The general rule, although without scientific evidence, is to replace manual toothbrushes every two to three months. Some professionals suggest replacing the brush when the bristles become frayed, which can be a few weeks for some and a year for others, depending on their brushing force.

Researchers at the Academic Centre for Dentistry in Amsterdam compared new and used toothbrushes, with and without toothpaste, to determine plaque removal efficacy. A total of 45 subjects participated in the toothbrushing study. All subjects were non-dental students who routinely used a manual toothbrush.

At baseline, each subject was given a standard, four-row, multi-tufted toothbrush and instructed to brush with it twice daily for three months. At that time they were scheduled to see the dental hygienist for professional toothbrushing and to measure toothbrush wear.

The RDH brushed each quadrant with a different toothbrushing protocol: 1) new brush with toothpaste, 2) new brush without toothpaste, 3) old brush with toothpaste and 4) old brush without toothpaste. Pre- and post-brushing plaque scores were taken. Prior to the two-minute professional brushing, the brush was moistened with cold water and a timer set for 30 seconds for each quadrant.

When comparing different toothbrushes, an absolute difference in plaque removal needs to reach 15 percent. In this study, the absolute difference was only five percent. There was no real difference between old and new toothbrushes. Brushes with little wear outperformed new brushes while worn toothbrushes were less effective compared to new brushes. Toothpaste provided no benefit for plaque removal.

Clinical Implications: It’s not the age of the toothbrush, but the wear of the bristles that signals time for replacement.


About half of the adult population suffers from some degree of dental fear, making it one of the most prevalent fears. In dentistry, there are three responses to a sense of danger: fear, phobia and anxiety. Dental fear is a reaction to a known danger, provoking the “fight or flight” response, almost always caused by a previous bad experience. Dental phobia is a response similar to dental fear, only much more intense and debilitating. Dental anxiety is a reaction to an unknown or not immediately present danger. It is often a consequence of receiving negative information without personal experience.

The psychological approach of direct interaction was used in an attempt to reduce patients’ dental fear associated with a dental hygiene visit. A pre- and post-treatment questionnaire was given to patients who showed any level of dental fear. Using a zero to 10 scale, patients were asked how they would rate: 1) fear of your last dental hygiene visit? 2) avoidance of today’s visit? 3) confidence in your last RDH?

The RDH explained procedures, asked what each patient liked and didn’t and showed them what she was doing. Post-treatment questions asked how the patient would rate: 1) fear of today’s visit 2) likelihood of avoiding their next dental hygiene visit and 3) confidence in the RDH today.

No subjects reported more fear after the visit and 83 percent reported decreased fear after the visit. Modern dentistry should not be a fear-inducing experience. Patients should be treated with empathy and dignity.

Clinical Implications: Dental fear can be reduced with a direct approach that takes into consideration the baseline fear of the patient.

The Feeling of Xerostomia vs. Clinical Hyposalivation

Hyposalivation is the objective measure of reduced saliva. Xerostomia is the subjective feeling of dry mouth. Increasing numbers of medications produce hyposalivation as a side effect, leading to higher levels of dry mouth.

The Xerostomia Screening Questionnaire described by Navazesh was designed to identify patients with dry mouth, by assessing the most common, subjective complaints related to xerostomia. The Challacombe Scale of Oral Dryness uses clinical images of various stages of oral dryness to identify objective signs of hyposalivation.

Some individuals with salivary gland hypofunction are not aware of a reduction in the amount of saliva they feel in their mouths. A project was designed to compare objective clinical oral dryness scores with subjective responses to the xerostomia screening questionnaire. Twenty patients with clinical signs of oral dryness were asked to complete the Xerostomia Screening Questionnaire. The dental hygienist completed the Challacombe Scale for each patient.

According to the Challacombe Scale parameters, 55 percent of the participants had signs of moderate oral dryness and 45 percent had mild oral dryness. Seventy percent of the questionnaire respondents reported too little saliva. Although 100 percent of the participants displayed clinical signs of oral dryness, 30 percent denied experiencing any xerostomia symptoms.

Further research is needed to discover why people with reduced salivation don’t always feel the symptoms. It might also be that the questionnaire did not contain questions that effectively reflected oral dryness symptoms. Screening should include both objective and subjective aspects of xerostomia.

Clinical Implications: Patients with clinical signs of dry mouth may not actually be aware of a reduction in saliva.


Video Chats Improve Children’s Oral Hygiene Habits

Twice yearly dental hygiene visits do not provide adequate coaching to help children and parents stay motivated to follow effective daily oral hygiene. The introduction of new technology provides options for following up with patients between visits. Weekly visits via Skype or FaceTime may provide an option for video coaching to improve oral hygiene habits.

For this project, five children (four boys and one girl) and their parents were recruited. The children all had high plaque levels, high decay rate and lacked motivation. Their ages ranged from six to 13 years old. Thorough oral hygiene instructions were given at the clinical appointment, including brushing, interdental cleaning and diet suggestions. Permission was granted from each parent to contact their child for a follow-up video chat. Parents were urged to participate in the video chat as well. During each video chat, the children demonstrated how they brushed their teeth and how they cleaned between their teeth. If technique changes were needed, the RDH would use a model to show proper technique. Diet was also discussed, as well as methods that work best for each individual patient and what goals they would strive to meet before the next visit. The parents that did participate during each of the visits followed close along and were involved in the goal-setting process.

Based on the results of a questionnaire for parents, the video chats had a positive impact. Each parent reported improvement in motivation and technique. Four out of five reported their child was brushing twice daily. Parents also reported taking a more active role in their child’s oral health. All parents and children would like to continue with meetings via video chat.

Clinical Implications: Consider following up with patients using video chat technology.

Are Hygienists as Effective as They Think They are with Oral Hygiene Instructions?

The role of the dental hygienist is to instill the need, desire and ability for his or her patients to achieve optimum oral health. Too often the patient is not motivated to take an active role in their oral health. They aren’t interested in what the hygienist is saying and unwilling to comply with oral hygiene instructions. They may not see the value in what they are being told. The result is ongoing dental disease when it could be prevented.

The purpose of this study was to determine if patients correctly understood the oral hygiene instructions provided by their dental hygienist and to see if RDHs feel they are giving patients individualize instructions. A seven-question electronic survey was sent to 30 hygienists about recommendation and customization of oral hygiene instructions. A similar seven-question electronic survey was sent to 30 non-dental professionals. These were not the patients of the RDHs questioned, but represent an educated patient pool.

Of the RDHs, 57 percent responded. When asked if they offered alternatives to dental floss to clean interproximally, 100 percent answered affirmatively. Of the non-dental professionals, 46 percent responded to the survey. When asked a similar question about whether their RDH offered an alternative to flossing, only 29 percent answered yes.

These findings reflect the disconnect between what RDHs believe they are conveying to their patients and what the patients actually hear. Based on these findings, communication and motivational interviewing should include the patient in their oral health-care decisions and oral hygiene care routines.

Clinical Implications: Patients do not always hear and understand what RDHs believe they provide in their instructions to patients.


What Does it Take for Patients to Change Behavior?

Dental health-care providers expend significant effort to help each patient achieve better oral health through prevention. The problem is many patients are not very good at complying with the recommendations offered to them. They frequently return with the same problems and no real change in their oral hygiene.

The purpose of this study was to determine if a simple follow-up contact would impact behavior change in a group of 18 patients. For each patient, a specific oral hygiene recommendation was given, based on their individual needs. Included were flossing, antibacterial rinses, interdental brushes and picks.

Contact was made with the patients one week after their routine dental hygiene appointment. They were contacted via text messaging or e-mail, based on their preference.

Nineteen patients agreed to be part of this study and they were sent a short three-question survey. The patients were asked if they tried the specifically recommended item, if they liked using it, why or why not. The response rate was 50 percent. Those who responded did state that they tried the recommended product, but only 33 percent of the patients felt they would continue to use the recommended product.

This action research project showed that in a group of willing participants, only one-third changed their behavior. The author concluded from this study that follow-up contact alone is not an effective method to change behavior and does not increase compliance with oral health recommendations.

Clinical Implications: More is needed than one clinical interaction and a single follow-up contact to ensure behavior change in patients when new oral hygiene instructions are given.