1. **TITLE SLIDE: TEACH PLAQUE REMOVAL USING A TOOTHBRUSH AND FLOSS.** The by-products of bacterial plaque contribute to the development of both dental caries and periodontal disease. At-home, mechanical removal of plaque is a necessary part of preventing these diseases.
2. Regular, effective plaque removal is essential to preventing or controlling caries and periodontal disease. Toothbrushing is the most widely used method of removing bacterial plaque. The toothbrush can remove plaque from the facial, lingual and occlusal surfaces. However, the toothbrush cannot adequately remove plaque from interproximal areas. Dental floss is used to clean the proximal surfaces of the teeth.
3. There are many types of manual and powered toothbrushes available for use. The increase in the type of toothbrushes available can help many people take better care of their teeth. No one specific type of brush is better than another at removing dental plaque. Selection of a toothbrush should be based on the patient’s preference and needs.
The two main parts of a toothbrush is the handle and the head. The handle can have different designs. There are toothbrushes with straight handles and toothbrushes with handles that slope and curve. Some toothbrush handles are specially shaped for easy holding by the hand. The handle of a manual toothbrush should be light-weight and easy to grasp. A larger, rounder handle is helpful for patients with limited dexterity. Some patients prefer an angled toothbrush because they feel it is more effective in cleaning difficult-to-reach areas.
5. The head is the active part of toothbrush in removing plaque. The head holds clusters of bristles (also called filaments). The size and shape of the head, number of clusters (tufts) and texture and length of the bristles can vary. The head of the toothbrush must be the right size for the patient.
6. The brushing plane (arrangement of the bristles at the brushing surface) and length of the filaments vary greatly. The plane may be flat with filaments all of equal lengths. Alternatively, brushes are available with variously shaped planes including rippled, dome, waved and multi-level configurations. Filaments can also be attached to the head at various angles. All of these designs can remove plaque when used properly.
7. Bristles are available in variety of stiffness; many manufacturers offer soft, medium or hard bristles. Patients should use a brush with soft, nylon bristles. Medium or hard bristles can damage the gingival tissue. Brushes with natural bristles should not be used because they have hollow, irregular cores, and tend to break. Also, natural bristles are more likely to collect bacteria.
8. Many patients prefer the use of powered toothbrushes. Brush designs have been significantly improved since the 1980s. When used correctly, powered toothbrushes are effective in plaque removal; but there is no conclusive evidence that they clean teeth better than manual brushes. Like manual toothbrushes, the ADA evaluates powered toothbrushes and grants the seal of acceptance if the product meets their standards. Patients who benefit from the use of power toothbrushes include persons who:

- lack the manual dexterity or discipline necessary to perform effective manual toothbrushing technique;
- are physically or mentally challenged; and
- prefer the latest technology and will therefore demonstrate improved adherence to an effective plaque control regimen.
9. When discussing toothbrush use with the patient, proper care of the toothbrush should also be included. Toothbrushes should be cleaned after use under a strong stream of warm water to force debris, toothpaste, and bacteria from between the bristles. The handle should be gently tapped against the sink to remove remaining particles and excess water. Toothbrushes should be stored in the open air with the head apart from contact with other brushes. Toothbrushes should be replaced when the bristles become worn (frayed tips or the loose bristles that have lost resiliency). This will be every 2-6 months.

Patients should also be advised to replace or disinfect their toothbrushes after an illness such as a cold or the flu. Toothbrushes can be disinfected in ordinary household bleach.
10. **Toothbrush Selection.** Most oral healthcare professionals agree no one type of brush is better than another at removing dental plaque. However, it is important to select a toothbrush with a brush head small enough to reach all areas of the mouth easily. Small children should have brushes one-quarter to one-third smaller than those used for adults. Select a toothbrush with polished, well-rounded, soft bristles. In effective plaque removal, motivation still beats technology; patient compliance is the ultimate goal. Patients will be more effective with plaque removal when they feel comfortable with the design of the toothbrush. The desirable characteristics for a toothbrush include that the brush should:

- have soft, nylon bristles;
- conform to individual patient requirements in size and shape;
- be easily and effectively manipulated;
- be easily cleaned and aerated; and
- be durable and inexpensive.
11. Regardless of the toothbrush selected, the patient should be cautioned about possible trauma that can be caused by improper toothbrushing technique. Faulty brush placement, use of hard bristles, or over vigorous brushing can cause damage to the hard and soft tissues. Chronic consequences to the hard tissue cause loss of tooth structure and creation of wedge-shaped indentations at the cervical area of the tooth (toothbrush abrasion). Chronic consequences to the soft tissue cause change in the gingival contour or loss of gingival tissue (gingival recession).
12. **Dentifrices.** A dentifrice can be used in conjunction with toothbrushing for both cosmetic and therapeutic purposes. However, a dentifrice is not necessary to effectively remove dental plaque. Dentifrices contain detergent agents that help remove debris from the teeth and gingiva. Toothpaste is a type of dentifrice. You can use your knowledge to help patients select the appropriate dentifrice that will benefit their oral care needs. Some dentifrices contain abrasives that help remove stain and polishing agents that restore tooth luster. Some toothpastes have a compound added to reduce calculus formation and fluoride can be added to prevent dental caries. They can also contain desensitizing agents that are beneficial to patients with tooth sensitivity such as exposed dentin surfaces. There is no conclusive evidence that whitening agents found in some toothpastes are effective.
13. **Disclosing Solution.** Dental plaque is difficult to see. The use of disclosing solution can be helpful in identifying areas of plaque retention. Disclosing solution can be in tablet or solution form. A red dye is most commonly used, but some dyes are other colors. A two-tone dye has the advantage of differentiating mature dental plaque (stains blue) from newly formed bacterial plaque (stains red).
14. **Word Slide: Toothbrushing Methods.** The objectives of toothbrushing are to remove plaque, debris and stains from the teeth and to stimulate the gingiva. There are many toothbrushing techniques the patient can use to accomplish these goals. Patients can use whatever method they choose as long as the dental plaque is removed without damaging the hard or soft tissues. Techniques that may be effective for patients include the sulcular (Bass), rolling stroke, and modified Stillman. The Charters and Fones methods can be useful for some patients.
15. In the sulcular brushing method, the tips of the bristles are positioned across two to three teeth at a 45° angle to the gingival margin. The brush is gently pressed against the gingiva and teeth so some bristles enter the sulcus. Small, vibrating strokes are used to remove plaque from the sulcus. The sulcular method is also referred to as the Bass method. The rolling stroke often follows this technique.
16. To use the rolling stroke method, the side of the toothbrush is positioned on the attached gingiva with the bristles directed apically. The brush is then rolled slowly towards the occlusal surface using a sweeping motion. Flex the wrist to drag the bristles gently but firmly against the tooth surface. The brush is rolled at least five times for each area. Then the brush is repositioned and the action is repeated sequentially throughout the mouth. When the rolling stroke proceeds the Bass, the combined toothbrushing technique may be referred to as the modified Bass technique.
17. In the modified Stillman’s method, the side of the toothbrush is positioned on the attached gingiva with the bristles partially on attached gingiva and partially on the cervical third of the tooth. With the bristles directed apically, they are pressed and vibrated to promote gingival stimulation. Then a rolling stroke is used after the vibration to cleanse the tooth. The brush is repositioned and the action is repeated sequentially throughout the mouth.
18. In the Charters method, the side of the toothbrush is positioned against the tooth surface with the bristles directed toward the occlusal at a 45° angle to the occlusal plane. The bristles are pressed into the gingival margin and interproximal areas and vibrated in a circular motion. This method is effective in cleaning around orthodontic brackets and under the pontics of fixed bridges.
In the Fones method, the teeth are closed and the toothbrush bristles are placed perpendicular to the facial surfaces and moved in large circular motions. This technique is easy to learn and can be mastered by small children. However, it does not effectively remove plaque from all areas and can easily traumatize soft tissues.
20. **Teach Plaque Removal.** In order to promote plaque control by the patient you must help the patient understand what plaque is, where it is found and how to remove it.
21. After explaining what plaque is, disclose the plaque in the patient’s mouth using a disclosing tablet or solution. This will enable the patient to see the presence and location of plaque in what they may have thought was a clean mouth.
22. Before you begin your instruction, ask the patient to demonstrate his/her current toothbrushing and flossing techniques. Plaque removal should be observed so that you can evaluate technique and provide effective feedback.
23. Help the patient make any necessary change in his/her technique. Do not make instructions too lengthy or complicated. Use language the patient will understand. For example, do not use words like facial, lingual or occlusal. Substitute words such as the cheek, or outside surface; the tongue, or inside tooth surface; and the chewing surface. Demonstrate correct technique and then ask the patient to demonstrate the technique. The following steps describe how to give oral hygiene instructions to an inexperienced patient.
24. Demonstrate proper grasp of the toothbrush handle. Hold the long end of the toothbrush handle. Direct the bristles up. Press the thumb against the back of the handle.
Sulcular brushing:
Direct bristles into the sulcus and gently vibrate

25. Because the modified Bass method is widely accepted as an effective plaque removal technique, it is demonstrated in the following steps. This method combines the vibratory/circular movements of sulcular brushing (the Bass technique) with the sweeping motion of the roll technique. Sulcular brushing removes plaque from the gingival margins; this is usually the heaviest area of plaque accumulation. The vibratory/circular movements used for sulcular brushing also massages and stimulates the gingiva.

First, place the toothbrush against the cheek side of the last tooth on the upper right side of the mouth. Then turn the brush so that the bristles lie along the gingival margin (the gum line) at a 45° angle. Gently press the bristles so that the bristle tips enter the sulcus and cover the gingival margin. Gently vibrate the brush back and forth with very short strokes for about 10 seconds. Silently count to 10 while you brush this area. Use short back-and-forth and circular strokes.
26. Move the brush toward the front of the mouth and adapt the brush to the next 2-3 teeth. Gently press the bristles into the sulcus and repeat the vibrating stroke. Use short back-and-forth and circular strokes. Move sequentially throughout the upper arch both facially (the cheek side) and lingually (the tongue side). Be sure that you don’t miss any teeth; slightly overlap teeth with each adaptation. When you get to the lingual front teeth (tongue side), take the brush out of your mouth and change the way you hold the handle. Hold the brush the long, narrow way as demonstrated in the bottom slide. Open your mouth wide. Press the brush bristles against the tongue side of the upper teeth and gently vibrate the brush.
27. Plaque removal from the distal surface of the most posterior teeth is frequently inadequate. To remove plaque effectively, adapt the brush to the distal of the last tooth in each quadrant.
Use the rolling method on all teeth after sulcular brushing. Used in conjunction, these two brushing methods achieve effective plaque removal from sulcular, facial, and lingual tooth surfaces. The sequence is the same as for sulcular brushing. The adaptation of the brush and stroke are different. Place the side of the brush on the attached gingiva with the tips of the bristles directed apically. Flex the side of the brush lightly against the gingiva. Roll the brush slowly over the teeth moving the tips of the bristles coronally. Repeat the stroke five times before moving on to the next three teeth in sequence.
29. Continue to clean all tooth surfaces moving to the lower teeth after brushing the upper facial and lingual tooth surface. Repeat the vibrating stroke on the facial and lingual tooth surfaces moving in sequence. Again redirect the brush head to clean the mandibular lingual surfaces.
30. To clean the occlusal surfaces, place the tips of the bristles on the chewing surface of the teeth. Begin on the molar teeth. Press on the handle to apply moderate pressure on the brush bristles so that they do not bend but go into the grooves of the occlusal surface. Use short, circular or back-and-forth scrubbing strokes. Brush each chewing surfaces for about 10 seconds before moving to the next area. Overlap the previous brushing position.
31. Toothbrushing is not effective in removing bacterial plaque from the proximal surfaces of the teeth. Dental floss is the most frequently used device for interdental cleaning. There are a wide variety of dental flosses available for use. They may be unwaxed, waxed and flavored that use a variety of braids, thickness and coatings. Studies have shown that there is no significant difference in plaque removal between waxed and unwaxed dental floss. It was thought that the waxed floss left a residue on the tooth that could potentially harm tissues, but research has disproved this idea. Patients should be encouraged to select a dental floss that is easy to use and effectively removes plaque from the interdental areas. The following slides demonstrate how to instruct the patient in the use of dental floss.
You will need about 15-18 inches (39-45 cm) of floss. This is about an arm’s length.
33. Loosely wrap about the majority of the floss around the middle finger of the right hand. (Wrap the floss around your finger 4-5 times.)
34. Wrap the rest of the floss around the middle finger of the left hand. Leave about 2-3 inches (5-7 cm) of floss between your hands. Make sure that the thumb and index fingers are free. These fingers will be used to control the floss during the actual flossing procedure.
35. Gently close each hand. Straighten your first fingers and thumbs. Put your first fingers along the top of the floss. There will now be about 1/2 to 1 inch of floss between the index fingers. This is the grasp you will use to floss the mandibular teeth. To floss the maxillary teeth, place your thumbs under the floss. Hold the floss with your thumbs and index fingers.
Open your mouth wide. Put the floss between two teeth. Maintain tension on the floss and gently guide the floss past the contact point (place where the sides of the two teeth come together). Ease the floss through the contact area using a back-and-forth motion. Control the floss to avoid “snapping” it through the contact area; this can injure the gingival tissue.
37. Wrap the floss around the back surface of the tooth in front of the floss. Do this by pulling the floss toward the front of the mouth. The floss will then have a horseshoe shape or ‘C’ shape. Notice the position of the floss around the tooth.
38. Gently but firmly slide the floss down the side of the tooth until it touches the gingiva tissue. Guide the floss with the first fingers. Slide the floss up and down five to six times. You may hear a “squeak” as you move the floss. This squeak means that the tooth is clean.
39. Lift the floss and wrap it in the opposite direction in a ‘C’-shape over the adjacent tooth. Slide the floss up and down on this tooth five or six times. Carefully remove the floss. Move it gently back and forth to take the floss from between the teeth. Now floss all of the teeth using this technique. Rotate the floss on the fingers to use a fresh, unsoiled section of floss as needed.
40. Remind the patient to floss the most distal surface of the tooth in each quadrant. Loop the floss over the distal surface and glide the floss into the sulcus. Hold the floss securely against the tooth surface and move the floss in an up-and-down motion.
Instructing the patient in proper plaque removal is best accomplished in small steps. Depending on the motivation and abilities of the patient, initial instruction may be limited to basic procedures. At succeeding appointments, you can make suggestions for perfecting the patient’s technique to reach the “hard-to-get” areas. The patient has to realize that although you can show the patient how to perform plaque control and assist the patient in selecting effective plaque removal tools, the patient is ultimately responsible for plaque control.

This completes the slide presentation.