

Achieving Optimal Oral Health: Oral Hygiene

by Jay Harris Levy, DDS

Far and away the most important way to care for your teeth is to develop optimal eating and mouth cleaning habits. While this advice may seem obvious, the lessons to be learned are in the details. You may need to fundamentally change some behaviors if significant changes are to occur in your oral health. Motivation begins with an understanding of how dental problems develop in the first place.

In the beginning of humanity, our early hominid ancestors had healthy mouths. The fossil record shows us that tooth decay and gum disease were quite rare among our ancestors. In fact, tooth decay and gum disease are also quite rare in more contemporary aboriginal cultures. The modern pandemic of dental disease was brought about by the development of refined foods. Studies around the world have shown that when so called "primitive cultures" were introduced to refined wheat and sugar products, rates of both tooth decay and periodontal disease skyrocketed.

Food residues from refined and processed foods provide nutrients for bacteria to flourish in the mouth. The process of splitting a whole grain of wheat and eating it in the form of a refined food (e.g. bread) releases the starchy wheat endosperm into the mouth. Bacteria within the mouth flourish in this starchy medium and produce the gooey acidic waste product called dental plaque. Many refined foods form plaque. If dental plaque is left on tooth surfaces for prolonged periods of time the effect of its low pH is to de-mineralize and decay the tooth. Plaque left on a tooth surfaces adjacent to gum tissues causes periodontal disease. Periodontal disease involves inflammation from plaque bacteria that causes the slow breakdown of the ligaments and bone that support the teeth. Signs and symptoms of periodontal disease include bleeding gums, pain on brushing, bad breath and loose teeth.

The pathway towards optimal oral health begins with eating a highly nutritious whole foods diet. A whole foods diet inhibits the growth of plaque bacteria thereby allowing oral fluids to maintain a neutral pH at all times. A neutral oral pH minimizes tooth demineralization and gum inflammation. A refined foods diet has the opposite effect by fostering the explosive growth of acid producing plaque bacteria and promoting tooth demineralization and gum inflammation.

In a larger context, the mouth is an ecosystem and whereas diet is the cornerstone of the oral ecology, effective tooth cleaning is the bedrock of modern dentistry. The minimization of dental plaque through effective tooth cleaning is an extremely important step towards balancing the oral ecology and achieving optimal oral health. We all have to brush and floss given the extensive variety of foods that are currently available in our culture. Some of us may also need to utilize other cleaning aids such proxabrushes, floss threaders or end

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tuft toothbrushes. If manual dexterity is compromised an electric toothbrush can be helpful.

Visualization of your technique is essential to proper oral hygiene. When re-learning to brush and floss correctly it is most important to use a mirror and a bright light to observe your techniques in order to ensure that all tooth surfaces are properly cleaned. The goal of effective cleaning is to cleanse all tooth surfaces. Each and every tooth must be scrubbed 360 degrees around from its emergence from the gum to the ends of its cusp tips. All teeth are encircled by cuff of gum tissue called a sulcus. The normal dental sulcus is 1 to 3 millimeters deep. A sulcus depth that is greater than 3 or 4 millimeters is considered pathological and is called a periodontal pocket.

At this time before I introduce the reader to specific cleansing techniques I would like to point out that mild discomfort and bleeding may be experienced by patients at the onset of using the brushing and flossing techniques that are described below. These symptoms will usually subside after a few days as inflammation in gum tissue is reduced. Many readers are likely to possess some form of periodontal disease, ranging from mild gingivitis to advanced periodontitis. If you experience more severe symptoms consult your dentist for treatment guidelines that are specific to your condition.

The brushing technique that is advocated by most periodontists is a sulcular technique in which the bristles of a soft toothbrush are aimed at the sulcus, and the tooth is scrubbed under the gum tissue using short horizontal strokes. To accomplish this, the bristles are aimed at a 45-degree angle to the long axis of the tooth and are placed half on the tooth and half on the gum. It is helpful to imagine the tips of the bristles dislodging plaque by being wiggled under the gum. Brush at least twice a day and establish routines when you brush. For instance, start brushing the back outer surface of your upper right last tooth, work around the outer surfaces of your teeth to the back of the upper left last tooth, work around the inside surface of this tooth leading back to the right, then clean the outside and inside of the lower teeth in a similar fashion, then finally clean the biting surfaces.

Proper flossing involves learning to manipulate dental floss with good dexterity in order to wipe clean the surfaces between the teeth that are inaccessible to a toothbrush. The tooth surfaces between all teeth should be scrubbed with floss completely down to the base of the sulci (i.e. under the gum tissue). A generous amount of floss is dispensed (e.g. 18-20 inches) and the middle finger of each hand is wrapped in floss until about 6 inches of floss connect them. Then the index fingers are used to guide the floss between the teeth while the middle fingers regulate tension on the floss. Each tooth surface is wiped separately as the floss is bent around it and moved up and down 2 or 3 times.

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Many patients with gum recession, periodontal disease or fixed bridges may not be able to access concave root surfaces using simple brushing and flossing techniques.

Proxabrushes are small Christmas tree shaped brushes that are passed between the teeth to access and cleanse these surfaces. End tuft toothbrushes have small brush heads and can be used to access root concavities behind back molars. Floss threaders are used to pass floss under a bridge to facilitate cleaning the underside of the bridge as well as the roots of its supporting teeth.

Tooth decay and periodontal disease will cause the insidious loss of teeth if changes in the oral ecology are not made. Eating refined foods can tip the oral ecology from health to disease, but effective tooth cleaning by the patient and dentist can go a long way in shifting the oral ecosystem towards optimal oral health.

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