

Brushing Techniques

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ABSTRACT:

Brushing is the main method of self removal of plaque and debris by an individual. Oldest tooth brushing method was described by Fones in 1913, although now only recommended only in children. Various brushing techniques have been proposed by various researchers since the early half of the twentieth century. However, each brushing technique has its own advantages and disadvantages respectively. It is the duty of the dentist or health care provider to aid and teach the patient about the various brushing techniques and recommend a particular technique that is suitable for that particular individual. It is important that the individual should perform the technique satisfactorily for adequate plaque control. This article aims to evaluate the various brushing techniques, its advantages and disadvantages, various indications and contraindications of each technique.

INTRODUCTION:

The main method of prevention of various oral diseases like dental caries, gingivitis and periodontitis is by effective plaque removal. Self oral hygiene maintenance is mainly by tooth brushing, mouthrinses and flossing. It is important that an individual is aware of the proper brushing technique that he or she has to follow in order to maintain oral hygiene and for adequate plaque removal. WHO defined Dental plaque as a specific but highly variable structural entity, resulting from sequential colonization of microorganisms on tooth surfaces, restorations & other parts of oral cavity, composed of salivary components like mucin, desquamated epithelial cells, debris & microorganisms, all embedded in extracellular gelatinous matrix^[1]. Toothbrush design, brushing duration, parental involvement, and the brushing method, manipulative skill, and manual dexterity of the child are the most cited determinants of the effectiveness of toothbrushing^[2]. Many types of brushing techniques have been recommended by various researchers over the past years^[3].

Objectives Of Tooth Brushing:

The main objectives of tooth brushing include:

- To prevent plaque formation
- Plaque removal
- Cleaning the tongue
- Massage the gingival tissue

BRUSHING TECHNIQUES:

1) Bass Method:

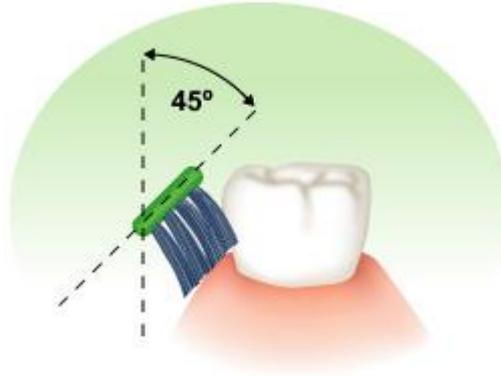


FIG 1: Shows bass method of brushing

PC: drchetan.com

Technique:

- The head of the brush is kept parallel to the occlusal plane, with the brush head covering almost 3-4 teeth starting from the distal most teeth of the arch.
- The bristles are placed at the gingival margin at an angle of 45 degrees to the long axis of the tooth^[4].
- Gentle vibratory pressure is given using short back and forth movement dislodging the tips of the bristles.

The Bass technique places emphasis on the removal of plaque from the area above and just below the gingival margin^[5].

Indications:

- ▶ adaptable for open interproximal & cervical areas
- ▶ contour of the enamel & exposed root surfaces.
- ▶ Recommended for routine patients with or without periodontal involvement.

Advantages:

- Effective for removing plaque beneath gingival margin, cervical areas and sulcus
- Provides good gingival stimulation

Disadvantages:

- cause injury to the gingival margin.

- Time consuming..
- Causes laceration of the gingiva

2) Modified Bass Method/Sulcus Cleaning Method:

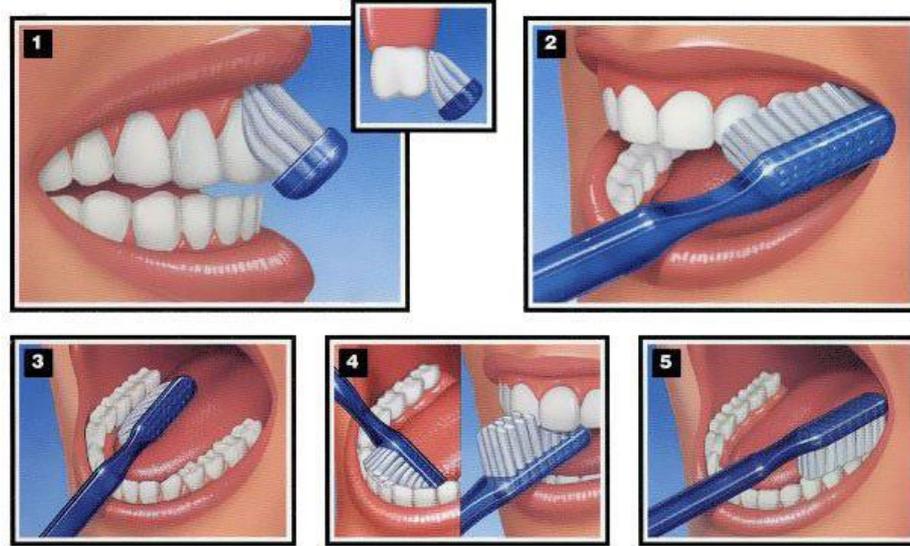


FIG 2: Shows modified bass technique

PC: google.com

Technique:

- The head of the brush is kept parallel to the occlusal plane, with the brush head covering almost 3-4 teeth starting from the distal most teeth of the arch.
- The bristles are placed at the gingival margin at an angle of 45 degrees to the long axis of the tooth.
- Gentle vibratory pressure is given using short back and forth movement dislodging the tips of the bristles.

Wainwright and Sheiham^[7] reported that the most recommended method of toothbrushing was the modified Bass method. Alanazi et al ^[8]stated that the modified Bass method combined with a distal oblique method of holding the toothbrush is significantly effective in eliminating dental plaque.

Modified Bass technique is one of the most recommended type of brushing technique as evidence from studies have suggested a better plaque control and a significant reduction in gingival inflammation^[9].

Indications:

- ▶ Intrasulcular cleaning
- ▶ Routine oral hygiene measure

Advantages:

- ▶ Good gingival stimulation
- ▶ Good interproximal & gingival cleaning

Disadvantages:

- ▶ Moderate dexterity of wrist is required

STILLMAN'S METHOD:

Technique:

- Like the Bass method the filaments are placed at a 45 degree angle to the tooth.
- Unlike the Bass method the filaments are placed half in the sulcus and half on the gingiva.
- The same stroke is used as on the Bass method^[10].

Charter's Method:

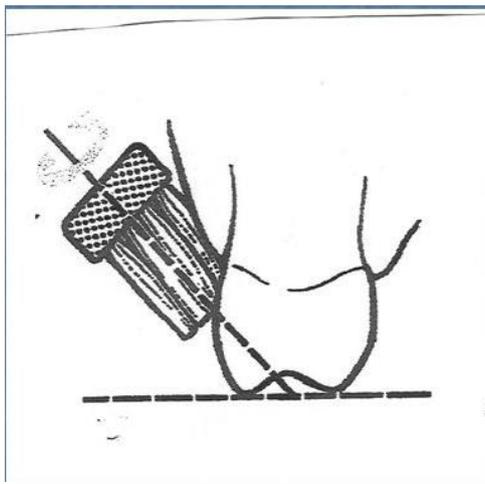


FIG 3: Demonstrates Charter's method

PC: slideplayer.com

Technique:

- ▶ Bristles are placed at an angle of 45 degrees to the gingiva with the bristles directed coronally
- ▶ Bristles are activated by mild vibratory strokes with the bristle end lying interproximally

Indications:

- ▶ Open interdental spaces with missing

papilla & exposed root surfaces

- ▶ FPD or orthodontic appliances
- ▶ Moderate gingival recession particularly interproximally
- ▶ Periodontal surgery

Advantages:

- Technique specifically indicated in patients with orthodontic and prosthodontic appliances
- Effective plaque removal.
- Suitable after periodontal surgeries

Fones Technique:



FIG 4: Demonstrates Fones technique

PC: google.com

Technique:

- The brush is placed against a set of teeth and is moved in circular motion 4-5 times for each set of teeth^[17].

Indications:

- Young children who want to do their own brushing but do not have the muscle development for the technique

Advantages:

- Easy to learn
- Takes short time
- Physically/emotionally handicapped individuals

Disadvantages:

- ▶ Trauma to gingiva
- ▶ Improper cleaning of interdental areas

LEONARD'S TECHNIQUE:

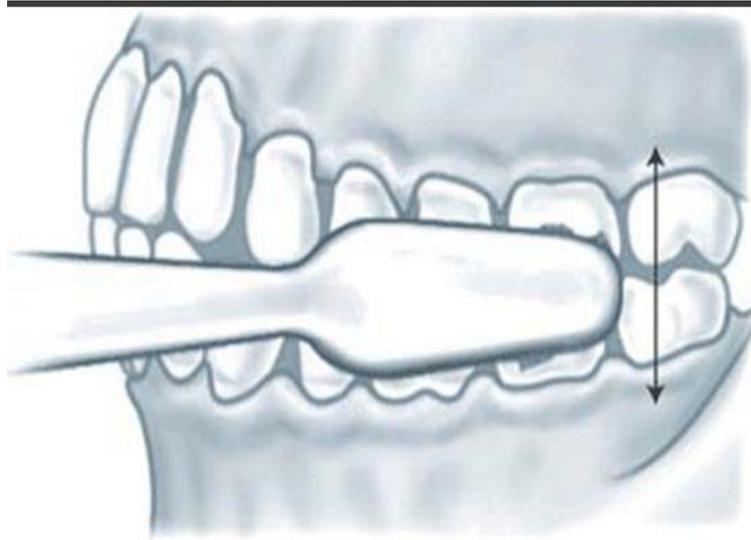


FIG 5: Shows Leonard's technique

PC: google.com

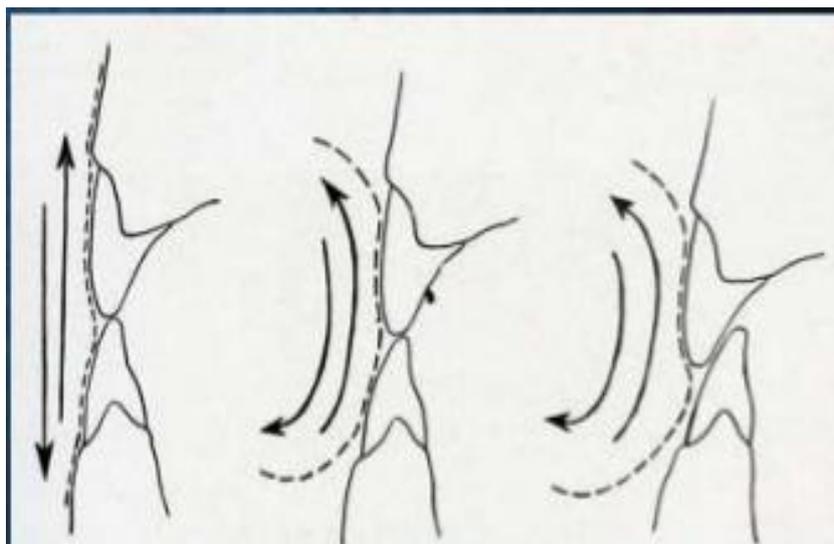


FIG 6: Shows Leonard's technique

PC: google.com

Technique:

- ▶ Bristles are placed at 90 degree angle to the facial surface on the clenched anterior & posterior teeth
- ▶ With the teeth edge to edge, place the brush with the filaments against the teeth at right angle to long axis of teeth

- ▶ Brush vigorously without great pressure with up and down stroke on tooth surface with a slight rotation after striking the gingival margin with force

Advantages:

- ▶ Most convenient
- ▶ Effective for small children with deciduous teeth

Disadvantage:

- ▶ Interdental areas are not cleaned properly

Horizontal Scrub Technique:

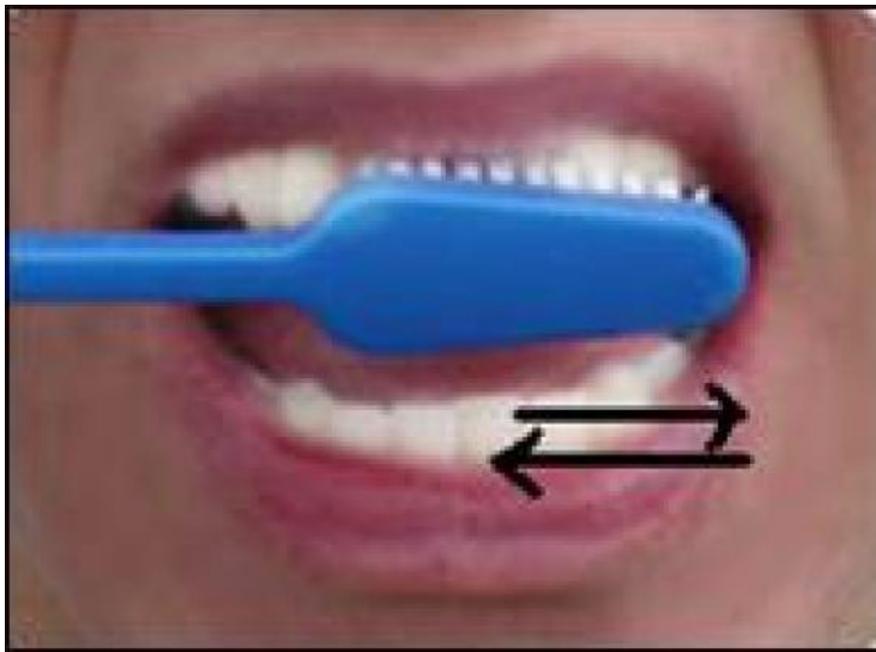


FIG 7: Horizontal scrub technique

PC: google.com

Technique:

- The bristles are placed at right angles to the long axis of the teeth and gentle horizontal scrubbing movement of the brush is performed^[11].

Advantages:

- Free style of brushing
- Requires vigorous horizontal, vertical & circular motions

Disadvantages:

- ▶ Ineffective at plaque removal
- ▶ Tooth abrasion & gingival recession

Several studies have reported the use of the horizontal scrub technique to be the method of choice in young children because of the inability to apply other tooth brushing methods.^[12,13,14] The authors suggested that horizontal scrub technique is a suitable way of tooth brushing in preschool children, considering the development of motor skills at that age.^[13,14]

Modified Stillman's Technique:

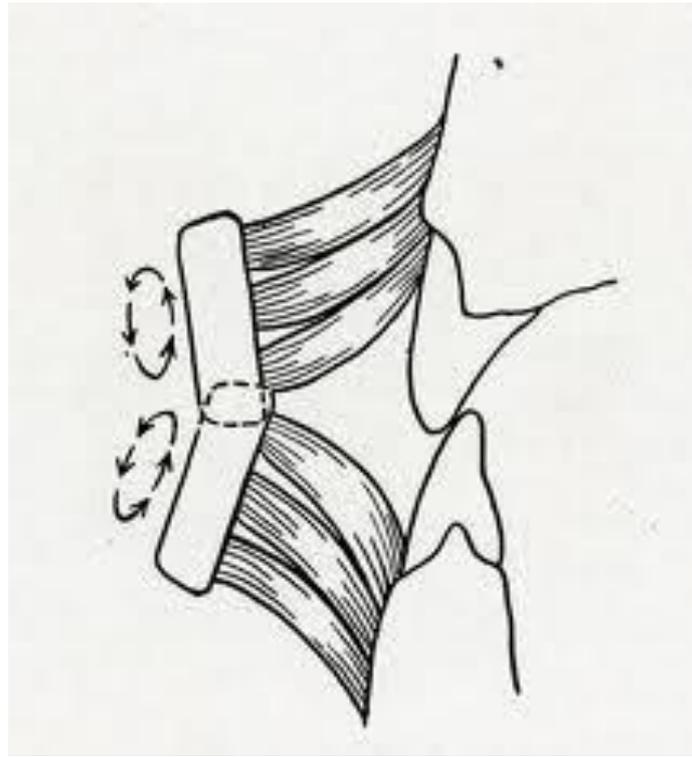


FIG 8: Shows modified Stillman's Technique

PC: google.com

Technique:

- ▶ Bristles are pointed apically with an oblique angle to the long axis of the tooth & placed partly on the cervical aspects of the teeth & partly on the adjacent gingiva.
- ▶ Bristles are activated by short back & forth motions & simultaneously moved in a coronal direction following 20 strokes.

Indications:

- ▶ Areas with progressing gingival recession & root exposure to prevent abrasive tissue destruction
- ▶ Plaque removal from cervical areas below the height of contour of the enamel & from exposed proximal surfaces

Advantages:

- This technique provides good gingival massage and inter proximal cleaning.

Disadvantage:

- Technique is difficult to learn and implement.

Hirschfeld's Brushing Technique:

The technique is same as the Charter's method except in the maxilla and mandible are kept occluded. The Hirschfeld's technique is also a modification of the Fone's technique where the circular motion is much smaller and concentrated over the gingival crevice^[15].

Advantages:

- Provides additional stability and control to those who lack dexterity.
- Cheeks help in exerting pressure required to flex the bristles.

Smith-Bell(Physiologic) Brushing Technique:

Also known as Physiologic technique of tooth-brushing because the brushing method is the same as that taken by the food during mastication.

Technique:

- Bristles are placed at the height of the incisal edge or occlusal surfaces at an angle of 90 degrees and moved in the gingival direction.
- Produces frictional action similar to that obtained from mastication of fibrous food.
- Suitable for patients having anatomically normal dentition.

Advantage:

- Stimulates gingiva and improves blood circulation in connective tissue.

Disadvantage:

- In existing pockets, this brushing technique tends to strip the tissue away from the teeth and facilitates packing of debris into an open pocket.

There does not appear to be any consensus by professionals on the best method of tooth brushing that has to be followed by the general population. Frequency and duration of brushing are usually included with recommendations concerning the method of toothbrushing. Various studies have stated that there is a wide diversity in the method of tooth brushing that was proposed by the dental health care provider^[16,17]. Direct communication through the dentist is one of the most effective and essential ways of improving the oral health status^[18]. Kropf et al suggested that modified bass and modified scrub methods were most recommended by dentists when compared to other techniques^[19]. Kremers *et al.*^[20] and Zhang *et al.*^[21] showed that interdental plaque was effectively removed by Bass technique than the other techniques. Anaise et al ^[22] observed that horizontal scrubbing method has more significant plaque-removing effect than the Roll, Charters, and modified Stillman methods.

CONCLUSION:

- Depending on the individual cases, the techniques may have to be altered to achieve the maximum beneficial effect.
- Reduction in plaque score was seen in Modified bass & horizontal scrub Technique & least efficacy was seen in Fone's technique^[20,21].

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