital anomalies.

Child diseases are so common as to serve as an early tolerance test to illness. In both this and the review of infant health it is wise to remember that the patient knows only what he was told by his parents or guardians. By reducing the questions to simple terms, significant data may be revealed. The patient with valvular heart disease frequently cannot recall having had acute rheumatic fever. He might, however, remember spending weeks in bed as a child because of "growing pains." When reviewing common childhood diseases, remember to inquire about sequelae to the illness.

The sequelae of earlier illnesses are important in another sense. How did your patient tolerate pain, discomfort, dependency, or weakness?

What impressions did other doctors make on him? This is important for proper interpretation of the present illness. To be sure, this is interpretive information but valuable. A complaint registered by the stoic may be quite different in significance from the same complaint brought to you by the doctor shopper.

A few items not viewed as illness by the patient should be reviewed with the past history. Immunizations, reactions to tuberculin tests, military record, allergies (especially reactions to drugs), date and place of the last chest x-ray and routine physical examinations all round out the survey.

Review of Systems

A review of systems represents an effort to ferret out symptoms which the patient has not recognized as such, symptoms he has forgotten or thought unimportant. Nocturia, for instance, may not be volunteered but when specifically asked for the patient may say with surprise, "Well, yes, but it's probably just the amount of water I drink." Yet with further questioning, congestive heart failure, benign prostatic hypertrophy, diabetes mellitus, or renal failure could become the more likely explanation.

Questioning revolves about the structure and function of the system being reviewed similar to the technique in eliciting the present illness. Listing questions for you to ask without considering the implications of the answers leads us nowhere. Therefore, to help make the review of systems more meaningful, the subsequent chapters will begin with considerations of the medical history related to the system to be examined.

Family History

The family history is the past medical history of blood relatives. The same points relevant to the patient's past history are relevant to the family history. Obviously, our concern is for data relevant to the patient at hand, both in terms of the patient's present illness and in terms of risk factors.

All diseases can be viewed as having some genetic background. Consider, for example, the

young patient with fever, nausea, and left lower abdominal pain. Her doctors were perplexed until the mother volunteered that she herself had had a similar illness and that her doctors found a left-sided appendix. More obvious is the patient whose parents both had diabetes mellitus. Such a patient has a 90% plus probability of developing the disease. Single diseases and clusters of related diseases often appear in families. Hypertension, early coronary artery disease, or manic-depressive psychosis may each thread through an individual family. Similarly, different but related diseases—rheumatoid arthritis, lupus erythematosus, aplastic anemia, thymomas, and myasthenia gravis—may appear in various combinations in the same family.

The family history is also important because of the physical proximity implied. Infectious disease, then, may also cluster. Tuberculosis, streptococcal infections, and organisms or toxins carried in the family meal are examples.

Wherever possible construct a pedigree to record the family health. Many surprising associations and fruitful research has come from this simple, inexpensive exercise (Fig. 1.1).

Social History

If we are interested in the contributions of the gene, we need to know also the effects of the environment—not only the character of the milieu but how the patient reacts to it.

The educational background, financial status, employment record, marital status, place in the family unit, and daily routine all reflect on the patient and his environment. Much of this information comes out in "small talk" throughout your contact with the patient. We separate it out for emphasis. Some of this is sensitive information to the patient and may require several interviews for full evaluation.

In the record system to be discussed later, the contents of the social history are accorded a prominent place in the beginning of the record under the title of *patient profile*. The patient profile contains the information obtained in the social history and some interpretation by the examiner about the significance of the life style.