Health ASSESSMENT

MALASANOS • BARKAUSKAS
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THIRD EDITION

HEALTH ASSESSMENT

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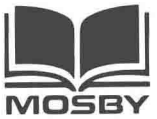

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HEALTH ASSESSMENT

To our families and friends—
who encouraged and sustained us, and

To our students—
who persisted in their efforts to find knowledge
enabling them to provide better health care to their clients

PREFACE

This text is designed for students and beginning practitioners who are learning skills that will enable them to assess the health status of the client by obtaining a health history and performing a physical examination. Clinical skills are best acquired when learning experiences are organized and the learner is provided with opportunities to gain knowledge and to practice with experienced preceptors in settings that enhance learning (for example, a laboratory where learners can practice their new skills with each other or a clinical setting where the clients have been informed of the learner's purpose and have agreed to participate). Therefore, this text is intended for use in conjunction with structured learning experiences that enable the learner to acquire the theory and skills of health assessment.

This book contains substantive detail regarding examination procedures and findings. Thus, the student is not expected to "outgrow" the book after the health assessment course. The book is also designed to be a valuable reference for the practitioner.

Health assessment skills are useful to the practitioner in any clinical setting. However, this text is especially aimed at helping the student or practitioner who is preparing for a role in primary care, where the health maintenance of the client is a priority. The focus is on wellness, and the parameters of normal health are incorporated into the process of obtaining a health history and performing a physical examination. The discussion of selected problems is also included in the text as a way of demonstrating differences or deviations from the parameters of normal health. Within the framework of health maintenance, emphasis is placed on the early detection of changes in the health status of the client for the purpose of preventing a more serious problem or disability. This is compatible with the plan to assist the learner in defining the parameters of wellness and subtle or gross deviations that occur in illness.

The consumer of health care is referred to as the *client* in this text because the term implies the ability of a person, whether well or sick, to contract for health care as a responsible participant with the providers of health care. The label *patient* has been avoided because it has traditionally been used to describe someone who is ill and/or a dependent receiver of care. Health care providers can no longer expect consumers of care to accept health advice or treatment plans unless they have been included in the decision-making process. Thus, the use of the term *client* is more appropriate in today's health care milieu.

This text is intended as a guide to assist the learner in conceptualizing the assessment of the whole person, taking into account the parameters of good health practices and the factors that impinge on health. The assessment that incorporates these components provides a basis for the development of an optimum plan for health care and health teaching that is reasonable in terms of the individual client's life situation.

The chapters on the integrative components of the assessment, including the history, nutritional assessment, and assessment of sleep-wakefulness patterns, are organized in the beginning portion of the text so that the practitioner can gain an appreciation of the whole person and some aspects of individual life-styles before proceeding to the more specific assessment of the body systems.

A discussion of the purposes and techniques of interviewing precedes the chapter on the health history so that the learner may become more sensitive to the process of obtaining information within the framework of a beginning or continuing relationship with the client. Since communication is the basis for obtaining this information, the possession of keen communication skills distinguishes effective information gathering from haphazard data collection. Therefore, within the chapter on interviews, renewed emphasis is placed on respect for empathy with the client.

Finally, the learner is encouraged to consider specific ways of organizing the assessment and of recording the data obtained. There is little value in obtaining information that is unclear to the practitioner or other members of the health team at a future time when it may be of critical importance as part of an overall data base from which problems are identified and actions planned.

Responses to the first and second editions of this book have been very positive. The book has served as an introductory health assessment text for thousands of health professional students in the United States and around the world. The content and format of this book have been scrutinized and found to be accurate, relevant, and clearly presented. In this third edition of *Health Assessment* we have strived to make the product even better.

The major goal for this revision was the strengthening of the content throughout the book through clarification, elaboration, and updating of information. Substantive changes were made in the chapters on developmental assessment, assessment of the pediatric client, and assessment of the aging client. Also, a new color plate of the eye and one of skin changes in the elderly have been included. Changes in the printed presentation of material were designed to enhance the book's readability and appearance.

Many people have contributed to the development of this text. Without their support and assistance it would not have been possible. Carrie Schopf, M.D., was our reviewer, supporter, and teacher for the first edition. The excellent photography of Patricia Urbanus, M.S.N., R.N., C.N.M., continues to serve this book well. Additional photographers for the third edition include Jerry Hadam and James Stoltenberg. Our thanks is also extended to Scott Thorn Barrows, William R. Schwarz, Robert Parshall, Christo Popoff, Marion Howard, and Mary Ann Olson for their outstanding artwork. In addition, we would like to express our appreciation to those colleagues, students, and practitioners who have suggested changes that are included in the revision.

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CHAPTER 1

INTRODUCTION

RECOGNITION OF THE NEED FOR HEALTH ASSESSMENT AND UNIVERSAL HEALTH CARE

As long ago as the beginning of the Civil War an article was published recommending periodic health examinations in the interest of the early detection of disease (Dobell, 1861). This concept was adopted by the American Medical Association in 1922 in the form of a resolution advocating periodic health assessment. In 1925 the procedure was formalized in a manual published by this organization.

In 1956 the declaration that health care is a basic human right was made at a White House Conference on Aging. The general public has expressed with increasing frequency the expectation that preventive health care constitutes a fundamental part of this care. Leavell and Clark have defined preventive health care in three categories: primary, secondary, and tertiary prevention. Primary prevention involves those aspects of health care that are aimed at avoiding the contraction of a disease. Secondary prevention is aimed at stopping or attenuating the process of disease, and tertiary prevention deals with rehabilitative processes. The objective of tertiary prevention is the restoration of optimum function to a person after the disease process has been arrested.

Each level of prevention is based on a thorough assessment of the client's health status. Preventive health care can be planned only from a complete data base of both the client and his family.

Government leaders emphasize the need for provision of adequate and accessible health care for all Americans regardless of their ability to pay and regardless of where they live. The two words that frequently appear in discussions relevent to this issue are *equity* and *access*.

The need to establish facilities for health care in the communities where people live is receiving more attention among legislators. The negative aspects of asking the client to travel long distances for preventive care are increasingly clear. In many cases the distance to the physician or hospital is the major determinant of whether a client seeks care. The famous anecdote among the people of Watts makes the point well. In this community in the early 1970s the cost of a taxi to the hospital was $10. These people often had to be quite sick before they sought medical help. When they did go to the hospital, they referred to themselves as being "$10 sick."

One way in which the government of the United States has recognized the universal need for comprehensive health care has been through the encouragement of health maintenance organizations. These institutions are designed to provide preventive health care that is community based.

On the other side of the coin, physicians control health care in the United States as a result of both legislative action and tradition. Although the number of physicians has increased to 170 per 100,000 population, a number greater than at any other time in the history of this country, there are wide gaps between the consumer, the health care demands, and the capabilities of the available physicians to meet them. The major deficit is in the number of primary care physicians prepared to provide the degree of preventive health care known to be needed. Several British writers have taken the position that it is the primary care practitioner who can give preventive care most effectively.

The process of specialization in medical practice makes it increasingly more difficult for physicians to obtain salient family and community information. At this time the majority of preventive care is performed in physicians' offices and in emergency rooms. Care essentially involves providing prescriptions and treatment for symptomatic clients.

Thus, most health care treatment in this country is oriented toward dealing with crisis situations. Health maintenance efforts are directed toward large industrial groups, antenatal women, well babies, school children, and military groups but remain on the whole a matter of individual responsibility. The periodic health examination for adults usually represents an attempt to screen an individual for disease. The depth and quality of the screening examination vary widely. For example, the executive checkup includes a vast battery of laboratory tests, a treadmill ECG, and contrast and fiberoptic studies of the gastrointestinal tract, but the examination of a woman by a gynecologist may be limited to the breasts and pelvis.

ADVANTAGES OF ASSESSMENT

The value of periodic health examinations has been attested to in several studies. As early as 1921 the Metropolitan Life Insurance Company reported a 28% reduction in mortality as a result of early disease detection incurred through periodic health examinations. Studies related to disability reported in the 1960s showed a savings in employee disability payments that amounted to four times more than the cost of the examinations; the studies also showed that as much as 13% of the disease that produces disability in executives could be detected in the periodic health examination before the disability was incurred. Although later studies have failed to substantiate the wide margins suggested in these early studies, there is little doubt that the general public would benefit not only from the early detection of disease but also from the provision of a constantly updated baseline of relevant data. This information would benefit the individual by allowing a comparison of parameters obtained during a well visit with those observed during a suspected illness; this comparison would potentially afford a more accurate diagnosis. Furthermore, significant epidemiological data obtained during these examinations would be a secondary gain.

INCREASING ACCESSIBILITY TO ASSESSMENT

The health examination is frequently the mechanism of entry into the health care system. Since accessibility has been shown to be an important factor in determining whether a client will seek health care, alternate modes of providing health care to greater numbers of people have been explored.

Recent studies have indicated that although periodic health examinations have proved beneficial, they may not necessarily need to be performed by a physician. Controlled studies comparing physicians' and nurses' problem lists after they have examined the same client show no appreciable differences. At least one author has suggested that as many as three fourths of the clients who visit a primary care physician for health care could be safely monitored by an allied health professional. It is reasonably clear that making health services available to the entire population in an effective manner will include both medical and nurse practitioners.

That there is a need to develop a core of individuals skilled in assessing the health status of persons seeking such care has been attested to by the Russians' use of Feldsher and by the use of public health nurses, nurse practitioners, and physicians' assistants in the United States. These nonphysician practitioners have helped to make preventive care an actuality by increasing accessibility to the system, both through increasing the number of people able to give this care and by providing care in communities that had previously been underserved. The provision of these services is evidence of sensitivity to the public's need and an effort to make health care more convenient.

These groups of health care workers have entered into situations involving varying degrees of responsibility for patient care. In all cases they are involved in the assessment of health status; there are some differences in expectations of their abilities to identify normal versus abnormal traits. In many cases standardized treatment schedules or protocols allow these individuals to render treatment and follow-up care. This can be a workable reality in those cases where the medical community has achieved consensus as to appropriate care for specific problems.

OBJECTIVES AND TYPES OF ASSESSMENT

The purposes of health assessment include surveillance of health status, identification of latent or occult disease, screening for specific type of disease (called *case finding*), and follow-up care.

The public has been educated and often required to seek certain health examinations, such as well baby, preschool, premarital, precollege, prenatal, preemployment, and preinsurance examinations. Both men and women in their middle years have been educated to their increased vulnerability to disease and thus seek care at this time.

Many words have developed to describe the act of health assessment. Some of these are *physical examination, health appraisal, checkup,* and *screening examination.* These types of assessment generally include a history, a physical examination, and a routine battery of clinical laboratory tests. Such appraisals are often thought of as isolated incidents. The *periodic health examination,* on the other hand, is regarded as occurring at regular intervals. A return or follow-up visit is one that is scheduled to assess the progress or abatement of diagnosed dysfunction.

Examinations performed for the purpose of case

finding are directed at significant diseases for which there is a recognized treatment. Furthermore, definitive tests or examinations should be recognized as being specific to the condition and the population tested. In addition, there should be an early symptomatic or latent stage of the disease, so that intervention will prevent progress of the disease.

INCREASING CLIENT PARTICIPATION IN HEALTH CARE

The health assessment should accurately define the health and sick care needs for the individual at that specific point in time.

The information obtained in the interview and physical examination is used to formulate the exchanges of responsibility in defining the contract. The client should be apprised of the services available that will be useful in dealing with his problems.

The findings of the health assessment are shared with the client in a clearly understandable manner. In many cases this may mean educating him to the anatomy and physiology of his diseased tissues so that he can fully understand the meaning and level of his dysfunction.

Only with a clear definition of his problem is the client capable of assuming active involvement in decision making for his own care.

The World Health Organization (WHO) has defined health education as the active mechanism of facilitating an optimum state of social, emotional, and physical functioning that should be available to all people. Patient education is implicit in preventive care.

The concept of normality has not been extensively studied. Normal ranges are defined for technological tests such as pulmonary function tests. The major focus of traditional medical education has been to eliminate signs and symptoms of disease and thereby restore the client to health. Thus, the physician's attention has been directed to the abnormal or pathological behaviors. Almost by default, those individuals with no signs or symptoms and who need no medical treatment are considered normal or healthy. The descriptions of homeostasis by Cannon emphasized the body's total functioning and the complex interactions of multiple body systems in maintaining the internal milieu. The body was viewed as being in dynamic equilibrium. Persons who have disease may have minimum dysfunction and may be viewed as having good health. Ryle studied variability within normal range. He emphasized the importance of determining borderline states and suggested that persons with values in extremes of normal range might play a role in explaining individual susceptibility to disease. Other approaches have been to study associations between genetic constitution, early life experiences, stressors, and the interplay between body systems. This multiple approach has been helpful in reducing the absolute dichotomy between health and illness.

Primary prevention may be facilitated through teaching the client the general tenets of a healthful lifestyle. Some of the topics that may be explained are the optimum nutritional habits, sleep-activity patterns, exercise regimens, and recreational patterns. The client may also be warned against such potentially dangerous health patterns as smoking and diets typified by high sugar content.

The adolescent may particularly benefit by educational efforts concerning alcohol, drugs, and sexuality.

Genetic counseling may be considered one form of primary prevention, the need for which may become apparent during the course of the health assessment.

Several authors contend that individuals should be educated to the most common problems experienced by the general public in their particular geographical locale to take care of themselves more effectively. Moreover, the public needs sufficient information to make responsible use of the health services available to them.

In many situations clients may be taught to monitor their own disease process. More common examples are the hypertensive client who checks his own blood pressure and the diabetic client who tests for the presence of sugar and acetone in his urine. Many assessment techniques may be easily taught to clients, particularly those involving inspection and palpation.

Another form of increasing the participation of the client in the management of his health problems is one of teaching him the untoward side effects that commonly occur with medications that are prescribed for him and the steps he should take in the event these side effects happen to him.

An exploration with the client should be planned that will allow the practitioner to understand the attitudes and feelings of the client toward the health care system. Questions may be formulated that will reveal the nature of the client's earlier experiences with physicians, nurses, and allied personnel and health care agencies. This discussion may also bring out an appreciation of the kind of problems the client feels would warrant a visit to a health care agency. This information may be used in planning the mechanisms that will help the individual to continue in the system.

Several studies have been done that contribute to the knowledge of the client's attitudes and values toward health care. Some of the findings are useful. The client imparts to the health professional a faith in the fact that technical competence is a given, that the professional's educational preparation has guaranteed this aspect. The client further expects that all the equipment necessary for his examination is available and in

working order and that all the tests necessary to explore his problems will be ordered, performed, and interpreted correctly. The health professional is expected by the client to show a genuine interest in his general welfare, that the client is worth the time required to evaluate and intervene in the disease processes the professional may find. The client frequently correlates the competence of the health professional with the amount of time the professional is willing to spend with the client, the professional's demonstrated willingness to allow the client to fully discuss his problems, and the degree to which the professional answers questions lucidly and honestly. The client is not loath to visit several health professionals if the opinion of specialists is needed in reaching a diagnosis. He is, however, better satisfied if the health professional he visits actively intervenes in his disease process.

The prospect of an individual seeking health care in relation to a specific illness corresponds directly with his perception of (1) the dangers of the disease (disability, death), (2) his own susceptibility to the disease, and (3) the possibility that the illness can be cured by the intervention of health professionals.

The levels of income and education are positively correlated with those populations who seek health care. Furthermore, those with education regarding hygiene are more prone to ensure their well-being by attaining health surveillance. They are also more likely to secure verification of symptoms that they feel may connote disease.

The aged, the poorly educated, and the socioeconomically disadvantaged are less likely to feel that health care is meeting their needs. It has been shown that women, poorly educated individuals, and elderly individuals are less likely to demonstrate compliance in health care. Thus, these groups are less likely to seek a health examination to follow the therapeutic regimen established for them, and to return for further help.

Studies have shown that women with family responsibilities only are less likely to seek health care than those with family responsibilities who have career commitments as well.

Conditions for which health care is needed and for which case finding may be necessary include self-destructive behavior leading to early death, sickness, and debility. Such conditions may be drug dependency, alcoholism, venereal disease, and obesity. Because of the stigma attached to many of these states, the affected individuals may not seek health care. Frequently, inadequate services are available for those who do. The individual feels devalued in his own estimation and is hesitant to reveal what he considers a weakness, an aberration, over which he feels he "should" have control. It has been shown that return visits of such individuals are increased by encouraging them to assume responsibility for planning.

Table 1-1
Recommendation for the frequency of health assessment

Client's age	Frequency of health assessment
< 35	Every 4-5 years
35-45	Every 2-3 years
> 45	Every year

FREQUENCY OF ASSESSMENT

There is considerable controversy surrounding the issue of how often the periodic health examination should be performed on the ostensibly healthy client. Early recommendations suggested that the health examination should be done each year. More recent evaluation of the findings of examinations by age groups suggests that younger individuals need not be assessed as frequently as older people. One recommendation is that persons under 35 years of age be assessed every 4 to 5 years, that persons 35 to 45 years of age be assessed every 2 to 3 years, and that only persons over 45 years of age undergo a thorough health assessment every year (Table 1-1).

LIFETIME HEALTH MONITORING PLAN (LHMP)

An emphasis on preventive health care has led to the development of a proposal for a Lifetime Health Monitoring Program (LHMP) by Breslow and Somers. This plan for preventive health care provides a definition of health care for the entire life of the individual and is organized around ten periods in the person's life. The goals for health care and the criteria for the health care provider activities and patient participation are defined for each age group. The divisions adopted include the pregnancy-perinatal period, infancy (the first year), preschool child, school age child, adolescence, adult entry, young adult years, middle adult years, older adult years, and old age. A summary of these recommendations follows:

A. Pregnancy-perinatal age group
   1. Goals
      a. To improve the quality of life of this and future generations by improving the outcome of every pregnancy
      b. To make available a single standard of optimum care—including specialized care where needed—for every obstetrical client regardless of her economical and social standing
      c. To ensure the mother the best chance of a healthy, full-term pregnancy and rapid recovery after a normal delivery
      d. To identify and categorize high- and low-risk patients and their newborns
      e. To facilitate the live birth of a normal baby, free of congenital or developmental damage
      f. To help both mother and father achieve the knowledge and capacity to provide for the physical, emotional, and social needs of the baby
   2. Recommended assessment periods for the normal pregnant woman
      a. First visit—early in the first trimester (ideally, about 2 to 4 weeks after the first missed period)
      b. During the initial 28 to 32 weeks of gestation—every 2 to 4 weeks
      c. 28 to 32 to 36 weeks of gestation—every 2 weeks
      d. 36 weeks of gestation to delivery—weekly

Ideally, counseling is initiated before the pregnancy, and in early childhood the need for a program for exercising and maintaining normal weight should be emphasized. For the woman who is assessed to be obese in the childbearing years, a program of weight reduction should be accomplished before pregnancy. If it is determined by history that the individual smokes, the smoker is counseled to quit before conception. Birth control pills are generally discontinued 2 to 3 months before attempts to conceive.

Recommended professional services for the pregnancy-perinatal age group

Education and counseling

Anatomical, physiological, and psychological changes
Nutrition and weight gain
Exercise
Cigarette, alcohol, and drug use and avoidance
Unnecessary x-ray examinations
Exposure to infection
Signs and symptoms of abnormalities
Travel, clothing, employment
Labor and delivery
Infant care and parenthood preparation
Contraception
Abortion and adoption

High-risk patients

Amniocentesis
Gonorrhea culture
Sonogram

Medical evaluation

Comprehensive history and physical examination
Dental examination
Weight*
Blood pressure*
Urinalysis (sugar, albumin, bacteriuria)*
Hematocrit, hemoglobin†
Blood sugar‡
Urine culture and colony count‡
Blood grouping, Rh determination, Rh antibody,† irregular antibody screen†
VDRL
Rubella, toxoplasmosis, cytomegalic inclusion virus, herpes simplex titer (if available as single test; otherwise, rubella and, possibly, toxoplasmosis)
Pap smear
Tuberculin test†
Abdominal examination*
Fetal heart tones*
Pelvic examination (near term)

Adapted from Somers, A.R.: Lifetime health monitoring: preventive care for the child in utero, Patient Care **13**(3):162-178, 1979. Copyright © 1979, Patient Care Publications, Inc., Darien, Conn.
*Repeat every visit.
†Repeat in third trimester.
‡Not recommended for all patients by all physicians.

B. Infancy (birth to age 1 year)
   1. Goals
      a. To enter the child in an ongoing system of primary health care
      b. To establish immunity against specified infectious disease
      c. To detect and prevent certain other diseases and problems, including precursors of adult diseases before irreparable damage occurs
      d. To facilitate emotional, intellectual, and physical growth and development to the infant's optimum potential
      e. To provide a basis for a lifetime of emotional stability, especially through a loving relationship with mother, father, and other family members
   2. Four to six visits for preventive health care are recommended in the first year of life. Somers recommends a visit with a nurse at 10 days of age and visits with a physician at 6 weeks, 4½ months, and 9 months.

Overall goals for children in the growing period include (1) facilitating the child's optimum physical, mental, emotional, and social growth and development; (2)

Recommended preventive procedures for the first year of life

Before discharge		After discharge	
Condition	**Procedure**	**Condition**	**Procedure**
Growth retardation	Height and weight, at birth and at discharge	Diphtheria	Immunization
		Pertussis	Immunization
Congenital abnormalities	Physical examination	Tetanus	Immunization
Strabismus	Eye examination	Poliomyelitis	Immunization
Parenting disorders	Observation, counseling	Phenylketonuria	Blood test
Neonatal gonococcal ophthalmia	Silver nitrate eye drops	Hypothyroidism	Blood test
		Tuberculosis	Skin test
Hemorrhagic disease of the newborn	Vitamin K	Anemia	Hematocrit, hemoglobin
		Growth disorders	Height, weight, head circumference
Phenylketonuria	Blood test		
Hypothyroidism	Blood test	Nutritional problems	History and parent counseling
Accidental injury or death	Parent counseling	Congenital disorders	Physical examination
Inadequate preparation for infant care	History and parent counseling	Strabismus	Eye examination
		Developmental disorders	Observation
Parent failure to bring baby for immunizations and wellbaby checks	Parent counseling		Denver Developmental Screening Test
		Hearing defects	Observation and noisemaker test
		Accidental death or injury	Parent counseling
		Sudden infant death syndrome	Parent counseling
		Inadequate preparation for infant care	History and parent counseling
		Acquiring a life-style that may adversely affect health and longevity	History and parent counseling
		Dental caries	Fluoride and parent counseling

Adapted from Somers, A.R.: Lifetime health monitoring: preventive care, Patient Care **13**(3):162-178, 1979. Copyright © 1979, Patient Care Publications, Inc., Darien, Conn.

establishing and maintaining a healthy, effective parent-child relationship (This goal is expanded as the child grows to include other family members, peers, and others outside his home.); and (3) establishing healthy behavioral patterns for nutrition, exercise, study, and recreation as a basis for a healthy life-style.

C. Preschool child (ages 1 to 5)
   1. Goals
      a. To facilitate the child's optimum physical, emotional, and social growth and development
      b. To begin the child's process of socialization through happy and effective relations with parents and other family members and gradually to introduce the child to school and other aspects of life outside the home
      c. To identify possible precursors of adult disease such as obesity or high blood pressure
   2. Generally two visits are recommended for preventive care in the second year of life. After this, the visits are spaced at every 12 or 18 months until age 5.

Recommended preventive procedures for the preschool child

The following chart summarizes the recommendations for preventive health care for the child age 1 to 5.

Condition	Procedure	When
Developmental abnormalities	History, observation	Each visit
Problems with parent-child relationship	History, observation, counseling	Each visit
Discipline or behavior problems	History, observation, counseling	Each visit
Nutritional problems	History, counseling, height and weight measurement	Each visit
Accidental death or injury	Counseling	Each visit
Poisoning	Counseling about syrup of ipecac	Age 15-18 months
Dental caries	Examination, counseling	Each visit
	Fluoride supplementation	Throughout tooth development years
Congenital anomalies and growth abnormalities	Height and weight	Each visit
	Head circumference	Age 15-18 months
Eye defects, strabismus	Examination	Age 15-18 months and age 24 months or each visit*
Visual acuity	Examination	Each visit, age 3 and older
Hypertension	Blood pressure determination	Each visit, age 3 and older
Hearing defects	Audiometry	Each visit, age 3 and older
Measles, mumps, rubella	Immunization	Age 15 months
Diphtheria, tetanus, pertussis	Immunization	Age 18-24 months and age 5
Poliomyelitis	Immunization	Age 18-24 months and age 5
Tuberculosis	Skin test	Every 1-2 years or only at age 5*
Anemia	Hematocrit or hemoglobin†, sickle cell screen	Age 15-18 months, if not done at 9-12 months, and age 5
Bacteriuria	Urinalysis†	Each visit, age 2 and older, or only age 5*
	Urine culture (girls)†	Age 5
Toileting	—	—

Adapted from Somers, A.R.: Lifetime health monitoring: preventive care age 1 through adolescence, Patient Care 13(8):201-216, 1979.

*Authorities disagree over the frequency of this procedure.
†Some authorities question whether this procedure should be included.

D. School age child (ages 6 to 11)
   1. Goals
      a. To facilitate the child's optimum physical, mental, emotional, and social growth and development, including a positive self-image
      b. To establish and maintain a healthy, effective parent-child relationship
      c. To establish healthy behavioral patterns for nutrition, exercise, study, and recreation as a foundation for a healthy lifestyle
   2. Although some recommend only one visit for this age span, others believe that the child should receive preventive care every 1 to 2 years.

Recommended preventive procedures for the school age child

The following chart summarizes the recommendations for preventive health care for the child age 6 to 11.

Condition	Procedure	When
Developmental abnormalities	History, observation	Each visit
Problems with parent-child relationship	History, observation, counseling	Each visit
Nutritional problems	History, counseling, height and weight	Each visit
Accidental death or injury	Counseling	Each visit
Dental caries	Counseling	Each visit
Growth	Height and weight	Each visit
Vision	Examination	Each visit
Hearing defects	Examination	Each visit
Hypertension	Blood pressure determination	Each visit
Scoliosis	Examination	Each visit, starting at age 8-9
Tuberculosis	Skin test*	Every 2 years
Enlarged thyroid	Examination	Each visit
Bacteriuria	Urinalysis* Urine culture (girls)*	Each visit
Smoking, drug abuse, lack of sex education	Counseling	Each visit
School performance	Counseling	Each visit

Adapted from Somers, A.R.: Lifetime health monitoring: preventive care age 1 through adolescence, Patient Care **13**(8):201-216,1979. Copyright © 1979, Patient Care Publications, Inc., Darien, Conn.
*There is disagreement whether this procedure should be included.