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**A PRIMER
OF CLINICAL
DIAGNOSIS**



A Primer of Clinical Diagnosis

With 154 illustrations



Medical Department

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A Primer of Clinical Diagnosis

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A Primer of Clinical Diagnosis

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to medical students of all ages

Preface

With the plethora of physical diagnosis textbooks available, one may reasonably ask why a group of busy physician-teachers would spend their time writing yet another text on this subject. We started very modestly several years ago with a simple manual of physical diagnosis for our own students at Northwestern University Medical School. At that time we were faced with a peculiar problem: Our students started their course in clinical diagnosis—formerly physical diagnosis—before they completed the study of physiology and pathology. The available texts presuppose knowledge of both these subjects, and our students found it difficult to anticipate some of their course work.

We noted that several other medical schools were including physical diagnosis early in the curriculum as a method of introducing students to clinical medicine while they are still studying cell biology. In effect, this kept the students in touch with the ultimate purpose of cell biology—patients! We concluded, therefore, that a text written for the student with little background in physiology and pathology might be worth the effort. This book emphasizes the “how to examine” features, together with the basic or core material necessary to understand the technique and implications of clinical diagnosis.

No book of this type can be the sole product of one group of physicians. We are all the intellectual descendants of our teachers, and this relationship goes back to the first time one person attempted to teach another about the healing arts. Long before he became Chairman of the Department of Medicine, Dr. David P. Earle participated in the development of the Northwestern University course in clinical diagnosis. Before any of us, he saw clearly the wisdom of teaching physical examination ahead of history taking, and the need for a text that could accompany rather than follow the basic sciences. If the thought is father to the deed, then

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1

Introduction

This book is a primer devoted to the elementary principles of diagnosis—the physical examination and the clinical history.

The book is designed to help the beginning student gain as much as possible from initial exposures to the discipline of clinical diagnosis. It is written for the student who is concurrently studying basic sciences. This is not a textbook of medicine or an atlas of subspecialty techniques. It is rather a roadmap to guide the course of the medical student through his maturing clinical diagnostic journey. The objective is to provide in a concise form the information that will be useful to the student in developing his ability to perform a physical examination. Properly used, this book will initiate the student into a discipline which should be practiced with ever-increasing frequency and skill until it becomes a part of his nature and he becomes a “clinician.” The technique of this process is the repeated and thoughtful application of the examiner’s sensory end organs to the observation of his patient.

The concept of diagnosis not only refers to the nature of the disease afflicting the patient, but also includes an insight into the causative factors, the precipitating circumstances, the complications likely to occur, and the possibilities of coexistent disease—all taken in the light of the individual and of his response to this pathologic situation and his environment, both physical and psychologic. Clinical diagnosis is, thus, a dynamic concept.

When he has once mastered the fundamental maneuvers of inspection, smell, palpation, percussion, and auscultation, the student can spend the remainder of his medical life perfecting these in relation to his increasing knowledge of disease and skills in diagnosis. The overall objective of this book will be achieved if each reader enhances his ability to examine a patient in a thorough, systematic manner.

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The techniques of physical examination are presented first. This is considered to be the most objective component of clinical diagnosis. Chapter 2 deals with observation of the patient as a unit since this should begin as soon as the patient is visible to the examiner. Measurement of vital signs and inspection of the skin are presented as part of this chapter. Subsequent chapters cover the systematic examination of the head, neck, breast, lungs, cardiovascular system, abdomen, extremities, and reproductive systems. The general format of these chapters will be to describe first the techniques by which the examination is performed, followed by the normal and abnormal findings that may be encountered. Although consideration of underlying physiology and pathology is important in the interpretation of physical findings, this is not a textbook of physiology or of pathology. Only enough material to understand the physical findings is presented.

The chapters on the ear, nose, throat, and eye were written by specialists in their respective fields but were designed for examinations that could be done easily by the nonspecialist. Not every patient will require the complete examinations as described, but every examiner should be familiar with the scope and procedures of examination.

In contrast, the neurologic examination is not considered separately but is included in the chapters on examination of the head, neck, and extremities, as well as eyes, ears, nose, and throat. The primary reason for condensing the neurologic examination is a question of space, since the proper consideration of the subject could fill an entire book. The examination of the skin is discussed as part of the total observation of the patient for a similar reason. Neither of these current presentations (neurologic and skin) should be considered as anything resembling a complete treatise.

In the ordinary process of making a clinical diagnosis, the subjective story of the patient's illness by the patient himself is obtained first, and then the specific, detailed, systematic, and objective examination is carried out. However, it has been our experience that the student can grasp the physical examination with relatively little background in physiology, pathology, or disease. The more background the student has in these areas, the easier time he will have in developing his skills in the difficult art of history taking. The art of taking a medical history presupposes a profound and thorough knowledge of disease. Attempts to learn history taking before pathology lead to a tedious and boring recitation of symptoms whose meaning is obscure to the student.

The success of this book depends upon how well the student will assimilate clinical diagnosis into his future medical functions. Only he and his future patients will know or care about how successful that effort will be.

2

Observation of the Patient as a Unit and Measurement of Vital Signs

Part One

Observation of the Patient as a Unit

FORMS OF OBSERVATION

The diagnostic process commences when physician and patient sight each other. All the physician's activities can be thought of as forms of observation and can be categorized as verbal observation or history, physical observation or examination, and laboratory observation. The technique of obtaining a medical history is covered in a later chapter, and laboratory observation is not within the scope of this book. We are here concerned with the initial phase of physical examination or visual observation of the patient as a unit. The subsequent chapters will detail the specific examination of the individual components of this particular patient.

FIRST IMPRESSION

INFLUENCE ON SUBSEQUENT ACTIVITY

A true hint gained from the patient's appearance or manner is frequently the key that successfully unlocks the correct clinical approach to a difficult diagnostic problem. Medicine is not practiced by "hunches" or guesses, nor is it practiced by universal application of all diagnostic procedures to all patients. The initial observation should be explored by

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appropriate further detailed examination—both physical and laboratory. The best example is the old one about first viewing the forest before examining the trees.

MECHANISMS OF OBSERVATION

An acquired skill of eyes and brain. The art of physical examination is the application of the sensory end organs to the patient. In this case we are applying the eyes to the entire personality. The impression comes when the eyes send information to the brain to be integrated with previously stored information. The student is transformed into a “clinician” by sedulously practicing the art of observation. That observation must be systematic.

A passive function of intellect requiring knowledge. All physicians should gradually evolve their skills of observation. This is the result of the function of the intellect and of practice. Once a certain thing has been observed, it is noted and stored in the brain of the observer and when the same or a similar observation is made at a later date it can be correlated with the prior knowledge. Having seen the same phenomenon more than once does not confer absolute understanding, but it does permit the observer to make generalizations and affords him a degree of familiarity that is a form of limited control. Patterns of disease manifestation thus emerge and can be subjected to further scrutiny.

Translation into words. The most difficult and dangerous aspect of this initial observation process is its crystallization into written form. A patient may speak incoherently and smell of alcohol, but to say he is “drunk” is a conclusion not necessarily justified by these facts alone. The same patient may be described as “appearing intoxicated.” Many initial impressions are best left unwritten because as such they remain fluid and malleable, if also somewhat hazy and vague. A patient’s facial expression, manner of dress and action, and his walk and bearing may leave the examiner with the impression of truthfulness, sincerity, and intelligence. This may induce the examiner to rely heavily on every detail of the patient’s story. It is possible that the exact opposite might occur—the general impression might be one of vague insincerity, and the examiner would be dubious about what the patient had said. Both of these impressions would be difficult to commit to words but extremely important in the future progress of the patient’s medical attention.

TECHNIQUE OF OBSERVATION

Although observation consists of seeing things, there are certain circumstances that aid good observation. The opposite of these circumstances definitely inhibits the art of observation.

LOCATION

Much more of an individual patient can be seen in a private office than in a crowded street, although the circumstances of illness may require observation under both conditions. If possible, the physician should observe the patient before he is seen. When this can be done, the examiner begins to form an impression before the patient has seen him. The observation of the patient and his reaction to his environment should continue through the process of obtaining a medical history.

IDENTIFICATION

Who is the patient? The patient should be observed while sitting, walking, and talking. It should be noted whether he answers questions directly or tends to give some other information when asked a specific question. The examiner should be sufficiently free from distractions so that he can see the patient and observe his general appearance, body structure, cultural mannerisms, and reaction to the medical interview. The examiner should be trying to answer the question "Who is this person?" in all its ramifications. He wants to know not only his name and function (occupation) but who he is genetically. In the whole schema of human creation, who is this person seeking medical counsel? To do this properly the examiner must have some concept of the people he serves and how they may be different and similar. He must also have some knowledge about how the physical constitution of some people may vary from that of others. This knowledge will come with repeated attempts to acquire it through observation.

EQUIPMENT

Certain equipment is needed to accomplish accurate observation. This material alone will not perform the task, but the examiner may find it helpful to reach his objective.

Firm table. Whenever the examiner has control over the equipment available, he should select a firm examining table to be placed so that

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he will have easy access to all sides. A step to help the patient onto the table is useful. The patient should be observed both sitting and lying down on the table. If possible, the head of the table should be slightly elevated, or a suitable firm pillow should be available. Most beds are not suitable surfaces because they tend to sag in the middle and may thus obscure observation or interfere with subsequent steps of examination. Hospital beds are better than the usual home bed. The severity of the illness and the circumstances of the observer's attendance may require that he observe a patient in a home or hospital bed, but he should keep in mind that these circumstances may limit his examination.

Examiner's stool. The actual observation process is carried out while the patient gets on the examining table, sits, and lies down. Much of this is done with the observer standing, but a small stool should be available so that he can observe from the seated position if indicated. This is also useful in other portions of the examination.

Other equipment. Equipment is not necessary for observation, smell, palpation, or percussion. For the remainder of the examination, it will be necessary to have a stethoscope, tongue blade, light source, an otoscope, an ophthalmoscope, a reflex hammer, tuning fork, sharp safety pin, wisp of cotton, tape measure, and an accurate sphygmomanometer. These will be discussed in detail with appropriate examination techniques. Thermometer, scale, and device to measure height are also necessary.

CIRCUMSTANCES

It is crucial that observation be performed when the patient and physician are relaxed and not distracted. If this observation is part of an examination of a sick but ambulatory patient in the physician's office, the calm, self-assured, helpful manner of the physician will accomplish this atmosphere. If the patient is acutely ill in a hospital emergency room or is the victim of violent trauma, the physician should remain calm and deliberately proceed with his observation despite the surrounding confusion. Even acutely ill patients sense the presence of a calm deliberate physician and frequently relax.

SPECIFIC ITEMS FOR OBSERVATION

The examiner should look for gross scars or obvious defects such as missing limbs, wounds, etc., or the use of crutches or a prosthesis. It is

somewhat ambiguous to list specific observations when what we are urging is observation of the total overall picture. It is easy to be lost in the individual details and not to see the total view.

GENERAL APPEARANCE

The local culture and customs will influence the general appearance of the patient. A good example is the changing significance of the bearded male.

Personal habits. Some patients will appear clean, neat, and well groomed. Others will be obviously dirty and unkempt. Most will fit between these two extremes. The observer should look especially for evidence of variation, such as the ultra neat dresser with all the latest styles, or the well-dressed businessman with the spot of gravy on his tie. It is possible to detect recent changes in grooming such as the well-clothed, poorly-groomed man, or the woman with dyed hair partially grown out in its natural color and obviously neglected.

General state of consciousness. If the patient is alert and responsive to questions and understands what is said, he creates the impression of reliability. When the patient looks dazed or groggy, his answers and actions must be interpreted accordingly. Some patients will display obvious confusion over simple instructions. This may be due to a language barrier which sometimes is not obvious. The patient's orientation for person, place, and thing should be tested by appropriate questions such as: Who are you? Where are you? What date, season, or time of day is it?

Degree of cooperation. Careful observation of the patient at this phase of the examination will frequently give clues to his degree of cooperation. Some patients seek medical advice at the urging of their employer or spouse. The patient who presents himself for disability evaluation can be expected to have different motivation from a patient seeking relief of distressing symptoms. Assessment of these aspects at the opening of the examination will be most helpful in planning the remainder of the examination and in evaluating its results.

STATE OF NUTRITION

The general state of nutrition can vary from the obese overfed to the cachectic. Most patients will be somewhere between these two extremes.