LESSON ASSIGNMENT

LESSON 1 Preventive Dentistry.

LESSON OBJECTIVES After completing this lesson, you should be able to:

1-1. Identify the history of Army Preventive Dentistry.

1-2. Identify the administration of Dental Readiness and Community Oral Health Protection.

1-3. Identify preventive dentistry sources of information.

SUGGESTION After studying the assignment, complete the exercises at the end of this lesson. These exercises will help you to achieve the lesson objectives.
LESSON 1
PREVENTIVE DENTISTRY

Section I. INTRODUCTION

1-1. GENERAL

a. **The Concept of Prevention.** What is preventive dentistry? It is a philosophy of oral health care that embraces all phases of dentistry. It includes not only the prevention of dental caries and periodontal diseases through the use of proper diet, home care, and regular dental examinations, but it also includes proper restoration and replacement of teeth, root canal treatment, orthodontic braces, and even the surgical removal of teeth to prevent the spread of infection. Also of great importance in preventive dentistry is the discovery of other oral diseases, such as cancer, through soft tissue examinations. The profession of dentistry, as much or more than any other, stresses prevention in a total oral health fitness program. Following guidelines from the dental profession, most people can expect to keep their teeth a lifetime, thus minimizing the need for dental treatment.

b. **Need Assessment.** The need for preventive dentistry is readily evident. With the introduction of a more refined diet, modern man has become more susceptible to dental disease. Data indicates that at least 95 percent of all Americans suffer from dental cavities sometime during their lives. Another 90 percent of all Americans over the age of 35 suffer from some type of periodontal (gum) disease. Approximately 30,800 new cases of oral cancer occur each year. It is estimated that 52 percent of people with oral cancer survive five years after diagnosis. Around 8,100 people died from oral cancer in 1991.

c. **Solutions Available.** The dental profession has the knowledge and techniques available today to prevent 90 to 95 percent of all dental decay and periodontal disease. The increase in water fluoridation, topical fluorides, improved restorative materials, advanced surgical and orthodontic techniques, the use of pit and fissure sealants, and an increased public education program has made these advances possible.
1-2. HISTORY OF ARMY PREVENTIVE DENTISTRY

a. Establishment of a Preventive Program. The Army Preventive Dentistry Program had its first formal introduction in November 1960. At this time, Colonel Thomas McFall presented his paper entitled, "The Role of Prevention in Military Dentistry," at a meeting of military surgeons in Washington, D.C. The spring of 1961 marked the beginning of a drastic change in the dental health care philosophy of the Army Dental Corps. Prior to this time, Army dentistry had been largely a repair service. In other words, the correction of damage already done. From that point forward, the emphasis was on prevention of future dental disease. This program evolved with advances in oral microbiology providing greater understanding of the causes of dental disease and recognizing that most of these diseases are preventable.

b. Preventive Dentistry Branch. On 30 August 1962, a commitment to a formalized program was established with the publication of TB MED 5, "Preventive Dentistry." This document provided a basic outline of the principles of this program. To control the operation of this program, the office of the Chief of the Army Dental Corps was reorganized with the Preventive Dentistry Branch becoming one of the four main branches with the Dental Corps. Responsibility for the programs was given to the preventive dentistry officer.

c. Necessity for a Military Preventive Program. The man-hours lost to dental emergencies caused by oral disease is a serious problem for the Army at all times, but especially during training and combat. In contrast to the average civilian population, military personnel are more mobile, are often stationed in remote training areas, and are required to maintain a high level of oral and general health to fulfill combat readiness roles. Since dental treatment and follow-up care is often interrupted, it is extremely important to reduce the number of treatments required to maintain the soldier at maximum oral health. Reducing treatment visits through preventive practices also reduces time lost from training and reduces the number of trained dental professionals necessary to treat the military population. The Preventive Dentistry Program teaches the soldier how to prevent future dental diseases. It also teaches him how to maintain oral health after receiving dental treatment. The success of the Preventive Dentistry Program is due in part to education of the troops in the field. This approach ensures lower costs, fewer man-hours involved, and less occupation of valuable dental clinic chair space.
Section II. ADMINISTRATION OF DENTAL READINESS AND COMMUNITY ORAL HEALTH PROTECTION

1-3. COMMAND GUIDANCE AND RESPONSIBILITY

Within the United States (US) Army Medical Command (AMEDD), the Surgeon General (TSG), based upon guidance from the Assistant Secretary of Defense for Health Affairs, will approve policy concerning the Army Dental Readiness and Community Oral Health Protection Programs. The Chief of the US Army Dental Corps will advise and make recommendations to TSG concerning dental readiness and community oral health protection and appoint a Public Health Dentistry Consultant. Other command responsibilities are given in AR 40-35, paragraph 4a.

1-4. PREVENTIVE DENTISTRY GOALS

Today, the entire philosophy of professional dental education centers on prevention. From the incorporation of fluoride into developing teeth of children and application of pit and fissure sealants to basic research developing a vaccine against dental decay, the idea of disease prevention permeates dental education. Even through less than 2 percent of the total formal course work in dental school is spent directly on preventive dentistry, the philosophy itself is all important. The techniques of prevention are relatively simple when compared to certain repair treatments. However, patient education and patient acceptance are key to the program's success. All training of enlisted personnel in the dental science field contains instruction on preventive dentistry. The Dental Specialist (68E10) receives a minimum of 10 percent of formal training in preventive dentistry. The Preventive Dentistry Specialist (PDS), the X2 ASI, receives up to 50 percent of their program in prevention, divided between the classroom and the clinic. Trained enlisted personnel have been invaluable for their role in patient education in preventive dentistry.

1-5. THE INSTALLATION PREVENTIVE DENTISTRY PROGRAM

a. Each military installation is responsible for setting up its own Preventive Dentistry Program using guidelines supplied by the Department of the Army, the Chief of the Army Dental Corps, and the Medical Command Preventive Dentistry Program manager. Each installation is also responsible for appointing a preventive dentistry officer. This officer may be assisted in the actual operation of his program by other dental officers, dental auxiliaries, or by a public health hygienist.

b. The preventive dentistry officer is responsible for developing training for all dental personnel, conducting oral health screening, and designing preventive programs to improve the oral health of the military community.
1-6. THE CLINICAL ORAL HEALTH AND HEALTH PROMOTION PROGRAM

The program consists of measures provided in Army dental clinics to prevent injury and oral disease and to promote health. This objective is achieved through annual dental exams for all personnel during their birth month. In addition to the exam, the patient is given a prophylaxis, a fluoride application, counseling on oral hygiene instruction, nutrition and tobacco and a follow-up appointment for any needed corrective treatment.

a. Community Education. A major portion of the community preventive dentistry program has been fluoridation of the water supply of all military installations when economically and technically feasible. Fluoridation of the water supply is the single most effective means of caries prevention in younger children today. AR 40-35 also mandates that each installation operate a preventive dentistry program for children (PDPC). This includes a yearly oral screening examination, a fluoride application, and, when appropriate, pit and fissure sealants. Also included are on-site school visits to teach brushing, flossing, and proper nutrition. Many preventive dentistry officers participate in radio and television interviews and publish articles in local newspapers to educate the community. Certainly not as well known as caries prevention, but just as important, is the Army's fabrication of protective mouth guards for family members and military athletes to prevent traumatic injuries. An excellent source of support for the community prevention program comes from organizations such as the Red Cross, parent-teacher associations, scouts, and military wives' clubs.

b. Research. To understand the causes and possible cures of oral disease and to develop more efficient and effective dental techniques, research must be conducted. A great number of advances in the dental profession have been produced at the US Army Institute of Dental Research (USAIDR) in Washington, DC. Along with several private civilian organizations and with Army support, research is constantly being conducted to produce new materials and techniques.

1-7. PREVENTIVE DENTISTRY TERMS

a. Preventive Dentistry. This philosophy of health service embraces general dentistry and recognizes preventive aspects of treating teeth and oral tissues. It also recognizes prevention of oral disease in the population through organized programs of oral health education, fluoridation, oral disease detection, dental research, and use of auxiliary personnel. Prevention has always been part of the Army Dental Corps' mission in its efforts to preserve the oral health of Army personnel. Accomplishment of the mission, especially in modern warfare, emphasizes the importance of preventive dentistry in the Army.

b. Oral Hygiene. This term refers to measures designed to minimize oral disease. These measures usually include, scaling, cleaning, polishing, application of pit and fissure sealants, and topical fluoride application. Oral hygiene also includes the practice of personal oral physiotherapy to maintain cleanliness.
1-8. GUIDANCE AND INFORMATION ON PREVENTIVE DENTISTRY

a. Publications. *Accepted Dental Therapeutics*, published by the Council of Dental Therapeutics of the American Dental Association, lists approved preventive dentistry treatments. These methods are those generally used in Army dental treatment facilities. Preventive dentistry information can also be found in publications from the National Institute of Dental Research and the U.S Army Institute of Dental Research. Information supplied to the public by commercial companies should be carefully analyzed and studied because of possible bias. Professional journals with appropriate information include *Journal of the American Dental Association*, *Journal of Public Health Dentistry*, *Journal of Clinical Preventive Dentistry*, *Journal of Dental Hygiene*, *Journal of Dental Research*, *Journal of Periodontology*, *Journal of Periodontal Research*, and *Journal of Caries Research*. See Appendix A for sources of information, both civilian and military.
EXERCISES, LESSON 1

INSTRUCTIONS: Answer the following exercises by marking the lettered response that best answers the question, by completing the incomplete statement, or by writing the answer in the space provided at the end of the exercise.

After you have completed all the exercises, turn to "Solutions to Exercises" at the end of the lesson and check your answers.

1. What percentage of Americans suffer from dental cavities at some time during their lives?
   a. 100 percent.
   b. 95 percent.
   c. 90 percent.

2. What percentage of the adult population over the age of 35 suffers from some type of periodontal (gum) disease?
   a. 100 percent.
   b. 95 percent.
   c. 90 percent.

3. Approximately how many new cases of oral cancer occur each year?
   a. 30,800.
   b. 30,000.
   c. 26,000.
   d. 23,000.
4. One reason for the existence of preventive dentistry is an effort to reduce the amount of time spent treating dental emergencies.
   a. True.
   b. False.

5. All personnel are given an annual dental examination during their ________________ .

6. At the annual dental examination, personnel are given:
   a. ________________,
   b. _________________ application,
   c. ____________ on oral hygiene, nutrition and tobacco.
   d. and a ________________ appointment for any needed corrective treatment.

7. What is the most effective single means of caries prevention?
   __________________ of the water supply.

8. What does the Army makes to protect military athletes from traumatic mouth injuries? ____________________________ .

9. Where is the development of more efficient and effective dental techniques and materials conducted?
   _________________________________.

10. List five measures taken to minimize oral disease.
   a. ________________________________.
   b. ________________________________.
   c. ________________________________.
   d. Application of pit and fissure ________________________.
   e. Topical ___________________________ application.

11. List three civilian publications providing current approved preventive dentistry treatments.
   a. Journal of ________________________________.
   b. Journal of ________________________________.
   c. Journal of ________________________________.
SOLUTIONS TO EXERCISES, LESSON 1

1. b (para 1-1b)
2. c (para 1-1b)
3. a (para 1-1b)
4. a (para 1-2c)
5. birth month (para 1-6)
6. a. prophylaxis
   b. fluoride
   c. counseling
   d. follow-up (para 1-6)
7. Fluoridation (para 1-6a)
8. Protective mouth guards (para 1-6a)
9. U.S. Army Institute of Dental Research (para 1-6b)
10. a. Scaling.
    b. Cleaning.
    c. Polishing.
    d. Sealants.
    e. Fluoride (para 1-7b)
11. Any three of the following
    the American Dental Association.
    Public Health Dentistry.
    Clinical Preventive Dentistry.
    Dental Hygiene.
    Dental Research.
    Periodontology.
    Periodontal Research.
    Caries Research. (para 1-8b)