

# TOOTHPASTES

## BLEEDING GUMS

Our **Top Pick** toothpaste for bleeding gums is **Crest Pro-Health Advanced Gum Restore Deep Clean Toothpaste** — which is also our **Top Pick** for sensitive teeth. Our previous *Top Pick* had been *Colgate Total Fresh Mint Stripe Gel Toothpaste* (previously marketed as *Colgate TotalSF*), but this product is no longer our preferred choice because it appears to have been reformulated and it no longer contains stannous fluoride in a form shown in clinical studies to reduce staining. A clinical study funded and conducted by Proctor & Gamble (the company that makes *Crest*) that included 100 adults (average age 42) with plaque and gingivitis showed that brushing with *Crest Pro-Health Advanced Gum Restore Toothpaste* for one minute, twice daily for 12 weeks reduced the number of bleeding sites by 33.4%, and reduced the severity of plaque and gingivitis, respectively, by 16.5% and 25.6% compared to brushing with a toothpaste containing 0.76% sodium monofluorophosphate (*Colgate Cavity Protection Toothpaste* by Colgate-Palmolive) ([Klukowska, Compend Contin Educ Dent 2021](#)). This *Crest* toothpaste is ADA Accepted and contains stannous fluoride in a form that is more stable and possibly less likely to stain teeth. It costs \$6.33 for a 4.8-ounce tube when purchased in a pack of three.

## WHITENING STRIPS

Our **Top Pick** among whitening strips for intrinsic stains is **Crest 3D Whitestrips Glamorous White**, which is ADA Accepted and costs about \$40 for 14 treatments. The strips, which contain 9.5% hydrogen peroxide, can be applied once daily for about 30 minutes to whiten teeth by 8 levels. If you have sensitive teeth, *Crest 3D Whitestrips Sensitive White* — which are also ADA Accepted — may be a good option. Just be aware that the product contains less hydrogen peroxide (5.25%) — so while it may be less irritating, it is also likely to be less effective at whitening. Interestingly, a study that compared the whitening efficacy of a similar peroxide-based whitening strip (*Crest 3D Whitestrips Brilliance White*) with that of two non-peroxide whitening strips (*Brilliant Dissolving Strips* and *Fancymay Teeth Whitening Strips*) containing sodium chlorite and citric acid (which react to form chloride dioxide as the active bleaching agent) found that, after one week of use, the peroxide-based whitening strips whitened human teeth about 3.5 times more than either of the non-peroxide whitening strips. Erosion of enamel after one week of use was negligible for all whitening strip products ([Cua, Oper Dent 2022](#)).

## DRY MOUTH TOOTHPASTE

### For dry mouth symptoms:

Our **Top Pick** toothpaste for dry mouth is **Sensodyne Fresh Mint Toothpaste**. This toothpaste includes [sorbitol](#) which, although a sugar alcohol, can stimulate the production of saliva. *Biotene Fresh Mint Original Fluoride Toothpaste* is commonly promoted for dry mouth, including Sjogren's syndrome, but it is not our *Top Pick* as it costs more than *Sensodyne* (\$2.44/oz vs. \$1.56/oz), although, like *Sensodyne*, it also contains sorbitol and does not contain SLS or pyrophosphates. *CloSYS Sensitive Toothpaste with Fluoride* is also sometimes used for dry mouth, but this product is not our *Top Pick* because it costs slightly more (\$1.64/oz).

## MOUTHWASH BAD BREATH

### For bad breath (mouthwash):

Among mouthwash products that are available over-the-counter in the U.S., our **Top Pick** for bad breath is **CloSYS Sensitive Rinse** (36 cents per fl oz). This product contains stabilized chlorine dioxide, a broad-spectrum disinfectant (killing bacteria as well as viruses), and is ADA accepted as beneficial for bad breath. Our **Runner Up** in this category is **TheraBreath Fresh Breath Oral Rinse** (48 cents per fl oz), which contains sodium chlorite (which has similar disinfectant properties) and is also ADA Accepted. [Note that another CloSYS product, *CloSYS Silver Multi-Benefit Fluoride Rinse*, is *not* accepted by the ADA for reducing bad breath, although it does contain stabilized chlorine dioxide and is accepted for helping prevent tooth decay and cavities.]

## IS FLUORIDE SAFE ?

# Is fluoride safe?

Fluoride is safe for adults and children older than 6 months when used appropriately. Getting too much fluoride from toothpaste can increase the risk of **fluorosis**, a condition in which teeth and bones become brittle, and white or brown streaks can occur in developing teeth in children. Children may be at a higher risk of fluorosis since they are more likely to swallow toothpaste and because ingested fluoride is incorporated into the still-developing permanent teeth. Overexposure to fluoride can be limited by giving children younger than 3 years of age no more than a "rice-sized smear" of toothpaste, and children ages 3 to 6 years no more than a "pea-sized amount" and by ensuring that children spit after brushing ([ADA, Oral Health Topics: Toothpastes](#)). While exposure to fluoride in drinking water may increase the risk of fluorosis, cases tend to be mild (i.e., visible to only a dentist) ([Hung, JAMA Netw Open 2023](#)), and **combined use of fluoride toothpaste and fluoridated water (0.7 mg of fluoride per liter of water) provides greater benefit for preventing tooth decay than either form used alone** ([CDC, 10-10-2019](#)). If you live with children and have drinking water that contains a low amount of fluoride (<0.6 ppm) — which may include those who use private well water, those who purify their water using reverse osmosis, or who use [certain water pitcher filters](#) that remove fluoride — experts recommend talking with your child's dentist or pediatrician to determine if the child may benefit from a fluoride supplement ([AAPD, Best Practices: Fluoride Therapy 2023](#); [Moyer, Pediatrics 2014](#); [Rozier, J Am Dent Assoc 2010](#)). No studies have evaluated the effects of fluoride *supplements* on cavity prevention in adults, and there are no recommendations that adults who drink water that is low in fluoride should take a fluoride supplement.

Ingesting a large amount of fluoride can cause nausea, vomiting, abdominal pain, and diarrhea, and even higher doses might cause serious adverse effects including seizures and tetany. However, an adult would need to consume about 13.2 oz or about 1.5 full tubes of standard toothpaste, and a child would need to consume about ¼ of a tube, to experience these issues ([AAPD, Best Practices: Fluoride Therapy 2023](#)).

**Topical fluoride does *not* adversely affect the oral microbiome**, according to a review of 22 studies. In fact, some studies showed a benefit of topical fluoride in reducing levels of cavity-related bacteria such as *S. mutans* ([Moran, Toxicol Lett 2023](#)).

Although some research linked *community water fluoridation* with increased risk of attention deficit-hyperactivity disorder (ADHD) in children, a cause-and-effect relationship has not been proven, and there is **no evidence that fluoride in toothpaste causes ADHD**. Despite some concern that higher maternal intake of fluoridated water during pregnancy might adversely affect the child's intelligence later in life, the American Academy of Pediatric Dentistry states that "**current evidence does *not* support that consuming water fluoridated at the level 0.7 ppm F is associated with reductions in IQ**" ([AAPD, Best Practices: Fluoride Therapy 2023](#)). There does not appear to be any link between the use of fluoridated toothpaste and reductions in IQ among children or adults.

Similarly, many reviews have investigated an association between fluoride exposure and thyroid dysfunction. According to the ADA, the "**best available evidence indicates that optimally fluoridated water does *not* have an adverse effect on the thyroid gland or its function**" ([ADA, Fluoridation Facts 2018](#)). Although one study published in 2015 suggested that living in areas with water fluoridation was associated with an increased risk of hypothyroidism compared to living in a non-fluoridated region ([Peckham, J Epidemiol Community Health 2015](#)), this study was criticized for not assessing fluoride intake and for not considering confounders such as **iodine exposure**, smoking status or medication use, which can affect thyroid health ([Foley, Br Dent J 2015](#); [Warren, J Evid Based Dent Pract 2015](#)). There is **no evidence that fluoride in toothpaste affects thyroid function**, and fluoride intake *from toothpaste* is far less than fluoride intake from food and beverages. For adults, estimated daily intake of fluoride from toothpaste is 0.1 mg compared to 2.9 mg from food and beverages ([NRC, Fluoride in Drinking Water 2006](#); [EPA, Fluoride: Exposure and Relative Source Contribution Analysis 2010](#)).

# Should you floss before or after brushing?

**To maximize the benefit of fluoride toothpaste, floss *before* rather than after brushing**, as this was shown to cause greater reductions plaque and a greater concentration of fluoride in plaque that remains between the teeth (prolonging exposure of the enamel to fluoride) ([Mazhari, J Periodontol 2018](#)).

It is best to **only spit toothpaste out but do *not* rinse with water after brushing** with non-prescription fluoride toothpaste, to allow fluoride to penetrate enamel ([Turska-Szybka, Int Dent J 2024](#); [Khan, Int J Health Sci 2022](#)). The amount of fluoride remaining after spitting is not likely to be a concern among adults. The amount of fluoride in a typical portion of fluoride toothpaste used for a single brushing is 1.3 mg. Even if a person brushed twice daily and swallowed *all* of the toothpaste (which is *not* recommended and would be more than the amount ingested if one spits after brushing), the amount of fluoride consumed would be 2.6 mg, which is still below the upper limit of 10 mg ([Fluoride in Drinking Water, 2006](#)).

Although unrelated to the effects of fluoride, it may be prudent to **brush your teeth after eating breakfast**, as brushing before breakfast has been linked with increased risk of dental erosion ([Bartlett, J Dent 2013](#)). Similarly, it is best to **avoid brushing for 30 minutes to 1 hour after eating** — especially if acidic foods are consumed — to first allow saliva in the mouth to wash away acids and help re-harden the enamel ([ADA, Tooth Erosion 2020](#)).

## Is mouthwash really necessary and, if so, when should you use it?

Use of fluoride mouthwash *in combination with* fluoride toothpaste may be beneficial for people at high risk of cavities, but it might not have added benefit for other people ([Fluoride Recommendations Work Group, MMWR Morb Mortal Wkly Rep 2001](#)). It is best to **avoid rinsing with mouthwash for about 30 minutes after brushing**, as it may dilute the concentration of fluoride on your teeth from your toothpaste or, in the case of chlorhexidine or cetylpyridinium mouthwashes, reduce the antiseptic effects of the mouthwash ([Khan, Int J Health Sci 2022](#); [Dagher, Br Dent J 2019](#); [Osso, J Dent Hyg 2013](#)). One way to accommodate this time spacing is to choose a different time of day to use mouthwash, such as after lunch. Also, **avoid rinsing with water, eating or drinking for 30 minutes after using fluoride-containing or antiseptic mouthwashes** ([NHS, 2022](#); [Peridex Oral Rinse Product Monograph, 2007](#)). In general, it seems best to **limit use of mouthwash to twice per day**. Using any type of mouthwash more than twice per day has been linked with increased risk of developing prediabetes and diabetes ([Joshiyura, Nitric Oxide 2017](#)).

## Are natural toothpastes effective and safe?

While "natural" toothpastes (including products from Tom's of Maine and Redmond Earthpaste) can have oral benefits, if they don't contain fluoride, they won't necessarily prevent cavities ([Walsh, Cochrane Database Syst Rev 2019](#)), although keep in mind that some "natural" toothpastes, such as *Tom's of Maine Whole Care Toothpaste*, do contain fluoride.

Any toothpaste with an abrasive can help reduce plaque when used in regular brushing ([Tatikonda, J Int Soc Prev Community Dent 2014](#); [Mullally, J Clin Periodontol 1995](#); [Gillam, J Clin Periodontol 1992](#)). However, some natural toothpaste abrasives such as diatomaceous earth or calcium carbonate may be much more abrasive than toothpaste ingredients such as hydrated silica, trisodium phosphate, and/or baking soda ([Marchetti, Master's Thesis \(NJIT\) 1997](#)). In general, baking soda is not too abrasive (so it is unlikely to damage enamel), and toothpastes containing baking soda are considered safe for most people ([Ciancio, JADA 2017](#); [Putt, J Clin Dent 2008](#)), although baking soda alone, or toothpastes with only baking soda, are not approved by the ADA due to the lack of fluoride and, if used in excess in place of toothpaste, baking soda may increase the risk of metabolic alkalosis (an increase in the body's pH, which can lead to serious side effects), particularly among people with kidney disease ([Cervantes, BMC Nephrol 2020](#)).

Be aware that "natural" does not always mean free of potential toxins. For example, *Redmond Earthpaste* products, when sold in California, generally include a Prop 65 warning regarding exposure to lead or other heavy metals because they contain bentonite clay in which these metals can be present — although the amount per pea-sized serving is likely to be very small and it is unclear how much gets swallowed and absorbed. For example, [testing in 2025](#) of *Redmond Silver Earthpaste, Lemon Twist Mineral Toothpaste* by [Lead Safe Mama](#) found 3,500 ppb of lead, meaning that a pea-sized serving would contain 0.875 mcg of lead — much of which would not be consumed. Even if fully consumed, this would fall below the FDA's suggested maximum daily limit of 8.8 mcg for women of childbearing age and 2.2 mcg for children ([FDA, 1/6/25](#)). Lead Safe Mama's testing also found *Silver Earthpaste* to contain 0.675 mcg of arsenic in a pea-size serving, although this is well below 10 mcg/serving ([EPA limit](#) based on 1 liter of water). Applying a mixture of [turmeric](#) and coconut oil to teeth has been promoted on social media for whitening stained teeth, but the [American Dental Association](#) says there is no evidence that turmeric provides this benefit, and turmeric may stain teeth as well as dental restoration material.

## Can any toothpaste "restore" enamel?

Despite product names such as *Crest Pro-Health Advanced Enamel Restore Toothpaste* or *Sensodyne Pronamel Intensive Enamel Repair Toothpaste*, enamel cannot grow back or be restored once it is gone. However, toothpastes containing fluoride can help remineralize and strengthen any remaining enamel to help protect against further tooth enamel erosion ([Penn Dental Family Practice, Accessed 5/5/22](#)).

Toothpastes that include fluoride along with hydroxyapatite (*Mentadent Maximum Protection Sensitive*) or a combination of arginine and calcium carbonate along with fluoride (*Elmex Sensitive Professional*) may help promote remineralization better than fluoride alone ([Gandolfi. Int J Dent Hygiene 2023](#)). Unfortunately, as noted **above**, the only arginine toothpaste readily available in the U.S. does not appear to contain fluoride. Toothpastes available in the U.S. that do contain fluoride and hydroxyapatite include *Dr Jen Super Paste Natural Remineralizing Toothpaste* (which contains 10% nanohydroxyapatite and sodium fluoride) and *CariFree Gel 1100 Anticavity Toothpaste* (which contains 15% nanohydroxyapatite and sodium fluoride).

## What should people with crowns, veneers, and implants consider when selecting a toothpaste?

What to look for:

The American College of Prosthodontists (ACP) recommends that people with veneers or single crowns or single implants brush twice daily with a fluoride-containing toothpaste. The ACP does not specify which fluoride toothpaste to use, but some experts suggest choosing a **toothpaste with an RDA of 70 or less** ([Bidra. J Prosthodont 2016](#)).

For people with **multiple crowns**, the ACP recommends use of **toothpastes containing very high-fluoride (5,000 ppm)** to protect the underlying teeth (for comparison, most OTC fluoride toothpastes contain 1,000 to 1,500 ppm fluoride) or 0.3% triclosan (an antibiotic) ([Bidra. J Prosthodont 2016](#)). A prescription is needed for such toothpastes.

What to avoid:

People with dental restorations should not use **whitening toothpastes**, as many of these can be too abrasive and the chemical whiteners will not remove stains from composite or porcelain materials, potentially leading to color differences between natural teeth and restorations ([Haywood. J Am Dent Assoc 1997](#)).

Be aware that regularly consuming **foods with dark color**, such as [turmeric](#), may cause staining of dental restoration material (as well as natural teeth).

Toothpastes and toothpaste tablets containing **charcoal** should be avoided by people with dental work made of resin-based composites (such as tooth-colored fillings and bonding). A laboratory study in California found that *Activated Charcoal Toothpaste Tablets* increased the roughness of resin-based composites by 164%, which was significantly greater than the effect of toothpaste or tablets not containing charcoal ([Ko. Oper Dent 2024](#)).

The ACP does not recommend for or against the use of mouthwash by people with dental restorations ([Bidra. J Prosthodont 2016](#)). However, since alcohol may soften the material used to bond veneers to teeth or may cause discoloration ([Sasany. J Esthet Restor Dent 2021](#)), **alcohol-containing mouthwashes** should be avoided. Be aware that alcohol may not be listed as an active ingredient on the label. Be aware that **mouthwash containing chlorhexidine or cetylpyridinium chloride** may cause staining of dental crowns, particularly with long-term use ([Tartaglia. Ther Adv Drug Saf 2019](#)).

## What strategies can help reduce dry mouth symptoms?

Brush regularly to reduce decay and infections

Because dry mouth can increase the chance of tooth decay and oral infections, experts recommend that people with dry mouth brush *gently* with a fluoride toothpaste at least twice daily and floss every day.

Avoid toothpaste with alcohol, detergents, and pyrophosphates

It may be best to avoid toothpastes containing alcohol (such as *Crest Complete + Scope*), as alcohol can irritate dry mouth. Similarly, some experts recommend avoiding toothpastes with ingredients such as [SLS](#) (a detergent) or [pyrophosphates](#) (a tartar control ingredient), both of which can cause irritation in some people, and suggest using a low-abrasive toothpaste ([Retamozo. Drugs Aging 2021](#)).

Consider salivary stimulants

People with dry mouth and low salivary gland function may benefit from salivary stimulants. One simple strategy the [ADA recommends](#) is chewing sugar-free gum or sucking on sugar-free candies, which stimulate saliva by the mechanical action of chewing or sucking. Many such candies and gum also contain [xylitol](#), which can help further

increase saliva product by stimulating taste receptors and might help reduce bacteria in the mouth and prevent cavities. Be aware that [xylitol, as well as sorbitol](#), in these products can cause diarrhea or gas when used in large amounts. Several cases of diarrhea, crampy abdominal pain, fecal urgency and incontinence, and weight loss have been attributed to chewing sorbitol-containing gum. The side effects of sorbitol are typically dose-dependent, with diarrhea tending to occur at doses of more than 20 grams per day, although this side effect can vary from person to person, with some people experiencing symptoms at doses as low as 5 grams per day and others experiencing only minor discomfort at doses as high as 40 grams per day ([Liauw, Can Fam Physician 2019](#); [Bauditz, BMJ 2008](#); [Goldberg, Am J Dig Dis 1978](#)). For reference, a typical piece of sugar-free gum contains about 1.1 to 2.2 grams of sorbitol, while sugar-free candy typically contains about 1.1 to 5.5 grams per piece (although some have been found to contain as much as 10 grams of sorbitol per serving) ([CSPI, 9-27-1999](#); [Payne, J Am Diet Assoc 1997](#)). Keep in mind that [sorbitol can also be found in some supplements](#).

Another option is **XyliMelts (by OraCoat)**, which are thin discs that stick onto the inside of the mouth and release xylitol (550 mg per disc). A study among 5 people with dry mouth showed that saliva production more than doubled at 10 and 40 minutes after adhering a disc in the mouth compared to control (only usual care) and that, after 7 days of use averaging 4 discs during the daytime and another two while sleeping, users reported improvements in dry mouth symptoms such as getting food stuck in the mouth or throat and having difficulty chewing and swallowing, but there was no improvement in oral comfort upon waking in the morning and needing to sip liquids to aid swallowing. The participants reported that single melts lasted less than 3 hours during the day but for up to 6 hours at night ([Ho, Dentistry \(Sunnyvale\) 2017](#)). The average cost per day of using 6 melts is about \$1.35 (\$17.99 per 80 stick-on melts). At least one reviewer on Amazon stated that the melts can come loose even when used as directed. Also, see our [warning about xylitol in supplements](#) for information about safety concerns of xylitol if consumed by dogs. There are also medications — including pilocarpine (*Salagen*) and cevimeline hydrochloride (*Evxoxac*) — that stimulate saliva production. Be aware, however, that these products can cause sweating, nausea and vomiting, diarrhea, hiccups, low blood pressure, slow heart rate (bradycardia), increased urinary frequency, bronchoconstriction, and vision problems ([Cohen-Brown, Quintessence Int 2004](#)).

#### Oral moisturizers

Over-the-counter oral moisturizers, sometimes referred to as artificial saliva or saliva substitutes, typically contain carboxymethylcellulose and glycerin (to increase the viscosity of saliva), as well as other ingredients for buffering the pH of the saliva and for flavoring. The moisturizers may also contain calcium, phosphate, and fluoride, but they do not contain other essential components of natural saliva, such as digestive and antibacterial enzymes. While these products cannot cure dry mouth, they might help relieve symptoms temporarily ([ADA, Last Updated 2-22-21](#)).

The only oral moisturizer that is ADA Accepted for dry mouth, meaning that it is safe and supported by evidence showing that it can help temporarily relieve symptoms of dry mouth, is **Biotene Dry Mouth Oral Rinse**, which contains glycerin (to increase saliva viscosity), xylitol (described above) and sorbitol (a sweetener), sodium and disodium phosphate (buffering agents), and other ingredients and costs \$10.69 for 33.8 fl oz (1 liter). It is recommended that 15 mL of this product be used to rinse the mouth up to 5 times per day. Although this product also contains sorbitol, which can increase gastrointestinal side effects when consumed in large amounts, it seems unlikely that this product would cause such side effects since it is not to be swallowed.

Another popular oral moisturizer for dry mouth is **Allday Dry Mouth Spray** (\$15.88 per two 1.5 fl oz bottles). The product can be used throughout the day as needed. It contains xylitol, glycerin, and other ingredients, and is reportedly manufactured to a neutral pH (pH ~7) to reduce erosion of teeth. The product's [website](#) claims that "Allday spray holds 24% more moisture than Biotene® spray after 2 hours." However, data behind this does not appear to have been published and, unlike *Biotene Dry Mouth Oral Rinse* — which remains our *Top Pick* for oral moisturizers, *Allday Dry Mouth Spray* is not accepted by the ADA. The effect of *Allday* spray lasts about 30 minutes up to a couple of hours, so it may not be helpful for relieving symptoms at night.

#### Lifestyle modifications

Lifestyle modifications may also help reduce symptoms of dry mouth and improve quality of life in people with this condition. Such modifications include the following:

- Sipping water or sugarless, caffeine-free drinks throughout the day
- Sucking on ice chips
- Applying lip lubricants often (every 2 hours)
- Avoiding salty or spicy foods, sugary foods, or dry, hard-to-chew foods
- Avoiding irritants such as alcohol, tobacco, and caffeine, as well as mouth breathing
- Drinking fluids while eating
- Using a humidifier at night

## Are nighttime teeth guards available online effective?

"Custom-fitted" nighttime teeth guards (also called night guards), such as those from Smile Brilliant, are available for online order, but these may not be as effective as those made by a dentist. One reason for this is that nighttime teeth guards ordered online may not be made with material that is suitable for all individuals. For instance, Smile Brilliant night guards are made with ethylene vinyl acetate or EVA. Night guards made with EVA are typically considered to be "soft guards," meaning they might be suitable for people who *lightly* clench or grind their teeth at night. However, harder appliances made with acrylic are generally recommended for people who are heavy clenchers or grinders ([Bereznicki, BDJ 2018](#)).

In addition, although mail-order nightguards might be better than no guard, it's generally best to have them made by a dentist so that the guard can be properly adjusted to one's occlusion.

Be aware that certain bacteria in saliva can survive on EVA surfaces, which stresses the importance of washing dental devices made of EVA with water and properly storing the devices in ventilated, dry environments ([Ogawa, Int J Oral Sci 2012](#)).

## Can oral hygiene practices affect blood pressure?

There does not appear to be any strong evidence linking fluoride in dental products with increased risk of high blood pressure in people. In addition, an analysis of data from five placebo-controlled studies showed that using 0.12% to 0.2% chlorhexidine mouthwash for up to one week does not significantly affect systolic, diastolic or mean arterial blood pressure compared to placebo ([Farook, Int J Dent Hyg 2023](#)).