LESSON ASSIGNMENT

LESSON 4
Self-Care Procedures.

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

4-1. Identify the importance of self-care measures in oral hygiene.

4-2. Identify toothbrushing techniques and the major toothbrushing methods.

4-3. Identify the use of dentifrices and disclosing materials.

4-4. Identify the procedures for using dental floss.

4-5. Identify supplementary self-care items that clean the teeth and stimulate the gums.

4-6. Identify the importance of nutrition in the general health of the teeth.

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 4
SELF-CARE PROCEDURES

Section I. OVERVIEW

4-1. GENERAL

A program of preventive dentistry depends heavily upon patient participation and cooperation. The success of the program depends on how well the patients are taught and how well they are motivated to perform preventive procedures. Any Army installation with one or more dental officers practicing dentistry has a preventive dentistry program which includes comprehensive educational programs for military personnel and their family members. Patients should be taught good self-care measures and proper diet. The patient population should be informed about the importance of good oral hygiene, maintaining the integrity of the deciduous dentition, and regular professional care in the prevention of oral disease. This information can be disseminated in many different ways. It can be given in lectures to troops in small or large groups and to children in the school classrooms. It can be presented at parent-teacher meetings, wives’ club meetings, and prenatal and well-baby clinics. The benefit derived from knowledge of preventive procedures should be communicated to as many people in as many ways as possible.

4-2. ORAL HYGIENE

Development of and adherence to good oral hygiene practices is the most important measure in preventing oral disease. Under field and combat conditions, the associated stress, diet, and fatigue make the practice of oral hygiene especially important in maintaining oral health and conserving the fighting strength. At the same time, it is under these conditions that a person is most likely to neglect personal hygiene. A continual education program for the troops and commanders is essential to encourage observance of oral hygiene practices under all conditions.

4-3. SELF-CARE MEASURES

The most effective measures in maintaining oral health are those the individual performs himself. This means the practice of good oral hygiene. The PDS and other dental specialists should be familiar with current oral hygiene knowledge and techniques and be prepared to instruct patients. The best preventive self-care depends upon the use of a suitable toothbrush and an effective toothbrushing technique, the use of a suitable dentifrice, the use of a disclosing material, the correct use of dental floss, and other self-care measures.
Section II. TOOTHBRUSHING

4-4. THE TOOTHBRUSH

The teeth are brushed to remove bacterial mucin plaque and stains and to improve the health of the gingival tissues through stimulation. Effective brushing can be done only with a suitable toothbrush. The toothbrush should be durable with soft nylon bristles arranged so as to give the most cleansing action without injuring tissues or the adjacent soft tissues. A patient should have enough toothbrushes to ensure that a clean, dry brush is available for each brushing. See figure 4-1. Brushes with bristles that have become loose or have lost resiliency should be replaced.

Figure 4-1. Toothbrushes.

4-5. TOOTHBRUSHING TECHNIQUES

Several toothbrushing techniques are satisfactory. Whatever technique is used, four points should be remembered.

a. The first point is to clean the teeth and to stimulate gingival tissues without injuring tooth structure, gingiva, or other oral tissues.

b. The second point is to brush every surface of every tooth and to provide stimulation to gingival tissues.

c. The third point is to devote enough time to each area to ensure adequate cleaning.

d. The fourth point is to pay special attention to brushing hard-to-reach areas.

4-6. SEQUENCE OF BRUSHING

A sequence of brushing should be developed in which every tooth and area is adequately reached. The sequence should also provide enough brushing time in each area and in places where areas overlap.
4-7. MANIPULATING THE BRUSH

To cleanse the occlusal surfaces of teeth, the tips of the bristles should be worked into the pits and fissures with enough vibration to loosen and dislodge all debris. To cleanse exposed axial surfaces, the sides of the bristles should be placed against the gingival tissues to avoid lacerating them with the bristle tips. Then, holding the sides of the bristles against the gingiva, rotate the bristles toward the occlusal or incisal surfaces. The bristle should be worked between teeth and into interproximal areas to dislodge accessible food debris and plaque. When the brush is used to stimulate or massage the gingiva, the sides of the bristles should be placed against gingival tissues near the bristle tips. With light pressure, the brush should be rotated slightly to flex the bristles against the gingiva, and a vibrating motion should be transmitted through the handle.

4-8. MAJOR TOOTHBRUSHING METHODS

a. Bass Method. This method is useful for all types of dental conditions, especially periodontal problems. With bristles pointed at a 45-degree angle into the gingival sulcus, vibrate the brush gently back and forth about 20 times. Move the brush forward and repeat.

b. Rolling Stroke Method. This method is useful for stimulation of the gingiva. Place the brush above the free gingiva with the bristles pointed toward the apices. Exerting light pressure, draw the brush toward the occlusal surface using a rolling stroke. Use a scrub technique on the occlusal surface.

c. Charter's Method. This method is useful for patients with severe loss of interdental papilla height, fixed prosthetic appliances, previous gingival surgery, or subsided ulcerative gingivitis. Perform the rolling stroke first to remove debris from the teeth. Direct the bristle tips toward the occlusal or incisal surface. Gently rotate the handle, flexing the bristles and bringing them into contact with the interdental tissues and exposed proximal surfaces. Vibrate the handle of the brush with a slow, circular motion.

d. Modified Stillman's Method. This method is useful for patients with hypersensitive gingiva or slightly reduced interdental papilla. Use the rolling stroke method while vibrating the bristles in a lateral motion.

e. Fone's Method. This method is useful for small children or others with poor manual dexterity. First, occlude the teeth. Then, lightly press the bristles against the posterior teeth and the gingiva. Revolve the brush head in a fast, circular motion, using circles of large diameter. Continue the circular motion, and slowly move the brush head toward the anterior until all facial surfaces have been brushed. With the mouth open, use the same circular motion on the maxillary and mandibular lingual surfaces.
f. **Horizontal Method.** This method is seldom used. It consists of holding the brush at a right angle to the teeth and scrubbing back and forth on the facial, lingual, and occlusal surfaces.

4-9. **USE OF DENTIFRICES**

Dentifrices clean and polish the teeth by the use of an abrasive. Dentifrices also help protect the teeth against dental caries by the addition of a fluoride compound. Dentifrices come as a liquid, a powder, and a paste. The liquid-type dentifrices do not provide the desired polishing effect. The powder-type dentifrices often are too abrasive or too difficult to control. The paste-type dentifrices containing a mild abrasive are effective in cleaning the teeth by removing the bacterial mucin plaque and in polishing the teeth. Fluoride compounds are added to toothpastes to help protect the teeth against dental caries. Acceptable fluoride toothpastes are recognized and classified by the Council on Dental Therapeutics. As a field expedient method, either table salt or sodium bicarbonate is used as a dentifrice. The toothbrush alone is also effective in removing some plaque.

4-10. **USE OF DISCLOSING MATERIALS**

Disclosing materials consist of dye substances. Disclosing materials are invaluable in showing the patient improperly cleaned areas of his teeth. In the natural state, bacterial mucin plaque is invisible. When the disclosing materials are put into the mouth, plaque is stained a very definite color. With periodic use of disclosing materials, the patient checks his toothbrushing technique and the PDS evaluates the thoroughness of his oral prophylactic treatment. The disclosing material used most is erythrosin, a water-soluble vegetable dye that stains plaque a brilliant red. This material is available in tablet form through the Federal supply catalog.

Section III. **FLOSSING**

4-11. **USE OF DENTAL FLOSS**

a. **General.** The toothbrush cannot reach every surface of the tooth where bacterial mucin plaques are apt to be attached. The toothbrush cleanses the majority of the surfaces of each individual tooth, but it cannot completely clean the proximal surfaces. The proximal surfaces represent about one-half of the areas affected by dental caries and nearly all early periodontal disease. The best method for cleaning proximal surfaces is the use of dental floss. The patient must be adequately trained in the use of dental floss for it to be an effective, non-traumatic procedure.

b. **Wrapping the Floss.** To use dental floss properly, a piece of floss about 18 to 24 inches long is cut and the ends are wrapped lightly around the middle fingers. Most of the floss is wrapped on one finger, but just enough is wrapped on the other finger to anchor the floss. Then, the floss can be used like a scroll, wrapping onto one finger and off the other as the floss is frayed or soiled.
c. **Holding the Floss.** To clean between all the mandibular teeth, the floss is held over the ends of the index fingers of both hands. To clean the maxillary right teeth, the floss is passed over the thumb of the right hand and the index finger of the left hand. The right thumb is to the outside of the teeth. To clean between the maxillary left teeth, the floss is passed over the left thumb and the index finger of the right hand. Now the left thumb is outside the teeth. See figure 4-2.

![Figure 4-2. Methods for holding dental floss.](image)

### 4-12. SUGGESTIONS FOR FLOSSING

Initial supervision and practice are required for effective flossing. The following are suggestions when flossing.

a. Wrap the floss tightly around the proximal surface in order to disorganize and remove plaque.

b. Do not force the floss between the teeth. Use a seesaw motion where contact areas are tight.

c. Move the floss up and down with both fingers four or five times on the proximal surface of one tooth. Repeat the process on the proximal surface of the other tooth until the surfaces are "squeaky clean."

d. Work the floss as far down as it will go into the gingival sulcus without inducing pain in order to have thorough cleaning.

e. Floss the distal surface of the most posterior tooth on each side of each arch.

f. Use a new section of floss when the floss has been frayed or soiled.

g. Rinse the mouth vigorously with water after flossing to remove food particles and plaque that has been loosened or disorganized.
Section IV. OTHER SELF-CARE MEASURES

4-13. SUPPLEMENTARY SELF-CARE MEASURES

a. General. Other self-care measures may be used to supplement brushing and flossing of the teeth. Thorough rinsing with water is used with all procedures. Sometimes, it is used alone as a field expedient method when other materials are not available. The cleaning of fixed partial dentures, removable dentures, and abutment teeth may present individual hygiene problems. The dental officer will prescribe supplemental measures, but the PDS should teach every patient all measures to maintain oral health.

b. Toothpicks. Although toothpicks are a valuable adjunct when used properly, their indiscriminate and careless use can cause irreparable damage to oral tissues through trauma and lodgement of toothpick splinters in the gingiva and interdental and subgingival areas. Recurring need for the use of toothpicks to dislodge food may indicate the presence of a cavity or the need for periodontal treatment.

c. Mouthwashes. The unsupervised use of mouthwashes for any purpose other than dislodging and rinsing of food particles from the mouth is of questionable therapeutic benefit. The masking of odors and the sensation of comfort resulting from the astringent action of mouthwash are temporary effects and do not constitute treatment or real benefit.

d. Water-Jet Devices. Some studies indicate that water-jet devices are effective in the removal of some plaque and debris from between the teeth for certain types of patients. Those patients for whom a water-jet lavage should be recommended are those wearing orthodontic bands, all patients with fixed partial prostheses, and all patients who cannot use the customary oral hygiene procedures. Both the pulsating and nonpulsating devices are available. The pulsating devices (mechanized type) are recommended because of the fact that when jets of comparable force are directed on tissues, those of the pulsating type produce less tissue pressure, are less traumatic, and are more effective than the nonpulsating jets. When pulsating water-jet devices are used, they should be adjusted so that the pressure switch is kept below the high level. The jet stream should be directed at right angles to the tooth axis. It must be remembered that these devices have not been proven effective in total plaque removal.
e. **Interdental Stimulators.** Interdental stimulators are used to supplement toothbrushing and flossing for certain patients. Included are patients with moderate to severe recession of interproximal gingiva or patients whose alignment of the teeth makes it difficult to clean and stimulate certain areas by other means. Interdental stimulators are available as soft, tapered, balsa wood or soft, conical, rubber tips mounted on a handle, often on the opposite end of a toothbrush handle. See figure 4-3. Before either is used, the teeth are cleaned. Balsa wood stimulators are triangular in cross section. They are inserted into the interproximal areas as far as possible with comfort, with the base of the triangle resting on the interproximal gingiva. This procedure is repeated gently several times in each interdental area. When rubber tips are used, they also are inserted as far as possible into the interproximal area without causing discomfort. The tip is rotated several times. The procedure is repeated in each interdental area to be treated.

![Rubber-Tipped Stimulator and Balsa Wood Stimulator](image)

Figure 4-3. Types of interdental stimulators.

4-14. **NUTRITION AND DIET--GENERAL**

A diet considered adequate for the general health of an individual is generally considered adequate for his dental health. There are as yet no studies with humans which clearly indicate that specific vitamins or other nutrients are useful in the prevention or treatment of periodontal diseases. However, abundant evidence from human clinical studies shows that fluorides play an important role in lowering the incidence of dental caries. There is also considerable evidence that fermentable carbohydrates, particularly sucrose, play an important role in plaque formation and in the initiation and development of the carious lesion.
4-15. NUTRITIONAL COUNSELING

In nutritional counseling, the patient must be made aware of the nature of the problem and the important role of diet in resolving it. The relationship of sugars to dental caries must be clearly explained to the patient. Since the length of time that sugars are present or available to the bacterial plaque is important, the frequency of sugar ingestion and its adhesive characteristics are significant factors to be controlled. Direct correlation has been shown between the frequency of the between-meal snacks ("sticky" and "sweet" foods) and the activity of caries. Experience in nutrition counseling also shows that it is important to involve the patient when working to solve the patient's problem. The patient must provide information concerning his diet. This information is provided by asking the patient to keep a diary of the food he eats over a period of four or five days (including a weekend) and whether or not during this period the food intake pattern deviates from the normal. With the help of the counselor, the patient can then assist in the analysis of his own diet, noting the frequency and amount of sugar ingestion as well as its potential to promote caries. It is possible that the patient may suggest a suitable diet alteration.

4-16. NUTRITION GUIDE

The regular consumption of a balanced diet provides all the nourishment required for a healthy body. The groups of food that are listed below are recommended as a guide to daily food choices.

a. Bread, Cereal, Rice, and Pasta Group. Bread, cereal, rice, and pasta form a basic food group which is commonly referred to as "the staff of life." This group provides over 50 percent of the body's food energy needs. We normally consume more food from this group than from any of the other groups.

b. Vegetable Group and Fruit Group. Some detergent action (for teeth cleaning) can be expected from these foods, but they should not be used as a substitute for brushing and flossing. With vegetables, color is the guide to food value. The greenest and yellowest vegetables contain the most nutrients. Spinach is more nutritious than celery, and carrots are more nutritious than corn.

c. Meat, Poultry, Fish, Dry Beans, Eggs, and Nuts Group. The daily servings from this group should be less than the number of servings from the vegetable group. The cheaper grades of meat are just as nutritious as the more expensive grades; however, the amount of fat in a cut of meat needs to be taken into account. Fish, poultry, and dishes with dry beans and/or eggs are nutritious alternatives to red meats.

d. Milk, Yogurt, and Cheese Group. The daily servings from this group should be equal to or less than the number of servings from the fruit group. Children need the nutritious elements that help build bones and healthy teeth, and so do older adults.
e. **Fats, Oil, and Sweets.** It is recommended that these items be used sparingly in food preparation. Fats and sugars naturally occur in some foods, but the overall consumption of these items needs to be limited to maintain a healthy body.

**4-17. Refined Carbohydrates and Dental Disease**

Refined carbohydrates (sugars) going into solution in the mouth can penetrate the bacterial mucin plaque. These sugars are readily fermented by enzymes of organized bacteria in the plaque, forming acids which act on the enamel to initiate dental caries. If the teeth are well cleaned by toothbrushing and flossing, bacterial mucin plaque cannot attach to the tooth, bacteria cannot organize, and refined carbohydrates cannot produce dental caries.
EXERCISES, LESSON 4

INSTRUCTIONS: Answer the following exercises by marking the lettered response that best answers the question or best completes the incomplete statement or by writing the answer in the space provided.

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

1. A person is most likely to neglect oral hygiene:
   a. When instruction is provided in large groups.
   b. When personal cooperation is solicited.
   c. Under field or combat conditions.

2. The most effective measures in maintaining oral health are those the individual performs ____________________.

3. A suitable toothbrush:
   a. Has soft nylon bristles.
   b. Is clean and dry.
   c. Has bristles which are resilient.
   d. Items "a" and "b" above.
   e. Items "a," "b," and "c" above.

4. The purpose of toothbrushing is to __________ the teeth and to __________ gingival tissue.
5. Complete statements in regard to manipulating a toothbrush.

a. To cleanse the occlusal surfaces of teeth, the ____________ of the bristles should be used to loosen and dislodge all debris.

b. To cleanse exposed axial surfaces, the _________________ of the bristles should be placed against the gingival tissues and rotated toward the occlusal or incisal surfaces.

6. Which of the following toothbrushing methods uses a scrub technique on the occlusal surface?

a. Modified Stillman's method.

b. Bass method.

c. Rolling stroke method.

d. Charter's method.

e. Fone's method.

7. Which of the following toothbrushing methods is useful for patients with hypersensitive gingiva or slightly reduced interdental papilla?

a. Modified Stillman's method.

b. Bass method.

c. Rolling stroke method.

d. Charter's method.

e. Fone's method.
8. Which toothbrushing method specifies pointing the bristles at a 45-degree angle into the gingival sulcus and vibrating the brush gently back and forth about 20 times?
   
   a. Modified Stillman's method.
   b. Bass method.
   c. Rolling stroke method.
   d. Charter's method.
   e. Fone's method.

9. Which toothbrushing method specifies that the teeth be occluded when brushing the facial surfaces, pressing the bristles against the posterior teeth and the gingiva, and revolving the brush head in a fast, circular motion, using circles of large diameter?
   
   a. Modified Stillman's method.
   b. Bass method.
   c. Rolling stroke method.
   d. Charter's method.
   e. Fone's method.

10. Which toothbrushing method is useful for patients with severe loss of interdental papilla height, fixed prosthetic appliances, or previous gingival surgery?

   a. Modified Stillman's method.
   b. Bass method.
   c. Rolling stroke method.
   d. Charter's method.
   e. Fone's method.
11. Which toothbrushing method consists of holding the brush at a right angle to the teeth and scrubbing back and forth on the facial, lingual, and occlusal surfaces?


b. Modified Stillman's method.

c. Horizontal method.

d. Bass method.

e. Rolling stroke method.

12. Which dentrifice is too abrasive or too difficult to control?

a. Liquid-type dentifrice.

b. Powder-type dentifrice.

c. Paste-type dentifrice.

13. As a field expedient method, ________________ can be used as a dentifrice.

a. Table salt.

b. A mouthwash.

c. Sodium bicarbonate.

d. Items "a" and "c" above.

e. Items "a," "b," and "c" above.

14. What is the name of the water-soluble vegetable dye which stains plaque a brilliant red? _______________________________________________________________________

15. a. The ________________ surfaces of teeth represent about one-half of the areas affected by dental caries and nearly all early periodontal disease.

b. The use of ________________ is the method of choice for cleaning proximal surfaces.
16. When using dental floss, the recommended length is:
   a. 12 to 18 inches of floss.
   b. 18 to 24 inches of floss.

17. Before flossing, dental floss is wrapped:
   a. Evenly around the middle fingers.
   b. Mostly on one finger.

18. When dental floss is passed over the left thumb and the index finger of the right hand, the individual is cleaning the:
   a. Maxillary right teeth.
   b. Mandibular teeth.
   c. Maxillary left teeth.

19. When dental floss is held over the ends of the index fingers of both hands, the individual is cleaning the:
   a. Maxillary right teeth.
   b. Mandibular teeth.
   c. Maxillary left teeth.
20. Complete statements related to effective flossing.
   
a. Where contact areas are tight and flossing is difficult, use a __________ motion to get the floss between the teeth.

b. Move the floss up and down __________ or __________ times (with both fingers) on the proximal surface of a tooth.

c. For thorough cleaning, work the floss as far down as it will go into the gingival sulcus, without inducing _____________________.

d. When floss becomes frayed or soiled, use a ________________ of floss.

21. With careless use, which of the following are more likely to cause damage to oral tissues?

   a. Interdental stimulators.

   b. Water-jet devices.

   c. Mouthwashes.

   d. Toothpicks.

22. Which of the following does NOT provide any real therapeutic benefit?

   a. Interdental stimulators.

   b. Water-jet devices.

   c. Mouthwashes.

   d. Toothpicks.

23. For certain types of patients, the __________ water-jet device is recommended for use.

   a. Pulsating.

   b. Nonpulsating.
24. Complete statements regarding the use of water-jet devices.
   a. The pressure switch is kept below the ________________ level.
   b. The jet stream should be directed at ________ ________ to the tooth axis.

25. For patients who have moderate to severe recession of interproximal gingiva, the use of ________________ is recommended.
   a. Toothpicks.
   b. Mouthwashes.
   c. Water-jet devices.
   d. Interdental stimulators.

26. The interdental stimulator that is triangular in cross section is the:
   a. Rubber-tipped stimulator.
   b. Balsa wood stimulator.

27. Complete statements related to nutrition and diet.
   a. There is considerable evidence that ____________________________, particularly ________________, play an important role in plaque formation and in the initiation and development of caries.
   b. There is direct correlation between the frequency of ________________ ________________ ________________ and the activity of caries.
   c. Experience in nutrition counseling shows that it is important to involve _______ ________________ when working to solve the patient's problem.
28. Select the vegetables that are considered to be more nutritious.
   a. Celery and corn.
   b. Squash and onions.
   c. Spinach and carrots.
   d. Potatoes and tomatoes.

29. Which of the food groups provide over 50 percent of food energy?
   a. Milk, yogurt, and cheese group.
   b. Meat, poultry, fish, dry beans, eggs, and nuts group.
   c. Vegetable group.
   d. Bread, cereal, rice, and pasta group.
   e. Fruit group.

30. The best defense against dental caries caused by refined carbohydrates (sugars)
    is keeping the teeth well cleaned by _______________ and by _______________.

Check Your Answers on Next Page
SOLUTIONS TO EXERCISES, LESSON 4

1. c (para 4-2)

2. himself (para 4-3)

3. e (para 4-4)

4. clean; stimulate (para 4-5a)

5. a. tips
   b. sides (para 4-7)

6. c (para 4-8b)

7. a (para 4-8c)

8. b (para 4-8a)

9. e (para 4-8e)

10. d (para 4-8c)

11. c (para 4-8f)

12. b (para 4-9)

13. d (para 4-9)

14. Erythrosin. (para 4-10)

15. a. proximal.
   b. dental floss (para 4-11a)

16. b (para 4-11b)

17. b (para 4-11b)

18. c (para 4-11c)

19. b (para 4-11c)

20. a. seesaw
    b. four; five
    c. pain
    d. new section (para 4-12)
21. d (para 4-13b)
22. c (para 4-13c)
23. a (para 4-13d)
24. a. high
   b. right angles (para 4-13d)
25. d (para 4-13e)
26. b (para 4-13e)
27. a. fermentable carbohydrates; sucrose (para 4-14)
   b. between-meal snacks (para 4-15)
   c. the patient (para 4-15)
28. c (para 4-16b)
29. d (para 4-16a)
30. toothbrushing; flossing (para 4-17)