Oral diagnosis

KERR • ASH • MILLARD

FIFTH EDITION

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Preface

This edition of *Oral Diagnosis* continues to stress basic principles for interviewing a patient correctly to obtain a history, undertaking a physical examination, and formulating a diagnosis. Even though this book emphasizes the principles of diagnosis, actual examination procedures and methods of diagnosis have not been omitted. The details of oral diagnosis presented are sufficiently comprehensive to cover enough information about disease usually found in textbooks of oral medicine and oral pathology and to establish the necessary guideposts for the solution of practical problems or the selective use of reference material in which extensive discussion of disease may be found.

A proper discipline of history taking and the correct interviewing of a patient are based on a mental discipline or outline that permits the examiner to cover an adequate field of information to direct him in the history taking, examination, procedure, and diagnosis. The proper discipline for history taking is fundamental to obtaining that information necessary to identify the point of departure of a patient from good health. A knowledge of the normal physiologic and anatomic state of the body is necessary for performing the physical examination and to correlate the relationship between the examination findings and the mechanisms of disease. With the synthesis of both the technics of oral diagnosis and the mechanism of disease, inductive processes may be used for proper formulation of a diagnosis and treatment plan.

As in other editions, this edition of *Oral Diagnosis* will follow the outline of (1) presenting principles for gathering information about a patient, (2) relating the information from the physical examination to mechanisms of disease, (3) presenting principles for formulation of a diagnosis, and (4) utilizing the information gathered to make a treatment plan for the patient.

Developments of the last several years, such as the widespread use of adrenocorticosteroids, immunosuppressive agents, cytotoxic drugs, prosthetic heart valves, cardiac pacemakers, and organ transplants, have produced a significantly large population of patients at hazard when receiving dental treatment. These developments have increased sharply the responsibility for the dentist to remain abreast of current developments in all areas of health care in order for him to continue to provide dental care safely and comfortably. These developments emphasize the importance of maintaining complete records based on thorough diagnostic procedures for every patient. They underscore the need for close cooperation between the dentist and the physician concurrently treating a patient who requires special care to prevent avoidable complications from dental procedures.

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SECTION I
Introduction

Oral diagnosis as a subject consists of the fundamentals of the interview, principles and procedures of clinical examinations, methods of identifying oral disease, and the rationale for oral therapy. Oral diagnosis may also be defined as the identification of oral disease by interviewing, examining, and synthesizing the descriptive features of diseases and the facts obtained from the examination and interview. Finally, oral diagnosis is a systematic method of identifying oral disease.

The first principle of oral diagnosis is to observe and describe deviations from normal. It is the accurate and pointed description that enables a student to utilize reference material to the greatest advantage. It is impossible for a student or general practitioner to recognize all the various diseases that exist; nor is it expected that searching through voluminous reference books for an identical picture of the clinical manifestation of a disease will improve anything but an ability to thumb through reference books. It is true that this form of diagnosis brings fair results in matching clinical and textbook pictures, but it can never lead to a system of diagnosis that is not dependent on trial and error. Furthermore, the practitioner who is thoroughly trained in observation is apt to contribute to the scope of information already known about disease. Thus matching clinical with textbook pictures, either mentally or with the reference book at hand, is not a method of diagnosis to be desired. Not only does it consume valuable time, but all too often the patient's abnormality does not exactly match anything in the reference material because of the wide range of expression that any disease may present. This does not mean that reference books are not valuable in diagnosis; it does mean that they should be used efficiently and when necessary to substantiate a diagnosis. Thus the diagnostician should have a basic knowledge of disease and at least know where to look to verify his clinical impression of a disease without leafing through a reference book in hope of finding a "picture" that will match the one that presents the diagnostic problem.

The diagnostician must recognize that disease exists and must be able to describe it and to classify it within certain limits, namely, type of lesion, tissue involved, etiologic agent, or whether it represents a developmental disturbance. A diagnosis is not always apparent, but the acute observer pays attention to details and is systematic in his approach to the problem. "Spot" diagnoses that impress students usually are based on rapid, almost subconscious, but thorough observations. However, all too often an attempt is made to arrive at diagnoses without first considering all the items that may have a bearing on the diagnosis. If the facts are first collected by a definite procedure, little will be left to doubt regarding the rationale of the diagnosis.

This book provides a method of approach to the diagnosis of disease. Certain premises must be adhered to in presenting a systematized discipline. Note that, aside from any illustrative cases presented to show the pro-

cedures for arriving at a diagnosis, many of the photographs depict the normal and deviations within the range of normal. This is done for two reasons: (1) an appreciation for the normal is necessary before abnormal states can be detected, and (2) the illustrations of the procedures of a clinical examination are not subject to distraction by emphasis on pathologic states.

A section of illustrative cases is presented to bring out those analytic processes that are necessary for the final diagnosis of abnormal conditions. In general, those cases involving the most common diagnostic problems are presented. Inasmuch as this is not a textbook of dental medicine or oral pathology, no claim to complete coverage of all the diseases or their description is made. The systematic procedure for making a diagnosis that is presented herein will serve to make more efficient the use of descriptions of disease that may be obtained in textbooks and other reference material on dental medicine and oral pathology. Stated simply, the objective of this book is to answer the question of how a diagnosis is made. It is assumed that the reader has already acquired the fundamentals of the basic sciences and has had some training in the clinical sciences.

The following is an outline for considering the scope of oral diagnosis, signs and symptoms, history taking, and drugs in oral diagnosis:

- *Scope of oral diagnosis*
  - Types of examinations
    - Complete
    - Periodic health maintenance
    - Screening
    - Emergency or incomplete
- *Signs and symptoms*
  - Subjective symptoms
  - Objective symptoms (signs of disease)
  - Cardinal manifestations of disease
  - Primary and secondary lesions
- *Case history*
  - Principles of the interview
  - Contents of the history
    - Complaints and related symptoms
    - Evaluation of dental and general health
    - Family, personal, and social histories
    - Systems review
- *Drugs of diagnostic significance*
  - Drugs for treatment of disease
    - Effect on diagnosis and treatment
  - Drug-induced disease

Chapter 1

SCOPE OF ORAL DIAGNOSIS

The basis for modern therapy is diagnosis. This concept of diagnosis presupposes that the disease be identified first and then eliminated. The procedure by which the information needed to make a diagnosis is obtained is directly related to the success of a diagnosis since the diagnosis itself is based on a favorable interview and examination of the patient.

Probably the most important concept that a student must learn, whether in school or out, is the importance of an efficient discipline for collecting the material necessary to make a diagnosis. Sometimes students and even some teachers think that much of the information gathered about patients in a dental school clinic is unnecessary and far removed from the practical aspects of a dental office. At times a student is impressed by the apparent ability of a teacher or practitioner to arrive at a diagnosis rather quickly. Such a quick diagnosis does not necessarily represent snap judgment but reflects the examiner's ability to reduce the history to a minimum while at the same time covering the necessary field of inquiry and examination. A history that is brief but good represents the product of adequate training and practice in the subject of oral diagnosis; it does not represent any special innate ability of the clinician to "pull a diagnosis out of thin air." This is especially true in dealing with pain and soft tissue lesions in the oral region.

In addition to being able to reduce the detail of a history to a great degree, a "busy" general practitioner has very few new complete histories to take because much of the time is spent in caring for those individuals who have been his patients for years. In view of these considerations, objections to teaching a procedure that in itself may seem too detailed for practical application in a dental office appear to be unjustified.

Since most students can learn in school only a small part of what they need to know about diagnosis, and since much of what is learned is forgotten, it is necessary that they be taught a systematic approach to diagnosis that is simple enough to learn yet so rational as to be difficult to forget. It should supply the foundation that best fits the student not only to start practicing dentistry, but also to improve continually his diagnostic ability.

Only a few observations will lead to original descriptions of disease. However, to describe the wide variations in disease that exist and to apply facts and ideas to new situations, a practitioner must be able to grasp broad principles and use a method of thought and action that will enable him to meet such a variety of situations. The Hippocratic method of systematic observation and description is the foundation of oral diagnosis. Practice in observation and description is necessary even though the approach is logical and systematic. Sound reasoning is hard to attain, but training and practice in a rational discipline of thinking promote this faculty.

The study and practice of dentistry today must take into consideration not only changes in management of disease, but also changes in its prevention. The more effec-

tive control of dental caries by fluoridation, diet, and therapeutic dentifrices presents new problems for which the dentist is responsible. The dental practitioner is confronted with a changing set of demands upon his services and skill not only because of the changes in therapy, but also because of the increasing number of persons in the older age groups. Because of the remarkable control that has been established over acute and communicable diseases and the decrease in infant mortality, people are living to an older age.

Although the efforts of dentists today are directed toward the restoration of carious teeth, the changing scene of dental practice would indicate that the prevention and early detection of periodontal disease will play an important role in the future. Traditionally, people have come to the dentist with the complaint of a toothache; but now, because of health education and control of caries, patients see the dentist for a periodic examination and assistance in the prevention of dental and periodontal disease. With this change in attitude the dentist is faced not only with the treatment of oral disease, but also with the examination of patients who are ostensibly well. This is especially true of children whose parents are concerned with their welfare and desire them to be examined at periodic intervals to be sure development is normal. With this trend established in childhood, the demand for periodic examination will carry on into adult life, increasing the demand for quality and quantity in oral diagnosis. The changing pattern of dental care does not mean that the restoration of carious teeth will be a minor part of dental practice but means that in the future more time will have to be spent in the prevention of oral disease. To carry out the early detection of disease effectively, it will be necessary for the examiner not only to attend properly to signs when they first appear, but also to give repeated examinations before symptoms and signs develop. The dental practitioner who is adapted to the changing scene must be interested in the health as well as the illnesses of his patients, and he must be adequately prepared in the technics of clinical examination. This means that he must develop not only his ability to carry out the technical aspects of restorative procedures, but also his acuity of observation so that he may recognize incipient disease.

The dental profession has done exceedingly well in educating the public about oral health; this advice to the public has either implied or explicitly suggested that to consult one's dentist regularly will maintain his health and prevent disease. It is not by chance that industry and large universities are particularly demanding of preventive medicine and dentistry. These demands are not simply altruistic, since the prevention of disease pays off in terms of healthier workers, less loss of valuable personnel because of sickness, and less absenteeism. There can be no doubt that periodic examination of the mouth by the general practitioner who is prepared to thoroughly examine his patients will do much toward the prevention of disease. The accumulating body of information being gathered from surveys of ostensibly well people indicates that a high incidence of diseases are present that could have been prevented by periodic examination.

Several obstacles are encountered in the practice of preventive dentistry even though everyone knows that prevention of disease is a worthy aim. The changes in man brought about by his living to an older age and by changes in his environment have resulted in a relative increase in some diseases and a relative decrease in others. These changes usually occur faster than the dentist and his scientific collaborators can provide therapeutic measures to control them. Thus, while inroads are being made in the prevention of dental caries in children, a larger population is reaching the age at which disease of the supporting

structure becomes paramount. The lapse of time before scientific knowledge can be widely and effectively applied is well known. For example, chlorination of drinking water was not effectively utilized for many generations after its discovery even though its effectiveness in the prevention of disease was known. There can be no question that fluoridation will be impeded by the same lack of interest on the part of the dental profession and the public.

Another obstacle is exemplified by the lack of interest in the periodic examination of the apparently well patient; the tendency of the majority of patients is to wait and pay only for delayed therapy. People are far more ready to pay for the treatment of oral disease than they are to pay for preventive services. Some of this enigma has developed because of the availability of relatively cheap over-the-counter medications, such as certain toothpastes that are widely proclaimed in advertising media to prevent all kinds of oral disease. To the prospective patient this alternative appears to be far less unpleasant in terms of cost and time than making and keeping an appointment with a dentist.

Still another obstacle lies in our formal dental education, in which little or no stress is laid upon the prevention of disease. This state of affairs may be aptly defined by paraphrasing Vines: the academic blunder of the divorce of preventive from clinical dentistry and its forced marriage to public health dentistry has led to the subsequent relegation of the unhappy pair to the isolation of a faintly depressed specialism. For this mistake there is much to answer; through it, generations of dentists have been trained in the belief that preventive dentistry is inseparably linked with fluoridation, special city and county pedodontic clinics, and the supervision of campaigns to make dental health a national habit.

It is hoped that the present trend in dental education to institute courses in preventive dentistry and oral diagnosis will do much to place these fields of endeavor into their proper perspective. The place of oral diagnosis in preventive dentistry can be readily appreciated since the prevention of disease is based upon a thorough examination of all patients. Thus the disciplines of an examination as taught in oral diagnosis must be directed not only to the examination and diagnosis of obvious disease, but also to an examination that will stress the normal development of children and the range of normal in the adult. With this concept in mind, it is to be expected that the dental practitioner will broaden his interest in the diagnosis and care of disease and encourage his patients in the maintenance of good health.

Many practitioners integrate an appreciable amount of preventive dentistry into their practice; however, many find it difficult to spend any time in the examination of the well patient for the prevention of disease since the benefits of this type of examination are usually much less prompt, less obvious, and less appreciated. Many individuals without obvious symptoms of disease benefit from a thorough examination because previously known but neglected conditions may be re-evaluated. It must be emphasized that the examination of the supposedly healthy mouth must be thorough and careful, since the early detection of disease demands that minute and inconspicuous deviations from the normal be carefully evaluated. There can be no doubt that there is a greater likelihood of a favorable eventual outcome from a disease when it is discovered in relatively early stages. This is true not only for neoplasms but also for dental caries, periodontal disease, malocclusion, and other abnormalities in the mouth and adjacent structures.

TYPES OF EXAMINATIONS

From a practical standpoint it appears that at least three types of examination procedures should be employed in a general practice: (1) a thorough and *complete*

examination, utilizing all the skills of interviewing, physical examination, and supplementary diagnostic aids; (2) a *screening* type of examination, utilizing a dental modification of the Cornell Medical Index Health Questionnaire, a brief clinical examination of the teeth and supporting structures and mouth, and limited x-ray examination utilizing posterior bite-wing radiographs; and (3) the emergency or *limited* type of examination necessary for the diagnosis and management of acute and emergency conditions.

The latter two forms of examination represent a practical compromise with a more complete form of examination; however, they should be used only when indicated. From the standpoint of being indicated, the routine examination of the teeth with a pulp tester in those patients complaining of toothaches hardly seems less indicated than a bite-wing radiographic examination of the teeth when the patient complains of the same symptom. It is apparent that the findings of both forms of examination are sufficient to constitute an indication for their performance. While the complete testing of the teeth (by a pulp tester or by thermal tests) is considered to be a part of a more complete examination than a screening examination, this arbitrary assignment of examination procedures to a particular form of examination is not sufficient justification for the exclusion of one or the other, since both forms may be indicated in any particular instance. A thorough and complete examination should include all the commonly accepted diagnostic and examination procedures.

Periodic health-maintenance examinations

A periodic health-maintenance examination must necessarily be initiated by a complete and thorough examination of the patient; the results are then used in subsequent examinations to measure what deviations might have occurred during the interval. When health-maintenance examinations are repeated on the same individuals after varying intervals of time, significant changes are likely to be encountered. Many factors such as age, sex, and initial examination findings influence the interval of time between examinations. Although the ideal time interval between thorough examinations of supposedly healthy individuals free of disease would appear to be from 6 months to a year, it is apparent that certain individuals might be able to go as long as 2 years between thorough periodic health-maintenance examinations. In such instances the use of a screening type of examination in the interval between complete examinations should be considered. A thorough examination should include the following (see also Chapters 3 and 4 for details):

1. Case history
   Patient's chief complaint, present illness, past history, and systems review
2. Clinical examination
   a. General appraisal of the patient
   b. Detailed oral examination
   c. Supplementary examination and special tests when indicated
3. Diagnosis
   a. Summary of the nature of the abnormality, its etiology and significance
   b. Prognosis
4. Treatment plan
   a. Ideal
   b. Alternate

The extent of the screening examination depends largely upon the yield of positive findings that may be expected from a particular examination procedure and its relationship to the cost of testing in terms of time, patience, and expense. The examination for acute and emergency conditions depend upon the nature of the disease and whether the disease is local or systemic in origin. Obviously the localization, examination, and diagnosis of a toothache will utilize those examination procedures

necessary to make a diagnosis in order that prompt therapeutic measures may be instituted. In certain instances it is conceivable that acute or emergency conditions may require an examination as thorough as any that can be devised. At other times a screening type of examination may be necessary to rule out contraindications for the particular type of therapy that is to be used in the treatment of patients with acute or emergency conditions. Thus, although certain basic forms of examination procedures might be outlined for differing purposes, one must recognize that from a practical standpoint the diagnosis of any disease, regardless of its nature, may require the most extensive form of examination. The majority of patients who have a thorough examination will be found to have some type of periodontal disease of which they are totally unaware. The high prevalence of incipient periodontal disease and incipient caries found during a health-maintenance examination alone justifies the performance of this type of examination.

An analysis of the complete dental examinations carried out at the University Health Service of the University of Michigan as a part of the periodic health appraisal program of the faculty reveals that the yield for a complete examination is significantly high. As a part of a total health appraisal program, its value to the patient warrants the small amount of time required to carry it out. The findings from the history of those examined reflect its value:

History of rheumatic fever	8%
Sensitivity to drugs used in dental therapy	14%
Past history of significant systemic disease	12%
History of periodontal therapy	14%
History of necrotizing gingivitis	5%

The frequency of rheumatic fever, sensitivity to drugs, and systemic disorders such as hypertension and diabetes mellitus emphasizes the necessity of obtaining this information before beginning treatment.

The findings in the following list are of significance in view of the fact that 60 percent of those examined visited their own dentist at periodic intervals of 6 months or 1 year, and 32 percent visited their dentist regularly at greater than 1-year intervals. Only a small percentage showed complete lack of oral health and dental care:

Simple gingivitis	11%
Necrotizing gingivitis—acute, subacute, and recurrent	4%
Periodontitis—incipient	
Unknown to patient	7%
Periodontitis—moderate	
Known to patient	5%
Unknown to patient	14%
Periodontitis—advanced	
Known to patient	7%
Unknown to patient	5%
Dental caries (% of individuals having incipient to moderate carious lesions)	80%
Advanced dental caries	9%

The findings from radiographic examination of the teeth and periodontium show the need for complete mouth radiographs, as well as posterior bite-wings, periodically. The findings in 261 patients examined in a 1-year period are given in the following list:

Nonvital teeth (not including those endodontically treated)	27
Periapical radiolucencies	36
Retained root tips	5
Impactions	11
Radicular cysts	3

These findings indicate that even patients who are obviously well cared for need periodic complete and thorough dental examinations. The prevalence of disease might well be expected to be considerably higher in a general population group that is not as interested in oral health as the faculty members of a university. Thus a complete and thorough examination of a general population group should show even a greater yield of disease than do the results of the survey given here.

It is obvious that the clinical examination and radiographic examination are probably responsible for the discovery of more asymptomatic phases of disease than is the case history. Although the interview of the

patient appears to be of relatively less value in preventive dentistry than in emergency and acute disease, the value of a history that is taken in the examination of ostensibly well people should not be underestimated, since the diagnosis of many important disorders depends upon the history obtained from the patient. This does suggest, however, that where circumstances do not permit extensive history taking by the dentist, a questionnaire to be completed by the patient should be used, provided that the dentist elaborates on the positive and significant negative answers to the questions on the questionnaire. The type of questions and the number of questions included in a health questionnaire will depend upon the yield in a form of positive findings. In order that the questionnaire not be too extensive and filled with questions whose yield does not present statistically proved evidence of their value, only those questions that may be expected to effectively uncover the cardinal manifestations of the most common forms of disease should be used. The health questionnaire in Chapter 14 is utilized for the purpose of supplementing the case history. It is basically a system review and is not intended to determine the patient's complaints or to describe his disease. It is a practical method of evaluating a patient's general health and serves to alert the examiner's attention to a departure from good health that may have a bearing on the presence and treatment of oral disease.

A health questionnaire should obtain certain vital statistics about the patient such as the name, age, height, weight, occupation, marital status, and the name of the patient's physician. Introductory statements should be made relative to how the questionnaire is to be answered, and some reassurance should be given on the questionnaire that the answers to the questions will be held confidential. Furthermore, the questions contained in the questionnaire all have some direct or indirect bearing on the diagnosis of the patient's condition and may be significant in providing treatment for him comfortably and safely. The questions should be so stated that only the affirmative answers require further interview for the purpose of obtaining details. The significance of affirmative answers to the health questionnaire may be found in Chapter 14.

Screening examination

A screening examination is one that attempts to compromise between a thorough and complete examination and a less extensive one because of the practical aspects of reduced time, costs, and skill involved in a shorter type of examination. The degree of compromise of course depends upon the decrease in potential yield in the form of positive findings that the examiner wishes to allow. Although the yield from a screening type of examination and a more thorough complete type of examination may be the same in some instances, both the dentist and physician should be aware of their potential difference. Obviously the yield of certain forms of screening examinations directed toward a particular lesion or disease may compare favorably with that of a more extensive examination, since the procedures used may be the same. For example, the use of posterior bite-wing radiographs for the detection of carious lesions is used both in the complete examination and the screening examination. The posterior bite-wing radiographic examination may be expected to yield about 75 percent or more of the carious lesions present; however, a more complete examination utilizing periapical radiographs and a sharp explorer and mouth mirror may raise the yield to 100 percent. Thus the yield from bite-wing radiographs compares somewhat favorably with the extensive form of examination in yield of carious lesions. One must remember that other lesions of the supporting structures and of the apices of the teeth may show additional disease that would

not be indicated by posterior bite-wing radiographs. Thus the examiner must take into consideration those factors for which he is screening, the efficiency of the screening procedure, and the scope of the screening process. The scope of the screening examination must necessarily be determined by the examiner with regard to time available, number of patients to be screened, purpose of the screening, facilities available, economic considerations, skill of the examiner, and desires of the patient. The following screening examination outline is presented as one form of this type of examination that might be used routinely to yield a fairly high percentage of potential positive findings either in the office of a general practitioner or a dental clinic.

1. Chief complaint—an apparently well patient may or may not have a significant complaint, but the chance to express one should be given
2. Health questionnaire
3. Posterior bite-wing radiographs
4. Gross appraisal for decay; missing and filled teeth
5. General appraisal of the gingiva for alteration of color and form
6. Gross appraisal of the soft tissues for the presence of lesions
7. Brief appraisal of oral hygiene
8. Brief appraisal of occlusion

This form of general screening examination may be expected to yield a significant amount of disease in unselected patients and will provide a certain degree of coverage in a health-maintenance examination. As has been previously stated, this form of examination may well be utilized to bridge the gap between more extensive and thorough examinations and thus is more successfully used as an adjunct to an initial thorough periodic health-maintenance examination. This form of examination may also be used as a precursor to a more thorough examination. In fact, it may well serve to point out the necessity for a more thorough examination. Probably the minimum type of screening examination includes posterior bite-wing radiographs and a series of questions to reveal whether or not a patient has or has had some type of disease that contraindicates a proposed dental treatment. Such questions as: Are you now under the care of a physician? Have you ever had rheumatic fever? Do you have difficulty with bleeding? and Are you sensitive to any drug such as penicillin, iodine, and so on? are representative of the type that may be used. More often than not a brief type of screening examination is carried out by a simple study of posterior bite-wing radiographs. Further examination is solely for the purpose of confirming clinically the presence of carious lesions that are manifest in the radiographs. Evidently there is as much variation in the contents of a screening examination as there is in a more thorough and complete type of examination. Irrespective of the type of examination used, there can be no doubt that the more detailed the examination, the greater the yield of positive findings from the performance of the examination. Generally the omission of any portion of the thorough examination in favor of a screening examination will compromise any examiner's effectiveness, but the adverse effect on the yield of the examination is necessarily dependent upon the scope and demand on the examination. In respect to the shorter screening type of examination, the following general rules should apply: *No patient should be given a short or screening type of examination unless there is an awareness of its limitations.* Awareness includes both that of the examiner and the patient. When patients are told of having chronic destructive periodontal disease that has been present for many years, they will complain, all too often, of having had many examinations in the past without being told of this condition. This dilemma can be avoided by a thorough examination of the mouth, including an analysis of the supporting struc-

tures of the teeth, and by telling the patient of potential and existing disease. The responsibility of the examiner lies not only in the discovery of carious lesions, which he may expect and treat, but also in the discovery of any latent or other disease in the mouth requiring treatment or referral; this is what a patient should receive when coming to a dentist for an examination. When anything less than a thorough examination has been made, the patient should be told. There is a place for a screening type of examination in the general practitioner's office, but it is not meant to exclude or take the place of a more thorough and complete examination of the mouth as it relates to the rest of the body. As previously mentioned, a screening type of examination may be used:

1. To indicate gross disease in broad surveys
2. To indicate the necessity for a complete and thorough examination where screening of ostensibly well patients is being undertaken
3. To allow practical extension of the interval of time between thorough periodic health-maintenance examinations
4. To take the place of a thorough type of examination when time, cost, and skill prevent its use

Emergency or incomplete examination

An emergency type of examination is limited to those procedures that obviously appear related to the complaint of the patient. The history and examination of the complaint are initially sharply limited to the signs and symptoms of the disease and its causative agent. In certain instances the problem may be broad enough in scope to tax the ingenuity of the examiner and demand all his diagnostic acumen.

The simplest form of emergency examination may consist only of the patient opening his mouth and the examiner observing the disease, for example, a fractured tooth. The history will consist solely of the time of occurrence, the manner in which the accident occurred, the presence or absence of associated signs and symptoms, and the presence or absence of systemic disease of immediate importance to therapy. The clinical examination would consist of inspecting the fracture to determine involvement of the pulp and testing the pulp to determine its vitality. The radiographic examination would include periapical radiographs to determine the possibility of root fracture, bone fracture, and apical involvement.

This type of examination is minimal and for obvious reasons cannot be utilized for a screening or periodic health examination. For expediency the emphasis is placed upon the evaluation of acute and known complaints and their relief. In those instances in which the diagnosis may not be easily obtained, this type of examination may well serve to provide the examiner with sufficient information to institute treatment of the symptoms. Once again it should be pointed out that this type of examination does not take the place of a more thorough examination, and the relief of a symptom itself, without due regard for the determination of the cause and its eradication, cannot be considered as a logical approach to therapy. This does not mean that the relief of symptoms does not have a place in the practice of dentistry. All too often the location of the offending tooth causing severe pain cannot be immediately determined and the treatment of the symptoms becomes of primary concern to the dentist. In the emergency type of examination the dentist has no routine or set pattern of procedures; the circumstances that exist determine the trend of the examination. The success of the emergency examination is directly related to the ability of the examiner to effectively utilize the basic principles of oral diagnosis (interviewing, clinical examination, and formulation of a diagnosis).

SUMMARY

It is not our intent to list all the possible diseases and their cardinal manifestations. The objectives of this book are to (1) present an outline for the systematic collection of subjective information alluding to the cardinal manifestations of disease, (2) give the actual procedure for determining the presence of cardinal manifestations of disease, (3) show by illustrative cases how to make a differential diagnosis, and (4) show how a clinical history, examination, and diagnosis are utilized in the practice of dentistry. The pertinent content of preclinical sciences will be integrated with clinical dentistry. No attempt will be made to incorporate all of the physiologic bases for disorders of structure and psychology since such material can be found elsewhere.

When cardinal manifestions of disease exist in a patient, the dentist should be aware of their basic mechanisms for the purpose of establishing a basis for initiating further diagnostic and therapeutic procedures. While taking the clinical history, the examiner may find that a patient has one of the cardinal manifestations of disease such as pain. Before appropriate measures for its relief can be instituted, it is necessary that he be aware of the physiologic basis for pain and know its causes. For example, he may know that certain manifestations of pain may be related to angina of effort, but he may not know that this condition is caused by arteriosclerosis that, in some manner, sensitizes the coronary arteries to the effects of increased demands on the heart and reacts by spasms of the coronary arteries at a time when increased myocardial circulation is required. A spasm of the coronary artery produces myocardial hypoxia, which causes the pain. The examiner will have established that the precipitating cause of the pain is effort and in a general way is related to heart disease. However, he can in no way establish a rational basis for treatment unless he is aware that the basic cause of the pain is arteriosclerosis and that the functional cause is a spasm of the coronary arteries. In this particular instance the basic cause of the pain is not treatable; however, in other instances the cause of pain may be of primary consideration. In this and in some other cases, pain must be treated by removal of the precipitating cause or by treatment of the functional cause of the disease.

Another example where the concept involved in the proper evaluation and treatment of disease may be readily appreciated concerns the diagnosis of pain associated with dysfunction of the temporomandibular joint. The examiner may determine from the clinical history that the patient is in distress when functional movements of the temporomandibular joint are made. If he is unaware of the underlying basic pathologic disturbances responsible for the production of pain in the region of the joint, he may be satisfied to treat only the symptom or the precipitating cause of the symptom. In this case the precipitating cause would be the movement of the jaw. Thus his treatment might be directed toward palliation of pain by injection of hydrocortisone or sclerosing solution into the joint or even by surgical removal of the disk. Or he may attempt to treat the precipitating cause by complete immobilization of the mandible by wiring or by reducing the function of the mandible by Hawley retainers or splints. Such treatment implies a lack of knowledge of the functional ultimate cause of the pain—occlusal trauma. This does not imply that all pain associated with the temporomandibular joint has its origin in occlusal trauma. Though this is probably the most frequent cause of pain in the temporomandibular joint, other conditions may also produce pain in this area. These are discussed in more detail elsewhere.

The practical approach to oral diagnosis requires that the diagnostician utilize a systematic method for determining the subjective manifestations of disease. This is best initiated by the proper taking of a case