



# CEU Update

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## **Preventive dentistry**

If you don't take care of your teeth and properly manage your oral health, you may find yourself forking over thousands of dollars in restorative dental care. Did you know that a full mouth reconstruction can cost between \$45,000 and \$80,000? By practicing preventive dentistry, you can safeguard yourself from these exorbitant dental costs.

Preventive dentistry emphasizes the importance of ongoing hygiene procedures and daily practices to prevent tooth decay and other dental diseases and conditions. Effective preventive dentistry combines at-home oral care by patients with chairside treatments and counseling by dental professionals.

For example, the American Dental Association (ADA) recommends a minimum of two dental check-ups each year for professional cleaning and management of any developing conditions. Adhering to this recommendation can help your dentist stop dental disease in its earliest stages, protecting your smile and limiting your expense.

### **Early Prevention**

Begin daily tooth cleaning as soon as your child's first tooth erupts. Visit a pediatric dentist when the first tooth erupts, or no later than 12 months of age, to establish a comprehensive oral health prevention program for your child.

### **Preventive Dentistry Strategies**

Preventive oral care strategies for children and adults include a number of in-office and home care activities, including:

**At-home oral hygiene.** The most important prevention technique is brushing and flossing at least twice a day (or after every meal) to remove dental plaque, a film-like coating that forms on your teeth. If not removed, plaque can build up and produce dental tartar; a hardened, sticky substance with acid-producing bacteria that cause tooth decay and lead to gum disease.

**Fluoride use.** Fluoride strengthens teeth and prevents tooth decay. Fluoride treatments are provided in dental offices, and dentists recommend using fluoride toothpastes and mouth rinses at home. Public water fluoridation – ranked as one of the 20th century's 10 great public health achievements – provides a major source of fluoride.

**Diet.** A balanced diet is a dental health essential. Foods with sugars and carbohydrates feed the bacteria that produce dental plaque, while calcium-poor diets increase your chances of developing gum (periodontal) disease and jaw deterioration.

**Regular dental visits.** Since most dental conditions are painless at first, if you don't regularly visit your dentist, you may not be aware of dental problems until they cause significant damage. For best results, schedule regular dental check-ups every six months; more often if you're at higher risk for oral diseases. Your dentist should also perform oral cancer screenings to check for signs of abnormal tissues. Especially for children, checking oral growth and development (including an assessment for caries de-

velopment) should be part of dental evaluations.

Dental cleanings and screenings. A dental cleaning (prophylaxis) is recommended every six months to remove dental plaque and stains you're unable to remove yourself, as well as to check for signs of tooth decay.

X-rays. X-rays enable dentists to look for signs of dental problems that are not visible to the naked eye, such as cavities between teeth and problems below the gum line.

Mouth guards. Mouth guards – particularly a custom-made mouth guard prescribed by your dentist to provide a better fit – can be worn during sports activities to protect against broken teeth. Mouth guards also are used to treat teeth grinding (bruxism), which can wear down teeth and contribute to temporomandibular joint (TMJ) disorder.

Orthodontics. A bad bite (malocclusion) can impair eating and speaking, and crooked teeth are hard to keep clean. Correcting an improper bite with orthodontics that may include the use of dental braces or clear teeth aligners (invisible braces), such as Invisalign or Invisalign Teen, limits the possibility of future dental problems.

Sealants. Sealants are thin composite coatings placed on the chewing surfaces of back permanent teeth to protect your child from tooth decay.

Avoid smoking and drinking. Smoking, chewing tobacco and alcohol consumption can negatively affect your oral health. Apart from dry mouth, tooth discoloration and plaque buildup, smoking causes gum disease, tooth loss and even oral cancer.

Oral health management. Consistent dental care for chronic dental diseases/conditions is essential for arresting or reversing their harmful effects.

Patient education. Patients who understand the outcome of poor dental health are likelier to see their dentist for preventive dentistry treatments. Instilling excellent oral hygiene habits significantly helps ensure a lifetime of dental health.

### Importance of Fluoride

Fluoride is absorbed easily into tooth enamel, especially in children's growing teeth. Once teeth are developed, fluoride strengthens tooth structure, making teeth more resistant to decay. Fluoride also repairs or remineralizes areas in which decay has already begun, thus reversing the process and creating a decay-resistant tooth surface.

### Types of Fluoride

Fluoride is available in two forms: topical and systemic.

Topical fluorides strengthen existing teeth, making them more decay-resistant. Topical fluorides include toothpastes, mouth rinses and professionally applied fluoride therapies (gels, foams, rinses or varnishes). Many dentists give topical fluoride treatment to children up to age 18. For people with rampant cavities or predispositions to decay – such as people wearing orthodontic appliances and those with dry mouth – dentists may prescribe a special gel for daily home use.

Systemic fluorides are ingested into the body and incorporate into forming tooth structures. Systemic fluorides also can give topical protection because fluoride is present in saliva, which constantly moistens teeth. Systemic fluorides include public water fluoridation or dietary fluoride supplements in the form of tablets, drops or lozenges. However, keep in mind that the type of naturally occurring and added fluoride in the water supply can vary from area to area. Consult with your child's pedodontist to learn which form will be best for your child based on your area. The ADA recommends that adults and children two years and older use a fluoride toothpaste bearing the ADA Seal of Acceptance. Consult with your child's dentist if considering the use of toothpaste before age two. The ADA also recom-

mends the use of fluoride mouth rinses, but not for children under six years old, since they may swallow the rinse.

### Other Preventive Dental Substances

Used as a dental treatment, amorphous calcium phosphate (ACP) might help in restoring the necessary mineral balance of calcium and phosphate – natural building blocks of teeth – in the mouth. When applied to tooth surfaces, ACP strengthens tooth enamel before and after bleaching, and can protect dentin after professional dental cleaning and during orthodontic treatment, helping to prevent dentin hypersensitivity. ACP is currently found in toothpaste (Arm & Hammer's Enamel Care Toothpaste) and bleaching gels (Discus Dental's Nite White), as well as professional sealants (Aegis Pit and Fissure Sealant) available in dental offices.

Many dentists also recommend xylitol, a natural sugar made from birch trees, which has been clinically shown to reduce cavities and help prevent tooth decay and gum disease. Xylitol can be used as a sugar substitute in cooking and baking, or beverages. It also is included in toothpastes, mouth rinses, chewing gums and candies.

### Technology for Dental Disease Prevention

Intraoral cameras, which can be used in conjunction with computers or television monitors, take pictures of the outside of the tooth. Digital radiography is a form of X-ray imaging where digital X-ray sensors are used instead of traditional photographic film X-ray images. Faster and easier than conventional X-rays, they offer the ability to digitally transfer and enhance images of problem areas on a computer screen next to the patient's chair, allowing for better detection and patient education. Most importantly, they emit up to 90 percent less radiation than conventional radiography.

Air abrasion is a drill-less technique used to remove tooth decay, superficial stains and discolorations, or to prepare a tooth surface for composite bonding or sealants. During air abrasion, a fine stream of particles (silica, aluminum oxide or a baking soda mixture) is aimed at the decayed portion of the tooth, and propelled toward the tooth surface by compressed air or a gas that runs through the handpiece of an instrument that works similar to a mini sandblaster. When the particle stream strikes the tooth, small particles of stain and decay are removed and suctioned off.

Diagnostic tools such as Caries I.D. and Diagnodent help detect dental caries at the earliest stage before they progress further. Caries I.D. uses Light Emitting Diode (LED) and fiber optic technologies to detect caries. The Diagnodent is a fluorescent laser that finds cavities beneath the tooth's surface that are typically not visible with X-rays.

### Importance of Caries Risk Assessment

Your dentist can customize a prevention program based on your individual caries risk assessment profile. Caries risk assessment, which involves observing the patient's clinical appearance, also takes into account the following:

Number of existing carious lesions (someone with two or more may be considered at high risk of developing future caries)

Fluoride exposure

Salivary flow rate

Diet

Medication use. Some medicines can contribute to cavities since many contain high amounts of sugar or may decrease saliva flow.

Age. Each age group – children, teens, adults and seniors – has its own set of associated risks.

Income, education and oral health attitude. Research shows that those who have low incomes or lower education and achievement are likelier to have severe and untreated dental decay.  
Clinical variables such as number of filled/restored or missing teeth  
Laboratory factors such as salivary calcium levels

### Benefits of Preventive Dentistry

Considering that oral health is linked to overall health, preventive dentistry is important to your overall well being. Oral diseases can interfere with eating, speaking, daily activities and self-esteem. In children, severe decay can affect growth and development. Preventive dentistry can result in less extensive – and less expensive – treatment for any dental conditions that may develop, and help you keep your natural teeth for a lifetime.

## **Xylitol**

Xylitol, a naturally occurring sugar alcohol used worldwide as a low-calorie sweetener, is clinically proven to reduce cavities and help prevent tooth decay and gum disease. Xylitol is found in fibrous vegetables and fruits, corn cobs and hardwood trees (like birch). Our bodies make up to 15 grams (four teaspoons) of xylitol daily. It looks, feels and tastes like ordinary sugar (sucrose), but has 40 percent fewer calories and 75 percent fewer carbohydrates than sugar. Additionally, xylitol is not easily converted to fat and has almost no effect on insulin levels, making it a great alternative for diabetics, bodybuilders and dieters. Xylitol also is considered safe for pregnant and nursing women, babies and children. Xylitol can replace sugar in cooking, baking (except when sugar is needed for yeast to rise) or in beverages as a sweetener. It also is included as an ingredient in chewing gums, mints, candies, toothpastes, mouth rinses and nasal sprays.

### How Xylitol Works

Eating sugar causes tooth decay by creating an acidic condition in the mouth. Acidity strips minerals from tooth enamel, causing it to weaken and be more vulnerable to bacteria, leading to tooth decay or demineralization.

Ordinarily, saliva bathes the mouth with an alkaline solution that neutralizes acidity and remineralizes teeth. Saliva also washes away leftover food particles and helps with digestion. However, when saliva turns acidic because of too many sweets, oral bacteria take over. These bacteria, combined with carbohydrate waste, stick to the teeth and tongue, keeping the acid close to the teeth where it erodes tooth enamel.

Xylitol is non-fermentable and cannot be converted to acids by oral bacteria. As a result, it helps restore a proper alkaline/acid balance in the mouth. This alkaline environment reduces the time teeth are exposed to acids while also starving bacteria.

### The Xylitol Effect

Xylitol serves many important functions for oral and general health. These include the following: Xylitol's antimicrobial properties help prevent tooth decay by inhibiting bacteria, particularly *Streptococcus mutans* (the oral bacteria that causes cavities) and plaque from sticking to teeth. Regular use of xylitol by mothers reduces the transmission of *Streptococcus mutans* to children by up to 80 percent during the first two years. Xylitol enhances mineral absorption in tooth enamel, increasing its strength. Consistently using small amounts of xylitol stimulates saliva flow and increases saliva's buffering ca-

capacity and protective factors. Increased saliva production is especially important for people suffering from dry mouth (xerostomia) due to illness, aging or drug side effects.

Supplemental use of xylitol, in combination with other dental therapies, can reduce the incidence of new tooth decay and arrest existing dental caries.

Chewing xylitol-sweetened gum can help prevent ear infections; the act of chewing/swallowing helps to remove earwax and clear the middle ear (between the eardrum and cochlea), while the presence of xylitol prevents the growth and attachment of bacteria in the Eustachian tubes (tubes that connect the nose and ear).

Using a xylitol nasal spray can significantly reduce the incidence of sinus infections, allergies and asthma.

Additionally, xylitol has been found to increase the activity of white blood cells involved in fighting bacteria and thus may help build immunity, protect against chronic degenerative disease and have anti-aging benefits. It has been proven effective in inhibiting *Candida albicans*, a serious yeast condition, and other harmful bacteria, including *H. pylori*, which is implicated in gum disease, bad breath, ulcers and stomach cancer.

Research shows that dietary xylitol prevents weakening of bones in rats and improves bone density, indicating xylitol's potential as a treatment for osteoporosis in humans.

Using xylitol instead of sugar and/or refined carbohydrate foods may help to lower the risk of polycystic ovarian syndrome (a condition that disrupts or stops the ovulation cycle), ovarian cysts, fibroids, endometriosis, premenstrual syndrome and possibly breast cancer.

#### Proper Xylitol Use

To help prevent cavities, you need approximately six to eight grams of xylitol (chewed or ingested) throughout the day. To help prevent ear, nose and throat problems such as sinus conditions and middle ear infections, approximately 10 grams daily is recommended.

If used only occasionally or just once a day, xylitol may not be effective, regardless of the amount. Use xylitol at least three times each day – five times is preferable – for at least five minutes right after meals and snacks. Between meals, opt for xylitol-sweetened products that encourage chewing/sucking to keep the xylitol in contact with your teeth. The xylitol effect is long lasting and possibly permanent.

#### Products Containing Xylitol

Products containing xylitol, which are more expensive than those containing sucrose and sorbitol (another popular sweetener alternative), can be found on the Internet and at health food stores. Prices for xylitol products range from around \$1.50 for xylitol-sweetened gums to more than \$50 for xylitol sweetener.

Xylitol is found most often in chewing gums and mints from brands such as IceBreakers, Biotene, Peelu, Xponent, Xylimax and Trident. For the amount of xylitol to be at decay-preventing levels, it must appear as the first ingredient.

Other products containing xylitol include toothpastes, mouth rinses, candies and nasal sprays from brands such as Epic, Xlear, Trident and Peelu. Xylitol is sold as a sugar substitute by companies such as Xlear, Swanson Health Products, Emerald Forest, XyloBurst and NOW Foods.

#### Xylitol Safety and Possible Side Effects

First used in foods during the 1960s, xylitol has earned approval as a food additive from various agencies, including the US Food and Drug Administration, the World Health Organization's Joint Expert Committee on Food Additives and the European Union's Scientific Committee for Food. Xylitol is now

part of cavity prevention programs, and dietitians recommend it as a healthy alternative to sugar and a dietary supplement.

Xylitol has no known toxicity in humans. Side effects are rare. Taking more than the recommended six to eight grams for oral care may cause stomach discomfort; taking more than 40 grams a day as a sweetener might cause some people to initially experience diarrhea, but this typically subsides with continued use.

For diabetic use, no more than 70 grams, spaced throughout the day, is recommended.

## **Tooth Whitening**

In the blossoming world of cosmetic dentistry, teeth whitening reigns supreme. Universally valued by men and women alike, whitening (or bleaching) treatments are available to satisfy every budget, time frame and temperament.

Whether in the form of one-hour bleaching sessions at your dentist's office, or home-use bleaching kits purchased at your local drugstore, teeth whitening solutions abound. Yet only 15 percent of the population has tried the cosmetic procedure, and misinformation on the subject is rife.

The long and the short of it is that teeth whitening works. Virtually everyone who opts for this cosmetic treatment will see moderate to substantial improvement in the brightness and whiteness of their smile. However, teeth whitening is not a permanent solution and requires maintenance or “touch-ups” for a prolonged effect.

### **Bleaching vs. Whitening**

According to the FDA, the term “bleaching” is permitted to be used only when the teeth can be whitened beyond their natural color. This applies strictly to products that contain bleach – typically hydrogen peroxide or carbamide peroxide.

The term “whitening,” on the other hand, refers to restoring a tooth's surface color by removing dirt and debris. So any product that cleans (like a toothpaste) is considered a whitener. Of course, the term whitening sounds better than bleaching, so it is more frequently used – even when describing products that contain bleach.

### **Why Teeth Whitening? Examining Enamel**

Most of us start out with sparkling white teeth, thanks to their porcelain-like enamel surface. Composed of microscopic crystalline rods, tooth enamel is designed to protect the teeth from the effects of chewing, gnashing, trauma and acid attacks caused by sugar. But over the years enamel is worn down, becoming more transparent and permitting the yellow color of dentin – the tooth's core material – to show through.

During routine chewing, dentin remains intact while millions of micro-cracks occur in the enamel. It is these cracks, as well as the spaces between the crystalline enamel rods, that gradually fill up with stains and debris. As a result, the teeth eventually develop a dull, lackluster appearance.

Teeth whitening removes the stains and debris, leaving the enamel cracks open and exposed. Some of the cracks are quickly re-mineralized by saliva, while others are filled up again with organic debris.

### **Tooth Discoloration: The Two Types of Tooth Stains**

There are two categories of staining as it relates to the teeth: extrinsic staining and intrinsic staining. Extrinsic stains are those that appear on the surface of the teeth as a result of exposure to dark-colored beverages, foods and tobacco, and routine wear and tear. Superficial extrinsic stains are minor and can be removed with brushing and prophylactic dental cleaning. Stubborn extrinsic stains can be removed

with more involved efforts, like teeth bleaching. Persistent extrinsic stains can penetrate into the dentin and become ingrained if they are not dealt with early.

Intrinsic stains are those that form on the interior of teeth. Intrinsic stains result from trauma, aging, exposure to minerals (like tetracycline) during tooth formation and/or excessive ingestion of fluoride. In the past, it was thought that intrinsic stains were too resistant to be corrected by bleaching. Today, cosmetic dentistry experts believe that even deep-set intrinsic stains can be removed with supervised take-home teeth whitening that is maintained over a matter of months or even a year.

### What Causes Tooth Staining?

**Age:** There is a direct correlation between tooth color and age. Over the years, teeth darken as a result of wear and tear and stain accumulation. Teenagers will likely experience immediate, dramatic results from whitening. In the twenties, as the teeth begin to show a yellow cast, teeth-whitening may require a little more effort. By the forties, the yellow gives way to brown and more maintenance may be called for. By the fifties, the teeth have absorbed a host of stubborn stains which can prove difficult (but not impossible) to remove.

**Starting color:** We are all equipped with an inborn tooth color that ranges from yellow-brownish to greenish-grey, and intensifies over time. Yellow-brown is generally more responsive to bleaching than green-grey.

**Translucency and thinness:** These are also genetic traits that become more pronounced with age. While all teeth show some translucency, those that are opaque and thick have an advantage: they appear lighter in color, show more sparkle and are responsive to bleaching. Teeth that are thinner and more transparent – most notably the front teeth – have less of the pigment that is necessary for bleaching. According to cosmetic dentists, transparency is the only condition that cannot be corrected by any form of teeth whitening.

**Eating habits:** The habitual consumption of red wine, coffee, tea, cola, carrots, oranges and other deeply-colored beverages and foods causes considerable staining over the years. In addition, acidic foods such as citrus fruits and vinegar contribute to enamel erosion. As a result, the surface becomes more transparent and more of the yellow-colored dentin shows through.

**Smoking habits:** Nicotine leaves brownish deposits which slowly soak into the tooth structure and cause intrinsic discoloration.

**Drugs / chemicals:** Tetracycline usage during tooth formation produces dark grey or brown ribbon stains which are very difficult to remove. Excessive consumption of fluoride causes fluorosis and associated areas of white mottling.

**Grinding:** Most frequently caused by stress, teeth grinding (gnashing, bruxing, etc.) can add to micro-cracking in the teeth and can cause the biting edges to darken.

**Trauma:** Falls and other injuries can produce sizable cracks in the teeth, which collect large amounts of stains and debris.

### Teeth Whitening Options

Three major teeth whitening options are available today. All three rely on varying concentrations of peroxide and varying application times.

#### In-Office Whitening

Significant color change in a short period of time is the major benefit of in-office whitening. This protocol involves the carefully controlled use of a relatively high-concentration peroxide gel, applied to the teeth by the dentist or trained technician after the gums have been protected with a paint-on rubber dam. Generally, the peroxide remains on the teeth for several 15 to 20 minute intervals that add up to

an hour (at most). Those with particularly stubborn staining may be advised to return for one or more additional bleaching sessions, or may be asked to continue with a home-use whitening system.

In-office teeth whitening cost: \$650 per visit (on average) nationwide.

#### Professionally Dispensed Take-Home Whitening Kits

Many dentists are of the opinion that professionally dispensed take-home whitening kits can produce the best results over the long haul. Take-home kits incorporate an easy-to-use lower-concentration peroxide gel that remains on the teeth for an hour or longer (sometimes overnight). The lower the peroxide percentage, the longer it may safely remain on the teeth. The gel is applied to the teeth using custom-made bleaching trays that resemble mouth guards.

Take-home teeth whitening kit cost: \$100 to \$400.

#### Over-the-Counter Whitening

The cheapest and most convenient of the teeth whitening options, over-the-counter bleaching involves the use of a store-bought whitening kit, featuring a bleaching gel with a concentration lower than that of the professionally dispensed take-home whiteners. The gel is applied to the teeth via one-size-fits-all trays, whitening strips or paint-on applicators. In many cases this may only whiten a few of the front teeth unlike custom trays that can whiten the entire smile.

Over-the-counter teeth whitening cost: \$20 to \$100.

#### Hydrogen Peroxide vs. Carbamide Peroxide

The bleach preference for in-office whitening, where time is limited, is powerful and fast-acting hydrogen peroxide. When used in teeth bleaching, hydrogen peroxide concentrations range from approximately nine percent to 40 percent.

By contrast, the bleach of preference for at-home teeth whitening is slower acting carbamide peroxide, which breaks down into hydrogen peroxide. Carbamide peroxide has about a third of the strength of hydrogen peroxide. This means that a 15 percent solution of carbamide peroxide is the rough equivalent of a five percent solution of hydrogen peroxide.

#### How White Can You Go? A Matter of Esthetics

Teeth whitening results are subjective, varying considerably from person to person. Many are immediately delighted with their outcome, while others may be disappointed. Before you embark on any whitening treatment, ask your dentist for a realistic idea of the results you are likely to achieve and how long it should take to achieve them. Expectations play a major role in teeth whitening.

#### Whitening Shade Guides

In the dental office, before-and-after tooth color is typically measured with shade guides. These are hand-held displays of wide ranges of tooth colors. (Dentists also use them in choosing crown and other restoration shades.)

The standard-setter among them has long been the Vitapan Classic Shade Guide. This shade guide standard incorporates 16 shades, systematically arranged from light to dark into four color groups, and provides a universal tooth-color terminology.

While whitening can occasionally lighten tooth color by nine or more shades, most of those who bleach their teeth are likely to see a change of two to seven shades.

#### Teeth Whitening Risks

Teeth whitening treatments are considered to be safe when procedures are followed as directed. However, there are certain risks associated with bleaching that you should be aware of:

**Sensitivity:** Bleaching can cause a temporary increase in sensitivity to temperature, pressure and touch. This is likeliest to occur during in-office whitening, where higher-concentration bleach is used. Some individuals experience spontaneous shooting pains (“zingers”) down the middle of their front teeth. Individuals at greatest risk for whitening sensitivity are those with gum recession, significant cracks in their teeth or leakage resulting from faulty restorations. It has also been reported that redheads, including those with no other risk factors, are at particular risk for tooth sensitivity and zingers. Whitening sensitivity lasts no longer than a day or two, but in some cases may persist up to a month. Some dentists recommend a toothpaste containing potassium nitrate for sensitive teeth.

**Gum irritation:** Over half of those who use peroxide whiteners experience some degree of gum irritation resulting from the bleach concentration or from contact with the whitening trays. Such irritation typically lasts up to several days, dissipating after bleaching has stopped or the peroxide concentration lowered.

**Technicolor teeth:** Restorations such as bonding, dental crowns or porcelain veneers are not affected by bleach and therefore maintain their default color while the surrounding teeth are whitened. This results in what is frequently called “technicolor teeth.”

### Maintaining Your Whiter Smile

To extend the longevity of newly whitened teeth, dentists are likely to recommend:

At-home follow-up or maintenance whitening – implemented immediately or performed as infrequently as once a year.

Avoiding dark-colored foods and beverages for at least a week after whitening.

Whenever possible, sipping dark-colored beverages with a straw.

Practicing excellent oral hygiene – brushing and flossing after meals and at bedtime.

### Caveats

In addition to the aforementioned risk factors, a number of caveats should be considered before undergoing teeth whitening:

No amount of bleaching will yield “unnaturally” white teeth.

Whitening results are not fully seen until approximately two weeks after bleaching. This is an important consideration if you are about to have ceramic restorations and want to be sure the color matches that of your newly bleached teeth.

If cosmetic bonding, porcelain veneers or other restorations are part of your treatment plan, they should not be placed until a minimum of two weeks following bleaching to ensure proper adhesive bonding, function and shade matching.

To avoid the technicolor effect, tooth-colored restorations will likely need replacement after bleaching. Recessed gums often reveal their yellowish root surfaces at the gum line. That yellow color has proven difficult to bleach.

Pregnant or nursing women are advised to avoid teeth whitening. The potential impact of swallowed bleach on the fetus or baby is not yet known.

Did you know that optimal general health starts with optimal oral health? Failure to adequately care for your teeth, gums and your bite can result in the development of medical conditions far more serious than gum disease (periodontitis) or tooth loss.

Studies suggest that a number of secondary health issues can be caused as a result of poor oral hygiene. As Dr. Mayo of the Mayo Clinic once said, “If a person can take care of their teeth and gums they can extend their life by at least 10 years.”

### CEU QUESTIONNAIRE

Complete the questions below to receive 10 continuing education credits. All questions must be answered completely to receive credit.

1. How many dental checks should a person have each year? \_\_\_\_\_  
\_\_\_\_\_
2. What does the abbreviation ADA stand for. \_\_\_\_\_  
\_\_\_\_\_
3. Name 5 preventive dental strategies or children & adults. \_\_\_\_\_  
\_\_\_\_\_
4. What does fluoride do for teeth? \_\_\_\_\_  
\_\_\_\_\_
5. What are sealants? \_\_\_\_\_  
\_\_\_\_\_
6. What products are topical fluorides in? \_\_\_\_\_  
\_\_\_\_\_
7. What is xylitol? \_\_\_\_\_  
\_\_\_\_\_
8. What is a digital x-ray? \_\_\_\_\_  
\_\_\_\_\_
9. Explain what happens during air abrasion treatment. \_\_\_\_\_  
\_\_\_\_\_
10. Who is likelier to have severe and untreated dental decay? \_\_\_\_\_  
\_\_\_\_\_
11. Where is xylitol naturally found? \_\_\_\_\_  
\_\_\_\_\_
12. What is Streptococcus mutan? \_\_\_\_\_  
\_\_\_\_\_
13. Who is increased saliva flow especially important to? \_\_\_\_\_  
\_\_\_\_\_
14. How does chewing gum prevent ear infections? \_\_\_\_\_  
\_\_\_\_\_
15. What is polycystic ovarian syndrome? \_\_\_\_\_  
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16. Name the 3 organizations that have approved xylitol as a food additive. \_\_\_\_\_  
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17. Define the term whitening. \_\_\_\_\_  
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18. What is tooth enamel comprised of? \_\_\_\_\_  
\_\_\_\_\_
19. Why do teeth eventually develop a lackluster appearance? \_\_\_\_\_  
\_\_\_\_\_
20. Name the categories of tooth stains. \_\_\_\_\_  
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21. What are extrinsic stains? \_\_\_\_\_  
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22. Name 5 causes of tooth staining. \_\_\_\_\_  
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23. What is the only condition that cannot be corrected by any form of tooth whitening? \_\_\_\_\_  
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24. Name the 3 major forms of tooth whitening. \_\_\_\_\_  
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25. What do all whiteners rely on to work? \_\_\_\_\_  
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26. Name the major benefit of in-office whitening. \_\_\_\_\_  
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27. What is the cheapest most convenient way to whiten teeth? \_\_\_\_\_  
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28. What are shade guides? \_\_\_\_\_  
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29. Name the risks associated with teeth whitening. \_\_\_\_\_  
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30. What are some ways you can maintain your whitened teeth? \_\_\_\_\_  
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31. Who is advised to avoid teeth whitening? \_\_\_\_\_  
\_\_\_\_\_
32. Which whitening procedure is most apt to cause sensitivity? \_\_\_\_\_  
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33. How can you extend your life by at least 10 years? \_\_\_\_\_  
\_\_\_\_\_
34. How does smoking affect your oral health? \_\_\_\_\_  
\_\_\_\_\_

35. What age should people start using fluoride toothpaste? \_\_\_\_\_  
\_\_\_\_\_
36. What are intraoral cameras used for? \_\_\_\_\_  
\_\_\_\_\_
37. What is a Diagnodent used for? \_\_\_\_\_  
\_\_\_\_\_

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