

**PRINCIPLES  
AND  
PRACTICE OF  
ORAL  
MEDICINE**

**SONIS • FAZIO • FANG**

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*Principles and Practice*  
of **ORAL MEDICINE**

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# Preface

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With increasing frequency, dentists are called upon to treat patients whose physical status is less than ideal. Indeed, as achievements in medical therapeutics result in prolonged life expectancy, the number of patients who require special management considerations for dental care increases. It has been our experience that, too often, the dentist confronted by such a patient has had to grope through mounds of extraneous material before obtaining specific practical information. Similarly, while there are a number of excellent texts that describe oral lesions and oral manifestations of systemic disease, we felt that an easily accessible, treatment-oriented work for the student or practitioner was needed.

It is, therefore, the objective of this text to provide the dental community with a totally functional work in oral medicine that permits and encourages easy access to specific recommendations for management. It is not our purpose to provide a complete synopsis of internal medicine or pathophysiology. Rather, only those aspects of the disease having direct practical significance are included. In dealing with oral disease and oral manifestations of systemic disease, emphasis has been placed on the essentials of diagnosis and treatment.

To achieve these objectives, we have been selective in the material included. The critical reader will note, no doubt, that this work does not attempt to be a compendium of every oral condition. We believe, however, that the degree of selectivity enhances the contents of this work and increases the book's readability and usefulness. We have continually asked ourselves to define the "bottom line" for the student and the practitioner.

We have attempted, as much as possible, to adhere to a uniform chapter format to assist the reader in the use of this text. Most chapters are divided into sections including general medical information, the evaluation and management of the dental patient, the oral findings and management of oral findings, and specific clinical examples. The final section consists of a series of tables which summarize for easy reference the important aspects of the chapter. When dental management of patients with systemic disease is discussed, risk categories are defined in order to aid patient assessment.

In the management recommendations made throughout the book, the reader will note certain uniform categories of dental procedures. *A list of these categories and the procedures which fall into each is included inside the front cover of the book for easy reference.*

The chapters which deal specifically with diseases of the oral cavity are structured differently. Their format follows a sequence of a general approach to diagnosis, with a subsequent description of specific lesions and recommendations for treatment.

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# **Section I**

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## **Patient Assessment**



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# History, Physical, and Laboratory Evaluation

## OBJECTIVES

In the past, the simple question "Are you generally in good health?" provided all the information necessary to proceed with dental treatment. Such cursory inquiries are no longer acceptable. Today, dentists and physicians need to know more about past and present medical conditions, owing to the increasing number of geriatric patients who require dental services, the proliferation of medications that may be significant in a stress-inducing situation, the use of inhalation and intravenous sedation techniques, and a general improvement in the standards of medical and dental practice.

The major objectives of pretreatment patient evaluation are: (1) establishing the diagnosis, (2) determining pre-existent medical conditions, (3) discovering concomitant disease, (4) managing emergencies, and (5) patient management.

## ESTABLISHING THE DIAGNOSIS

The establishment of oral diagnosis is frequently not a difficult problem, particularly when the pathology involves grossly recognizable chronic tooth or periodontal disease. However, the complexity of primary oral pathology compels the dentist to approach the diagnosis of less obvious conditions with care. The diagnostic problem is compounded by the fact that oral lesions requiring identification are frequently not of the primary variety and not locally restricted; sometimes they represent systemic disease with local manifestations. Since the delineation between local and systemic disease is often

blurred, complete patient evaluation is required for accurate diagnosis.

Even if a carefully administered evaluation does not reveal the precise diagnosis of a lesion, it usually provides indications for additional studies such as bacteriological cultures, laboratory tests, biopsies, or consultations. It should be recognized that most difficult diagnoses, whether in the oral-facial region or elsewhere, are the result not of flashes of brilliance but of a meticulous and systematic assimilation of a complex body of patient information. An approach to oral diagnosis is discussed in Chapter 2.

## MEDICAL CONDITIONS

The dental practitioner should routinely check the history of each patient for an event, condition, or medication that might significantly affect a projected oral treatment plan. Discovery of a history of allergic reactions to a drug may avoid a rash at least and possibly a catastrophe. Furthermore, significant past illnesses, such as rheumatic fever, may require the use of prophylactic antibiotics. Current illnesses may be suspected when a patient is regularly seeing his physician or using a specific medication. If the patient is being treated for concomitant disease by a physician, the dentist should not hesitate to consult with him or her.

It should be emphasized that an evaluation for pre-existent medical conditions must be performed prior to any therapeutic measures. This is particularly true for the patient who is seeking emergency care, when the tendency is to treat the acute situation and to attend to the formalities of a medical history

later. With some exceptions, time must be allowed to determine the presence of significant present or past illness. The discovery of a serious concurrent medical condition after complications have arisen benefits neither the dentist nor the patient.

### ***THE DISCOVERY OF CONCOMITANT DISEASE***

A significant proportion of the population regularly seeks the services of dentistry and only rarely visits family physicians for physical examinations. This situation provides dentists with opportunities to contribute to the general health of their patients. The presence of previously undiagnosed concomitant systemic disease may be suggested either by significant physical findings (e.g., hypertension), which are routinely reviewed during the evaluation, or by a carefully scrutinized history (e.g., diabetes mellitus). When a significant condition is incidentally encountered, it is not the responsibility of the dentist to treat the disease. The patient should be informed of the suspicion and promptly referred to his or her family physician or an appropriate specialist. Thus, the patient receives treatment for a disease that otherwise would have proceeded undiagnosed, and the dentist earns the respect of both the patient and the physician.

### ***MEDICAL EMERGENCIES***

The pretreatment evaluation aids the practitioner in the management of office emergencies in three ways. First, and most important, the performance of a complete evaluation prior to treatment will prevent most office emergencies. The medical history will inform the dentist of any pre-existing medical conditions and allow him to alter the patient's treatment so as to avoid complications. For example, the diabetic patient may require modifications in diet, medications, and the time or length of appointments when a dental procedure is anticipated. Second, a knowledge of the patient's past history will save valuable time when making an emer-

gency diagnosis and alert the clinician to have appropriate medications available. Many office emergencies are actually acute exacerbations of chronic or long-standing diseases. Finally, routine diagnostic procedures used during the physical evaluation, such as taking blood pressure, may, in an emergency, be quickly converted into therapeutic measures for monitoring vital signs and delivering crucial medications.

### ***PATIENT MANAGEMENT***

It must be assumed that dental procedures are stressful situations, regardless of whether local anesthesia, local anesthesia with sedation, or general anesthesia is employed. But the stress induced is frequently not commensurate with the complexity or duration of the anticipated operation, the patient's response often being prompted by preconceived anticipations and anxieties. For many patients, the anxiety induced by a simple examination and prophylaxis exceeds that experienced by others undergoing relatively extensive procedures. Thus, the physical evaluation presents an important opportunity for the dentist to establish rapport with the patient and to minimize his or her anxiety.

Diagnosis and appropriate treatment depend on a sound and comprehensive data base obtained through patient assessment, which includes the history, the examination, radiographs, and laboratory tests.

### ***THE HISTORY***

The backbone of the diagnosis is the history. The good clinician is a studious listener. Careful, thorough questioning of a patient without prodding will always yield significant data.

The taking of the history is usually the first opportunity for communication between the dentist and the patient. The way in which this interview is conducted frequently provides the patient with an image of the clinician that will color the future relationship between the two. An unsatisfactory impression made at this point will be extremely

difficult to remedy in the future. Thus, the initial interview should do everything possible to establish a rapport between the patient and the clinician.

There are numerous intangible factors involved in developing a good dentist-patient relationship. These include the general appearance of the clinician, an ability to empathize with the patient's complaints, and, most important, a sincere concern and interest in each patient as an individual. The clinician who is disheveled and ungroomed may suggest to the patient that he or she is equally careless in attending to the details of diagnosis and treatment. In taking the history, the clinician must proceed with self-confidence; hesitation or embarrassment will often be met with incomplete or inaccurate responses.

Usually, a well-intentioned attempt to establish rapport is rewarded with spontaneous and uninhibited responses. Occasionally, however, the most sincere efforts produce only apathy, indifference, or frank hostility. The query "What does that question have to do with cavities?" is not uncommon. In this situation, the patient should be informed of the potential significance of apparently obscure and unrelated events in the diagnosis and dental management.

Adherence to a definite order of inquiry and categorization of information is required to insure completeness and to help the clinician reach accurate conclusions. The source of the history is, however, the patient, and people vary in their ability to observe and describe symptoms, depending on their intelligence, their education, their emotional status, and the degree of confidence they have in the examiner. For this reason, the clinician must be prepared to modify the interview to suit individual patients. At no time should history taking be reduced to a mechanical and impersonal recitation of routine questions.

There are five basic categories of information to be obtained in the course of every formal history:

1. Identification of the problem (chief complaint).
2. Clarification of the circumstances sur-

rounding the onset and development of the problem (history of the present illness).

3. Documentation of diseases or conditions in the past (past medical history).
4. Investigation into possible genetic, social, or environmental factors influencing the problem (family health, personal and social history).
5. Summary of additional symptoms, by organ system (review of systems).

The source of the history may be the patient, members of his or her family, friends, a referring doctor, or, in the case of the hospitalized patient, an old record from a previous admission. When an individual other than the patient serves as the informant, the name, address, and telephone number should be recorded in the event that clarification of data becomes a necessity. Each source of information must be evaluated for its reliability and recorded accordingly. For example, when the patient is demented, senile, or an infant, it is obvious that other sources of information must be sought.

### *ELEMENTS OF THE HISTORY*

**The Chief Complaint.** The primary reason the patient originally consults the dentist constitutes the chief complaint. The complaint should be stated as briefly as possible in the patient's own words and from his or her perspective. The recording of a precise diagnosis (e.g., periapical abscess) or the use of vague terminology (e.g., tooth trouble) is to be discouraged, since they do not contribute to an understanding of the complaint.

**The History of the Present Illness.** The history of the present illness is an elaboration of all the circumstances surrounding the onset and progression of the patient's symptoms. During the interview, the patient should be allowed to proceed with the story, emphasizing those incidents considered to be significant. The facts should be ordered chronologically, but frequent interruptions should be avoided so that the patient is not discouraged from relating all of the relevant events. At the conclusion of the patient's narrative, the

examiner should briefly summarize for the patient all the essential facts to insure that an accurate exchange of information has taken place. The synopsis usually includes data pertinent to the location, duration, progress, and character of the disease, its relation to function, and the effect of previous treatment.

**Past Medical History.** In the dental office, the past medical history is usually obtained by both a written questionnaire and a verbal interview, and is divided into a history of past illnesses and a review of systems.

**THE HISTORY OF PAST ILLNESSES.** A summarization of past medical events or conditions should cover (1) allergies, (2) diseases, (3) medication, and (4) hospitalizations.

**Allergies.** The importance of documenting allergic manifestations, particularly when drugs are the offending agents, is obvious. When present in the history, allergens should be identified along with the types of reactions encountered. It is essential that notices of allergy be prominently displayed on patients' records and hospital order sheets.

**Diseases.** While all people have experienced disease of some sort, it is important for the clinician to establish a history of certain significant diseases, such as rheumatic fever or diabetes mellitus, recording each illness along with the date it was contracted. In addition to asking patients broad questions such as "Do you have or have you had any pulmonary disease?" the clinician should inquire specifically about a number of diseases listed in Table 1-1, either verbally or in a written questionnaire.

**Medications.** It is imperative for the dentist to establish the patient's medication history. Drugs may be responsible for oral lesions (e.g., phenytoin or Dilantin), or they may reflect an underlying condition that could seriously alter a proposed treatment plan (e.g., Coumadin). It is important to determine past as well as current medications. A patient who took steroids six months prior to dental treatment will require additional management considerations. When a history of the routine use of a medication is obtained, the generic name of the drug, the dosage regimen, and the route of administration should be documented.

**Hospitalizations.** A prior hospitalization

**Table 1-1. DISEASES OR CONDITIONS THAT PATIENTS SHOULD BE SPECIFICALLY QUERIED ABOUT**

---

<b>Cardiovascular</b>
rheumatic fever
murmurs
congenital anomalies
hypertension
arrhythmias
myocardial infarction
<b>Respiratory</b>
asthma
chronic obstructive pulmonary disease
tuberculosis
<b>Gastrointestinal</b>
hepatitis
colitis
ulcers
<b>Genitourinary</b>
urinary tract infection
venereal disease
<b>Endocrine</b>
diabetes mellitus
adrenal gland disorders
thyroid disorders
pregnancy
<b>Neurological</b>
stroke
seizure disorders
<b>Hematological</b>
bleeding disorders
recurrent infection
<b>Psychiatric</b>
alcohol use
drug use

---

may also reveal a condition or event that could influence a diagnosis or treatment plan. All previous hospitalizations are recorded chronologically with the names of the hospitals, the dates, the diagnoses, and any surgical procedures performed.

**THE REVIEW OF SYSTEMS.** The system review is a thorough report of specific symptoms related to individual organ systems. The review is conducted, first, to insure against the inadvertent deletion of data that may help to establish a diagnosis and, second, to account for the status of each individual organ system in relation to possible concomitant disease or projected treatment protocols.

The inquiry proceeds from head to toe and determines the presence or absence of specific symptoms relative to each system. A knowledge of the patient's chief complaint and the history of the illness may guide the clinician into investigating areas of particular



**Table 1-2. DISEASES IN WHICH GENETICS MAY BE OF SIGNIFICANCE**

Diabetes mellitus
Hypertension
Myocardial infarction
Allergies, asthma
Bleeding disorders
Malignancies

interest in greater depth, but preconceived diagnoses should not cut short a thorough inquiry. It should be emphasized that the absence of one symptom often contributes as much to the solution of a diagnostic problem as the presence of another, so that complete documentation of "significant negatives" becomes mandatory. Furthermore, the clinician must exercise care in the construction and wording of questions commensurate with the patient's understanding.

**The Social History.** The personal history of the patient reflects the influence the living environment or life style may have upon disease. Moreover, an understanding of the patient's social relationships may help to anticipate emotional response to serious disease. Three areas are routinely investigated: present and past occupations and occupational hazards, smoking and chronic alcohol or drug abuse, and marital status.

**The Family History.** The family history aids in determining genetic transmission of disease or a predisposition for disease. Conditions that appear to have hereditary features in their etiologies include certain hemorrhagic disorders, allergic conditions, migraine, diabetes mellitus, hypertension, and certain types of malignant disease. The family history is also used to discover communicable diseases within the immediate family that may infect members of that household. The history should record the ages and health of all members of the immediate family, the ages and causes of death of any deceased members, and the presence of any of the more common genetically associated illnesses (Table 1-2).

### THE MEDICAL QUESTIONNAIRE

The easiest and hence most widely used technique for obtaining a medical history in the dental office is the medical questionnaire.

It enjoys excellent patient acceptance and is usually self-administered, thereby saving the dentist time. However, serious deficiencies in the reliability of the medical questionnaire have been noted.

To appreciate the limitations of the technique, one should analyze the data that the medical questionnaire provides. While many adaptations of the form are in use, they never go beyond identification of the patient and the history of past illness. These data usually include past diseases, allergies, hospitalizations, operations, and medications, but exclude a detailed present complaint, a history of the present illness, and a review of systems. This limited information is usually sufficient to identify a medical condition that may interfere with a proposed, otherwise routine, treatment plan. However, in a complex diagnostic situation, the medical questionnaire does not provide sufficient data, and the clinician should proceed with a formal medical history.

The length and content of the medical questionnaire are subjects of some controversy. The questionnaire must be long enough to provide all potentially significant data, but it should not be so long that it bores and discourages the patient who is filling it out. Each individual clinician must choose the questionnaire that, in his view, best satisfies these criteria. The form proposed by the American Dental Association, reproduced here, has generally proved adequate (Fig. 1-1).

If the patient's responses on the questionnaire are incoherent, the clinician should restate appropriate questions or seek a more reliable information source. Invariably, the information provided by a self-administered medical questionnaire must be supplemented by a verbal history.

### VERBAL HISTORY

After the medical questionnaire has been completed in private, the clinician should interview the patient. The objectives of the interview are (1) to supplement the questionnaire with the chief complaint and the history of the present illness, (2) to determine whether the health questionnaire is adequate