

Tooth brushing before or after breakfast?

Should we advise our patients to brush their teeth before or after breakfast? Is there any clinical significance or is this simply an academic issue?

Let us consider each of these in turn. Fluoride has been proven to prevent dental caries by preventing demineralisation of tooth mineral and promotion of remineralisation. If we brush our teeth before breakfast then we remove the build up of dental plaque thereby minimising the acidogenic response of the oral bacteria present to the foods eaten. We also provide intra-oral fluoride at the time it is needed most of all which will prevent demineralisation and promote remineralisation of dental enamel and dentine.

However, if we brush after breakfast the acidogenic response has already occurred and the tooth tissues have been softened by the drop in intra-oral pH to below the critical pH of about 5.5, or even lower, depending on the food constituents ingested. Tooth brushing at this time will lead to further tooth mineral loss by the abrasion of tooth brushing which will be in addition to any loss caused by the erosive food products eaten during breakfast. The fluoride now provided will not be as effective in limiting demineralisation and promoting remineralisation.

However, there are other factors to consider such as personal preferences and brushing routines/habits and the effects of tooth brushing either before or after breakfast on the subsequent taste of the food ingested during the meal.

Following an acidogenic challenge such as occurs following mealtimes it is advisable to wait for the

saliva to buffer the drop in intra-oral pH before tooth brushing to minimise tooth mineral loss. Some authorities recommend that tooth brushing should not occur for a period of between 20-60 minutes after eating whilst others recommend brushing before and rinsing after breakfast.

Is there any evidence to help in making a decision as to whether to tooth brush before or after breakfast? There is some in vitro evidence showing that there is less tooth mineral loss when brushing before an acidogenic challenge rather than after the challenge. However, the clinical evidence from in vivo or even in situ studies is lacking or inconclusive.

In reality this is more an academic discussion and the real issue is to promote regular effective tooth brushing by our patients. A simple message is to brush teeth twice daily, first thing in the morning (either before or after breakfast) and last thing at night immediately before bedtime. For children this means getting the parents to take responsibility for supervising their children when tooth brushing.

Nowadays modern children are more concerned with extending their television or games console time immediately prior to bedtime rather than concentrating on their nightly oral hygiene regimes. It would certainly help to have TV commercials promoting bedtime tooth brushing at key times for young children and at later times for teenagers and adolescents. This will be especially beneficial for high caries-risk groups and act as a reminder.

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