

WHAT MAKES AN AGD DENTIST A GREAT DENTIST?

A dentist who belongs to the Academy of General Dentistry (AGD) is one of 35,000 dentists dedicated to continuing their dental education to provide the best possible care to their patients.

An AGD dentist:

- Must complete 75 hours of continuing dental education every three years.
- Is educated and trained in all areas related to the diagnosis, treatment, and management of a patient's oral health.
- Is up to date on the latest procedures and technologies.
- Is dedicated to educating and enabling you to make the most informed dental health choices.

To find an AGD member dentist, call **1.877.2X.A.YEAR** (1.877.292.9327) or go online at www.agd.org/findadentist

For dental health information and free advice, visit the SmileLine at <http://forums.agd.org/agdsmileline> where you can post questions to be answered by an AGD member.

Experience *The AGD Difference*



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The same thing can happen to your teeth.

A patient's guide to tooth erosion
and better oral care



THE GOOD NEWS/BAD NEWS ABOUT YOUR TEETH

The good news is that with proper oral hygiene and regular dental care, you have an excellent chance of keeping your natural teeth for a lifetime.

The bad news is that over a lifetime your teeth will be exposed to many more acids in foods and drinks — and they can wear down the enamel of your teeth.

This process is called tooth erosion.

Today's diets include many foods and drinks that contain acid and can erode teeth. Some are healthy like fruits and fruit juices. Some aren't, like carbonated soft drinks.

Acid is the leading cause of tooth erosion.

Tooth erosion occurs when acidic chemicals wear away a tooth's outer covering or enamel.

When exposed to acidic foods and drinks, tooth enamel is temporarily softened and loses mineral content. Saliva can neutralize the acidity and reharden the enamel. But because rehardening occurs slowly, with continual acid exposure, the tooth does not have time to repair itself.

Over time, tooth erosion leaves the inner tooth structure exposed, weakened, and sensitive. When the enamel is soft and we brush our teeth, the tooth enamel can be worn away more easily.

Thinning of the enamel can cause everything from tooth sensitivity to tooth loss.

WHO IS AT RISK FOR TOOTH EROSION?

Anyone who eats (and that's all of us) can be affected by acid erosion. But certain people are at higher risk than others — even those who enjoy an active lifestyle and healthy diet!

People who drink a lot of carbonated beverages

Many colas and other soft drinks (even sugar-free varieties) are extremely acidic. Children and teens are especially at risk.

People who eat a healthy diet

Many healthy foods that are good for you contain acid.

People who are heavy coffee and herbal tea drinkers

Coffee and some herbal teas are very acidic and sipping them throughout the day can cause tooth erosion.

Active people who consume sports drinks

Studies have shown the enamel damage caused by sports drinks are 3 to 11 times greater than cola beverages.

Children with baby teeth

The enamel of baby teeth is softer and more vulnerable to acid erosion.

People who have dry mouth (xerostomia)

Because saliva plays an important part in neutralizing acids in the mouth, people with dry mouth are more susceptible to tooth erosion.

People who suffer from chronic acid reflux or gastroesophageal reflux disease (GERD)

One study found that 11 out of 20 patients with GERD had tooth erosion.



SIGNS OF TOOTH EROSION

The effects of tooth erosion cannot be reversed. When enamel is gone, it is gone forever. Severe damage may require teeth to be removed.

Early Signs

Sensitivity when consuming hot or cold foods and drinks

A yellowish appearance as the tooth enamel thins

A rounded “sandblasted” look on the surface of the teeth¹

¹Acid erosion and abrasion: Signs and Diagnosis. (2006). Retrieved July 18, 2007, from GlaxoSmithKline, Acid Erosion Web site: <http://www.aciderosion.com/erosion/signs.aspx>

Later Signs

Transparency on the biting edge

A darker, more yellow appearance

Extreme sensitivity to hot and cold

Small dents on the tooth surface



WHAT YOU CAN DO TO PREVENT TOOTH EROSION

It is impossible to completely avoid the effects of acid erosion on your teeth. The challenge is to minimize the amount of time your teeth are exposed to acids.

Think about:

What and How You Eat and Drink

- Reduce or eliminate carbonated soft drinks (including sugar-free varieties) in your diet.
- Use a straw directed to the back of your mouth to reduce the contact your teeth have with acids.
- Drink acidic drinks quickly. Don't hold them in your mouth or take many sips over a long period of time.
- Don't suck on sour fruits, candies, or frozen fruit juices.

After You Eat and Drink

- Rinse your mouth out with water right after consuming acidic drinks or food.
- Eat a piece of cheese to neutralize the acid.
- Chew sugar-free gum to increase saliva flow in your mouth.

How You Care for Your Teeth

- Don't brush your teeth immediately after having an acidic food or beverage. Wait at least one hour before brushing your teeth.
- Use a soft toothbrush and brush gently. Brush your teeth twice a day.
- Use a toothpaste recommended by your dentist that is designed to reharder softened tooth enamel.
- Get regular dental checkups and tell your AGD dentist about any concerns you have.

THE ACID TEST FOR FOODS & DRINKS

FREQUENTLY ASKED QUESTIONS

Acidity is measured by pH. A pH level of 7 is considered neutral, neither acidic nor alkaline. Many common foods and beverages have a pH level below 4 – acid levels that cause tooth erosion.

ITEM	APPROXIMATE pH
Tap water	7.7 - 7.0
Milk	6.4 - 6.8
Cheddar cheese	5.9 - 6.0
Bread	5.0 - 6.2
Bananas	4.5 - 5.2
Tomatoes	4.3 - 4.9
Beer	4.0 - 5.0
Ketchup	3.8 - 4.0
Root beer	3.8 - 4.0
Honey	3.7 - 4.2
Diet lemon-lime soda	3.7 - 3.8
Orange juice	3.3 - 4.2
Dill pickles	3.2 - 3.7
Lemon-lime soda	3.2 - 3.3
Blueberries	3.1 - 3.3
Apples	3.1 - 3.9
Diet cola	3.0 - 3.3
Grapefruit	3.0 - 3.8
Iced tea	2.9 - 3.0
Vinegar	2.4 - 3.4
Coffee	2.4 - 3.3
Cola	2.4 - 2.5
Sports drinks	2.3 - 4.4
Wine	2.3 - 3.8
Lemon juice	2.0 - 2.6
Battery acid	1.0

SOURCES: The U.S. Food and Drug Administration, Center for Food Safety and Applied Nutrition, April 2007; Jain, Nihill, Sobkowski, Agustin, *General Dentistry*, March/April 2007

Q. *What is the difference between tooth erosion and tooth decay?*

A. Tooth erosion refers to the action of acid on the entire tooth surface. Tooth decay (cavities) is caused by bacteria that target areas, such as pits, grooves, and spots where teeth touch.

Q. *What are the major causes of tooth erosion?*

A. Tooth erosion is caused by acidic foods and drinks that wear away tooth enamel. Today, with Americans consuming an average of 46.4 gallons of soft drinks a year (2003), carbonated beverages are considered a major cause of tooth erosion. Continuous consumption of soft drinks (including sugar-free varieties) throughout the day can result in serious erosion due to the citric and/or phosphoric acids in those beverages. Brushing your teeth immediately after consuming acidic foods or drinks can quickly wear away the softened enamel.

Q. *Are there any products that can reverse or prevent tooth erosion?*

A. Once tooth enamel is lost, it is gone forever. However, fluorides and toothpastes designed to reharder tooth enamel make it more resistant to acid attack.

Q. *What can a general dentist do to help me avoid tooth erosion?*

A. A general dentist can determine if your teeth show early or late signs of tooth erosion and make recommendations to help reduce the wear.

