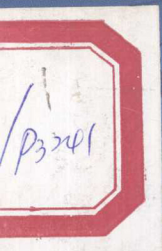


The Medical History:

Clinical Implications and
Emergency Prevention in
Dental Settings

*Frieda Pickett
JoAnn Gurenlian*



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HEALTH HISTORY FORM

Business Phone: _____ Zip Code: _____

State: _____ Sex: _____

Home Phone: () _____ Date of Birth: _____

MIDDLE: _____ City: _____ Weight: _____

Height: _____ Relationship: _____ Phone: () _____

Emergency Contact: _____ NAME: _____

For another person, what is your relationship to that person?

Following questions, please (X) whichever applies; your answers are for our records only and will be kept confidential in accordance with the law. That during your initial visit you will be asked some questions about your responses to this questionnaire and therefore this information is vital to allow us to provide appropriate care for you. This office does not use this information for any other purpose.

DENTAL INFORMATION

How would you describe your oral health?

The Medical History: Clinical Implications and Emergency Prevention in Dental Settings

Frieda Atherton Pickett, RDH, MS

Adjunct Associate Professor
East Tennessee State University
Johnson City, Tennessee

JoAnn R. Gurenlian, RDH, PhD

President
Gurenlian & Associates
Haddonfield, New Jersey



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The Medical History:
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Emergency Prevention in
Dental Settings



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preface

Taking and reviewing the medical history is considered to be the most effective strategy to prevent a medical emergency in dental practice settings. The oral healthcare practitioner determines modifications for treatment and risks likely to occur during treatment as each response is considered on the health history. As the health history is used by all professionals in dental practice settings, it should be the focus of instructional materials for identifying potential risks during treatment. *The Medical History: Clinical Implications and Emergency Prevention in Dental Settings* is the first textbook to discuss each component on a comprehensive health history that identifies clinical implications and risks for an emergency situation. It is written as a reflection of the critical thinking process that occurs when gathering health history information and is designed to be used as a reference during the health history review. Significant features of the text include:

- Listing of relevant follow-up questions to gain necessary historical information for those situations that require additional information.
- Discussion of each medical condition in terms of the pathophysiology, the clinical implications for the treatment plan, and the potential medical emergencies.
- Strategies for preventing the potential emergency situation, followed by management procedures to follow should the emergency occur.

Because prevention of medical emergencies is strongly related to taking and analyzing a comprehensive medical or health history, the most current American Dental Association Health History is used as a guideline. This health history is comprehensive; it contains questions related to the most significant medical information needed before providing oral healthcare or dental treatment, and it reflects information necessary to identify potential emergency situations.

The text is written to accommodate a 14-week self-study format. It can be used as a supplement to clinical instruction textbooks during preclinical education, and it can also be used as a stand-alone textbook for courses dealing with dental office medical emergencies. Information provided in clinical texts will not be repeated unless needed to explain points made in the text. Most semesters are 15 weeks in length. This text is designed to be assigned to students for weekly study during the preclinical education period so that at the end of the preclinical semester, the text would have been completed. As students begin providing clinical treatment during the next semester, the text can be used as a reference during the medical history review. Some discussion of information in the text may be included as a weekly supplement to the preclinical technique laboratory course. If used in this manner, assignment of the reading could be made as a didactic preparation for the preclinical laboratory course. The self-study format will assist the course instructor in reducing the class time necessary to explain significant information contained in the text. During use of *The Medical History: Clinical Implications and Emergency Prevention in Dental Settings*, if issues arise that are not discussed in the text, the course instructor is asked to notify the authors by e-mail so subsequent editions can be edited to include appropriate information. The instructor can contact Frieda Pickett at fpickett@preferred.com.

The text is written to follow each section on the ADA Health History and identifies clinical implications for and potential emergencies that are related to the specific question on the health history. It follows the same critical thinking process that occurs when the practitioner analyzes the question on the health history. For example, stress-related medical emergencies are among the most frequent emergency situations to occur during oral healthcare procedures and are most likely to occur in the client who has experienced them in the past. For this reason they are discussed with the question on the ADA Health History form that deals with experiencing problems during past dental treatment. Another common emergency during oral healthcare is postural hypotension. Because it most commonly occurs as a result of a side effect from various medications, it is discussed in the section on medications being taken by the client. Emergency situations that might be experienced in the client with diabetes are discussed in the medical section dealing with diabetes; potential emergencies during oral healthcare for the pregnant client are discussed as part of the question related to pregnancy. The text will follow each section on the current ADA Health History and discuss topics appropriate to each question. Appropriate follow-up questions for relevant conditions are included along with brief explanations of their relevance to clinical modifications and risks for a possible medical emergency during oral healthcare. These follow-up questions are highlighted in an Alert Box at the beginning of most chapters for easy reference. The latter part of the ADA Health History includes a variety of medical conditions and symptoms related to medical conditions. The authors attempted to organize the medical conditions according to system relationships for the individual chapters in the text. For example, all of the conditions listed in the medical section that deal with being immunocompromised are discussed together. Each medical condition includes a discussion of pathophysiology, appropriate follow-up questions related to treatment risks, clinical implications, potential emergencies, and prevention and management of the emergency.

Each chapter is designed to include questions that review significant information. Readers should attempt to answer each item as they proceed through the chapter. Correct responses can be found at the end of each chapter with the appropriate page noted to provide a review for the correct response. At the end of each chapter, the reader will find case reports and a group of case-based questions. Completing these questions will reinforce key points and strengthen understanding of the application of information presented in the text.

It is hoped that this focused format will assist students and practitioners in effective use of the health history interview to identify potential risks in treatment as part of a thorough health history review. In addition, the text can be used as a tool to calibrate clinical faculty to assure that all faculty are assisting students to gain the same information during the health history review.

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Frieda A. Pickett, RDH, MS

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Especially, to Frieda Pickett, RDH, MS, my coauthor, for keeping an open mind about making this a self-study text, and for being the driving force throughout this publication. Frieda deserves the credit for the content you are about to read.

JoAnn R. Gurenlian, RDH, PhD

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chapter one

KEY TERMS

Bradycardia: a heart rate less than 60 bpm

Bronchodilator: an inhaler device that delivers medication to dilate bronchioles and allows increased airflow to lungs; commonly prescribed for asthma

Client: the person seeking oral healthcare treatment

Clinician: the dental professional providing oral healthcare treatment

Continuing care: appropriately timed maintenance care

Diastolic blood pressure: the pressure in arteries when the heart rests, or between beats

Hypertension: blood pressure measurements of 140/90 mm Hg or higher

Positive findings: response on the health history for which the client indicates “yes”

Reappointment: appointments after initial oral healthcare treatment in which treatment could not be completed in one appointment

Systolic blood pressure: the pressure in arteries during ventricular contraction, or when the heart beats

Tachyarrhythmia: a fast, irregular heart rate

Tachycardia: a heart rate in excess of 160 bpm

Using the Health History to Prevent Emergencies

OBJECTIVES

After completing the self-study chapter the reader will be able to:

- ❖ Describe strategies for gaining complete health history information.
- ❖ Use health history information to identify risks for medical emergencies during oral health treatment.
- ❖ Identify normal limits of vital sign measurements and their relevance in assessing potential medical risks of dental treatment.
- ❖ Apply the American Dental Association’s policy on screening for hypertension in the dental office to planning oral healthcare.

ALERT BOX

“Have you ever been told you have high blood pressure?”

“Are you aware of noises when you breathe? Do you know what causes this sound?”

INTRODUCTION

This chapter will discuss the role of the medical history information and analysis of vital signs to identify the client at risk for experiencing a medical emergency during dental treatment.

Role of the Health History in Prevention of Emergencies

The taking and reviewing of an adequate health history is the best strategy to follow for preventing medical emergencies in dental practice settings.

Unanticipated emergencies (such as choking, emergencies related to fear of treatment, or unknown disease conditions) can occur; however, many emergencies in clinical practice settings can be predicted if adequate information is gathered from the **client** on the health history and properly followed up in the subsequent review. For this reason, *it is essential that all questions be answered on the history form*. Clients may leave a question unanswered because they do not understand the question. Other reasons may involve a feeling that the question is an invasion of privacy, or result from skipping a question. Follow-up questioning can often resolve these issues. Methods to gain health history information include the interview method and the questionnaire method. Clinical textbooks contain a variety of advantages and disadvantages for whatever method is selected to gain health history information. This text will focus on specific questions needed to gain essential historical information, no matter what method is used.

Anticipation of Emergencies

Three general guidelines pertain to acquiring information from the medical history. These include:

1. Making sure all questions have been answered.
2. Following up all **positive responses** with further questioning, and recording a concise summary of the responses to follow-up questioning on the history form.
3. Observing the client for signs of stress (Box 1-1).

Whether the health history is completed by the client or by the **clinician** during the interview, the clinician must focus on those responses that indicate a loss of health has occurred. Generally those are questions answered with a “yes” response. Questions worded in the format “Are you in good health?” would be exceptions to this rule. As each disease is discussed in later chapters, information related to anticipating potential emergencies will be identified. Fear and anxiety frequently precipitate medical emergencies in the dental office and are often referred to as stress-related emergencies. Because stress-related emergencies are common in dental treatment, the clinician must be very observant for signs of stress in the client. Chapter 2 will discuss the most common stress-related emergencies and their relationship to fear of dental-related treatment.

American Society of Anesthesiologists Risk Categories

The American Society of Anesthesiologists (ASA) developed a risk category classification system to estimate the medical risks in treatment associated with anesthesia for a surgical procedure. Since the initial development the classification system has been used to estimate risks in treatment even when anesthesia is not planned. The classification system is described as ASA I through ASA V and is detailed on the next page.¹

BOX 1-1

Criteria for Reviewing the Medical History

- Ensure that all questions have been answered
- All positive responses should be followed up with questions related to history of disease, and a concise summary of responses should be recorded
- Observe client for signs of stress

ASA I: Healthy client without systemic disease

ASA II: Client with mild systemic disease

ASA III: Client with severe systemic disease that limits activity but is not incapacitating

ASA IV: Client with an incapacitating systemic disease that is a constant threat to life

ASA V: Client not expected to survive 24 hours with or without an operation

ASA E: Emergency operation of any variety, with E preceding the number to indicate the client's physical status (e.g., ASA E-III)

Clients requesting oral healthcare would include classifications I through IV. General treatment decisions for oral healthcare are as follows:

ASA I

Clients should be able to tolerate oral healthcare procedures with no added risk of serious complications. They should be able to walk up a flight of stairs without distress, shortness of breath, undue fatigue, or chest pain. Treatment modification is usually not required for these clients.

ASA II

This classification includes the client with mild disease, or one who is healthy, but is very fearful or anxious about receiving oral healthcare treatment. These clients are less able to tolerate stressful situations; however, they represent minimal risks during treatment. Routine treatment is allowed with consideration given to the client's specific problem. For example, anti-anxiety drugs may be given to the anxious client, and appointments may be of short duration. The ASA II classification means to proceed with caution.

ASA III

This classification is applied to the client with severe systemic disease that limits activity but is not incapacitating. When rested, the ASA III client shows no signs of distress, but when physiologic or psychologic stressful situations occur they tolerate them poorly. Elective oral healthcare is not contraindicated, but the clinician should proceed with great caution because the risk during treatment is increased. An example of this category may include the client who has suffered a heart attack more than 6 months ago and has no residual signs or symptoms. This client may not be able to respond to the stressful oral healthcare procedure and is at risk for a cardiovascular emergency. Such clients may need short appointments and pain control procedures to reduce stress.

ASA IV

Clients in this category have a medical condition that incapacitates them and is a threat to their lives. Whenever possible, elective treatment should be postponed until the condition has improved and the client has moved into the ASA III category. These clients cannot walk up one flight of stairs or walk two city blocks without stopping. They feel stress even when rested. They exhibit signs and symptoms of their medical condition when at rest. Elective care is contraindicated in the dental office. When a dental emergency occurs the dentist should consider providing care at an acute care facility (such as a hospital) where equipment is available should a medical emergency situation occur. An example of a client in this category is one who has had a heart attack or stroke within the past 6 months.

The ASA classification system is helpful in determining the treatment risks with various medical conditions. It relies on the ability of the practitioner to assess the relevant medical situation accurately. ASA I, II, and III conditions can receive both elective and emergency treatments if the practitioner makes plans to reduce the risks associated with the specific medical condition.

Follow-up Questions: What, When, Why?

When a question such as "Do your gums bleed when you brush?" is answered "yes," it signals the clinician to pursue further information. Following the format "When, what, why, how resolved" is a good plan for most positive responses. Questions should be worded in an "open-ended" style, forcing the client to answer with an explanation rather than simply "yes" or "no." An example is "Why do you think your gums bleed?" This provides the clinician with more information related to the specific issue being investigated.

As the reader continues this self-study, examples of appropriate follow-up questions will be provided. A discussion of the reasons for asking the follow-up question will be included. In some cases the questions in the first section of the American Dental Association (ADA) health history are specific and require no follow-up questioning. These questions will have a concise discussion of clinical implications for a positive response. This text is not intended to replace a clinical textbook, and *the reader should refer to clinical textbooks for rationale and technique issues*. However, it seems logical to include the clinical implications when the health history

question requires consideration of any treatment plan modifications. In the last section of the self-study that specifies diseases experienced by the client, the discussion will include:

1. The pathophysiology of the disease.
2. The potential risks for a medical emergency as a result of the disease.
3. The clinical management for the client with the disease.
4. Strategies for resolving the potential medical risks and preventing an emergency situation. For conditions likely to result in a medical emergency during oral healthcare treatment, a protocol for managing the specific emergency will be included.

Self-Study Review

1. The best strategy for preventing medical emergencies in dental practice settings is:
 - a. keeping a medical emergency kit readily available.
 - b. taking and reviewing a health history.
 - c. completing follow-up questions for all “yes” responses.
 - d. obtaining a medical clearance for each client.
2. One of the best ways to anticipate a potential emergency when reviewing the health history is to:
 - a. complete follow-up questions for all “yes” responses.
 - b. obtain a medical clearance for each client.
 - c. ask the client if he or she thinks an emergency is possible at the appointment.
 - d. all of the above
3. Clients may fail to provide complete health history information as a result of all of the following reasons EXCEPT ONE. Which is the EXCEPTION?

continued

Continued

- a. Client does not understand question
- b. Feelings of privacy invasion
- c. Form is poorly designed
- d. Client may skip questions

The American Dental Association Health History Form

The ADA Health History Form is illustrated in this chapter as Figure 1-1. This two-page form includes most conditions of concern before oral healthcare treatment. As dental practice settings become more automated, it is anticipated that this health history form will be entered into the office computer system. In that way, the form can be tailored to meet the needs of the client population of the practice. For example, the current ADA Health History Form does not include a section for vital signs. Adding this physical assessment information would make a more reliable document to assess and document client health.

Significance of Vital Signs in Determining the Risk for an Emergency

Generally, in dental practice settings, vital signs that need to be measured include a combination of one or more of the following: blood pressure, pulse, respiration, and temperature.

Measurement of Blood Pressure

Blood pressure can be simply described as the pressure in the arteries exerted by the circulating volume of blood. It is affected by the volume of blood, the size and elasticity of the arteries, and the force of the cardiac contraction. The measurement is illustrated as 120/80 mm Hg (millimeters of mercury). Blood pressure is more accurate if taken when the client has rested. The arm used should be at the level of the heart. The appropriate cuff size should be used. An upright position promotes this arrangement. Either arm can be used, but measurements will vary from one arm to another. For this reason the client

Medical Alert:	Condition:	Premedication:	Allergies:	Anesthesia:	Date:
----------------	------------	----------------	------------	-------------	-------

HEALTH HISTORY FORM

Name: LAST FIRST MIDDLE			Home Phone: ()		Business Phone: ()	
Address: P.O. BOX or Mailing Address			City:		State:	Zip Code:
Occupation:			Height:	Weight:	Date of Birth:	Sex: M <input type="checkbox"/> F <input type="checkbox"/>
SS#:	Emergency Contact:	Relationship:		Phone: ()		

If you are completing this form for another person, what is your relationship to that person?

NAME RELATIONSHIP

For the following questions, please (X) whichever applies, your answers are for our records only and will be kept confidential in accordance with applicable laws. Please note that during your initial visit you will be asked some questions about your responses to this questionnaire and there may be additional questions concerning your health. This information is vital to allow us to provide appropriate care for you. This office does not use this information to discriminate.

DENTAL INFORMATION

	Yes	No	Don't Know	
Do your gums bleed when you brush?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	How would you describe your current dental problem?
Have you ever had orthodontic (braces) treatment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Date of your last dental exam:
Are your teeth sensitive to cold, hot, sweets or pressure?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Date of last dental x-rays:
Do you have earaches or neck pains?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	What was done at that time?
Have you had any periodontal (gum) treatments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	How do you feel about the appearance of your teeth?
Do you wear removable dental appliances?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have you had a serious/difficult problem associated with any previous dental treatment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If yes, explain:				

MEDICAL INFORMATION

	Yes	No	Don't Know	
If you answer yes to any of the 3 items below, please stop and return this form to the receptionist.				Are you taking or have you recently taken any medicine(s) including non-prescription medicine?
Have you had any of the following diseases or problems?				If yes, what medicine(s) are you taking?
Active Tuberculosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Prescribed:
Persistent cough greater than a 3 week duration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Over the counter:
Cough that produces blood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vitamins, natural or herbal preparations and/or diet supplements:
Are you in good health?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are you taking, or have you taken, any diet drugs such as Pondimin (fenfluramine), Redux (dexphenfluramine) or phen-fen (fenfluramine-phentermine combination)?
Has there been any change in your general health within the past year?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do you drink alcoholic beverages?
Are you now under the care of a physician?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If yes, how much alcohol did you drink in the last 24 hours?
If yes, what is/are the condition(s) being treated?				In the past week?
Date of last physical examination:				Are you alcohol and/or drug dependent?
Physician:				If yes, have you received treatment? (circle one) Yes / No
NAME PHONE				Do you use drugs or other substances for recreational purposes?
ADDRESS CITY/STATE ZIP				If yes, please list:
NAME PHONE				Frequency of use (daily, weekly, etc.):
ADDRESS CITY/STATE ZIP				Number of years of recreational drug use:
Have you had any serious illness, operation, or been hospitalized in the past 5 years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do you use tobacco (smoking, snuff, chew)?
If yes, what was the illness or problem?				If yes, how interested are you in stopping?
				(circle one) Very / Somewhat / Not interested
				Do you wear contact lenses?

PLEASE COMPLETE BOTH SIDES

Figure 1-1 ADA health history form.

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	Yes	No	Don't Know		Yes	No	Don't Know			
Are you allergic to or have you had a reaction to?				Have you had an orthopedic total joint (hip, knee, elbow, finger) replacement?						
Local anesthetics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If yes, when was this operation done?						
Aspirin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If you answered yes to the above question, have you had any complications or difficulties with your prosthetic joint?						
Penicillin or other antibiotics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
Barbiturates, sedatives, or sleeping pills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
Sulfa drugs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
Cocaine or other narcotics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
Latex	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
Iodine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
Hay fever/seasonal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Has a physician or previous dentist recommended that you take antibiotics prior to your dental treatment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Animals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If yes, what antibiotic and dose?						
Food (specify) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Name of physician or dentist*: _____						
Other (specify) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Phone: _____						
Metals (specify) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
To yes responses, specify type of reaction _____				WOMEN ONLY						
_____				Are you or could you be pregnant?				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____				Nursing?				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____				Taking birth control pills or hormonal replacement?				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Please (X) a response to indicate if you have or have not had any of the following diseases or problems.										
	Yes	No	Don't Know		Yes	No	Don't Know			
Abnormal bleeding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hemophilia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
AIDS or HIV infection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hepatitis, jaundice or liver disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Anemia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Recurrent Infections	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Arthritis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If yes, indicate type of infection: _____						
Rheumatoid arthritis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Kidney problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Asthma	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mental health disorders. If yes, specify: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Blood transfusion. If yes, date: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Malnutrition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Cancer/ Chemotherapy/Radiation Treatment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Night sweats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Cardiovascular disease. If yes, specify below:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Neurological disorders. If yes, specify: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
___ Angina				Osteoporosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
___ Arteriosclerosis				Persistent swollen glands in neck						
___ Artificial heart valves				Respiratory problems. If yes, specify below:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
___ Congenital heart defects				___ Emphysema						
___ Congestive heart failure				___ Bronchitis, etc.						
___ Coronary artery disease				Severe headaches/migraines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
___ Damaged heart valves				Severe or rapid weight loss	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
___ Heart attack				Sexually transmitted disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Chest pain upon exertion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sinus trouble	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Chronic pain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sleep disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Disease, drug, or radiation-induced immunosuppression	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sores or ulcers in the mouth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Diabetes. If yes, specify below:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Stroke	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
___ Type I (Insulin dependent)				Systemic lupus erythematosus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
___ Type II				Tuberculosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Dry Mouth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Thyroid problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Eating disorder. If yes, specify: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ulcers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Epilepsy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Excessive urination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Fainting spells or seizures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do you have any disease, condition, or problem not listed above that you think I should know about?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Gastrointestinal disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Please explain: _____						
G.E. Reflux/persistent heartburn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
Glaucoma	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							

NOTE: Both Doctor and patient are encouraged to discuss any and all relevant patient health issues prior to treatment.

I certify that I have read and understand the above. I acknowledge that my questions, if any, about inquiries set forth above have been answered to my satisfaction. I will not hold my dentist, or any other member of his/her staff, responsible for any action they take or do not take because of errors or omissions that I may have made in the completion of this form.

SIGNATURE OF PATIENT/LEGAL GUARDIAN _____ DATE _____

FOR COMPLETION BY DENTIST

Comments on patient interview concerning health history: _____

Significant findings from questionnaire or oral interview: _____

Dental management considerations: _____

Health History Update: On a regular basis the patient should be questioned about any medical history changes, date and comments notated, along with signature.

Date	Comments	Signature of patient and dentist
_____	_____	_____

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Figure 1-1 (Continued)

position and the arm used are usually noted when the values are recorded. This is illustrated in question 6 of the self-study questions. The blood pressure is a significant piece of information in assessing the client's physical health. For example, elevated blood pressure is associated with potential cardiovascular emergencies.

The **systolic blood pressure** reflects pressure when the heart muscle contracts and forces blood into the circulation. It is influenced by a variety of conditions, such as:

- the elasticity of arteries (arteries hardened by atherosclerosis will not dilate to accommodate changes in blood pressure as well as healthy arteries)
- the degree of hydrostatic pressure in the body (such as water retention)
- the degree of anxiety related to anticipation of treatment and subsequent physiologic stimulation of major organ systems through the autonomic nervous system
- influences on blood vessel muscle response (e.g., exercise promotes vasodilation, smoking promotes vasoconstriction)

The **diastolic blood pressure** reflects the arterial pressure between heartbeats when the heart muscle rests.

Hypertension is defined as a systolic blood pressure of 140 mm Hg or higher, a diastolic blood pressure of 90 mm Hg or higher, or taking medication to reduce blood pressure.² The ranges of normal, prehypertension, and stages of hypertension as defined by the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure published in May 2003 are provided in Table 1-1.² The discussion on the pathophysiology of hypertension will be discussed in Chapter 10. This chapter will discuss the issue of how often blood pressure should be measured as part of the medical evaluation process. For clients with no history of hypertension or hypertension-related diseases (e.g., diabetes, kidney disease) and having blood pressure within normal limits, the current recommendations of the Joint National Committee advise re-measurement every 2 years. A new category is included in the guidelines that were published in 2003 called prehypertension and includes values that were formerly considered to be blood pressure within normal limits (a systolic measurement of 120 to 139 mm Hg and a diastolic measurement of 80 to 89 mm Hg). Clients with prehypertension are at increased risk for progression to hypertension and are advised to undertake lifestyle modifications to get measurements into

TABLE 1-1

Classification of Blood Pressure for Adults Age 18 and Older^a

Category	Systolic (mm Hg)		Diastolic (mm Hg)
Normal	<120	and	<80
Prehypertension	120–139	and	80–89
Hypertension ^b			
Stage 1	140–159	or	90–99
Stage 2	>160	or	>100

^aNot taking antihypertensive drugs and not acutely ill. When systolic or diastolic blood pressures fall into different categories, the higher category should be selected to classify the individual's blood pressure status. For example, 160/92 mm Hg should be classified as stage 2 hypertension. In addition to classifying stages of hypertension on the basis of average blood pressure levels, clinicians should specify the presence or absence of target organ disease and additional risk factors.

^bBased on the average of two or more properly measured, seated readings taken at each of two or more office visits.

(Reprinted with permission from Chobanian AV, et al. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure. National Heart, Lung and Blood Institute. JAMA 2003;289:2560–2578.)

the normal range. They should have blood pressure monitored annually. Lifestyle modifications include weight reduction and consuming a diet high in fruits and vegetables and food low in fat and sodium. Dentists are encouraged to work with physicians to reinforce instructions to improve client lifestyles and blood pressure control. If the blood pressure is at or above 140/90 mm Hg, the pressure should be measured more often as a part of medical treatment to bring levels back to normal limits. Target blood pressure goals in clients with diabetes or renal disease are ≤130/80 mm Hg in the new guidelines. The new guidelines state that 30% of the U.S. population who have hypertension are unaware they have the disorder. For this reason the ADA advises that blood pressure be taken at **continuing care** dental visits as a screening mechanism for undiagnosed hypertension.³

Relevance of Dental Appointment Measurements of Blood Pressure

Elevation of blood pressure above normal limits is an important consideration as hypertension is a major risk factor for stroke, myocardial infarction (heart attack), heart failure, and kidney dysfunction. Clients with hypertension pose a risk for

medical emergencies during oral healthcare treatment involving stress. The inability to respond to stress experienced during oral healthcare treatment is a major factor leading to several emergency situations. These will be identified in the medical section (Chapters 6–13) that deals with influences on appropriate disease conditions. Clients reporting a history of medical conditions related to increased blood pressure (e.g., hypertension, cardiovascular disease, hyperthyroidism, kidney disease, or diabetes) should have blood pressure measured and evaluated at every oral healthcare appointment (Box 1-2). Should an emergency occur during the appointment, these baseline values are used for comparison with postemergency values. When drugs that can alter blood pressure values (e.g., anesthetics or local anesthetics with vasoconstrictor) are planned for the appointment, a baseline blood pressure should be available. For situations in which treatment is not completed in one appointment and the client is rescheduled, the blood pressure should be re-measured on subsequent appointments only in clients whose medical condition or drug treatment suggests there is a risk for having abnormal values leading to a potential emergency situation. For example, a client with elevated blood pressure values at the initial appointment should have blood pressure re-measured at subsequent appointments. Clients taking antihypertensive medication should have blood pressure measured at each appointment. As well, if local anesthesia with a vasoconstrictor is to be used during the appointment, the blood pressure should be measured. The client with blood pressure values within normal limits at the initial ap-

pointment and who has a medical history with no medical conditions associated with elevated blood pressure does not need to have blood pressure re-measured at **reappointments** (unless a drug is planned to be used that requires it). These are suggestions to assist the clinician in using critical thinking to determine when blood pressure should be taken before oral healthcare. It is helpful to use a national standard recommended by a credible authoritative body. The recommendation illustrated in Table 1-1 is for the general public. Blood pressure values for children are included in Table 1-2.⁴ These values are currently being reviewed and will be updated in the summer of 2004. The ADA's policy for measurement of blood pressure in the dental office is discussed below.

American Dental Association Policy on Measuring Blood Pressure

The ADA suggests blood pressure be measured at the initial appointment for all new dental clients, including children, as a screening tool to identify undiagnosed hypertension.³ Recent communication with ADA officials verifies this policy is still in force. The association policy also recommends that blood pressure be meas-

BOX 1-2

Disease Conditions Associated With Hypertension

- Stroke
- Myocardial infarction
- Heart failure or congestive heart failure
- Kidney dysfunction
- Hyperthyroidism
- Diabetes

TABLE 1-2

Limits of Normal Blood Pressure In Children and Adolescents^a

Age/Sex	Systolic (mm Hg)	Diastolic (mm Hg)
1–4 yrs (female)	97–106	53–65
1–4 yrs (males)	94–109	50–65
5–12 yrs (female)	103–120	65–77
5–12 yrs (male)	104–121	65–78
13–17 yrs (female)	118–126	76–81
13–17 yrs (male)	117–134	75–85

^aMeasurements from data on 5–75 percentile of height and 90th percentile of blood pressure.

Adapted from National High Blood Pressure Education Program Working Group on Hypertension Control in Children and Adolescents. *Pediatrics* 1996;98:649–659.