

# Acid Reflux and Oral Health

Acid reflux (also known as gastroesophageal reflux) is a common condition that occurs when acids from the stomach flow upward into the esophagus (the tube that connects the mouth to the stomach) and occasionally into the mouth.

Sometimes acid reflux progresses to GERD – gastroesophageal reflux disease – a more severe form of reflux. The stomach acid flowing up into the esophagus irritates and inflames the lining of the esophagus.

Left untreated, acid reflux and GERD can have an impact on overall health as well as oral health. Individuals who have the disease are at risk for serious damage to the esophagus, including developing esophageal cancer. But they may not realize they are also at an increased risk for tooth erosion and oral health problems.

## HOW ACID REFLUX OCCURS

Stomach acid is produced to help digest food. Normally when swallowing, the lower esophageal sphincter (a circular band of muscle around the bottom part of the esophagus) relaxes to allow food and liquid to flow down into the stomach. The sphincter then returns to a closed position. With GERD, this band of muscle doesn't function properly, allowing acids to flow upward into the esophagus. While the lining of the stomach is strong enough to handle the corrosive effects of these acids, the lining of the esophagus is not, so a burning sensation occurs.

Over time, from constant exposure to stomach acids, some people develop a disease called Barrett's esophagus. Although uncommon, once diagnosed, there's a greater risk of developing esophageal cancer.

## THE IMPACT ON ORAL HEALTH

The stomach's gastric acids are refluxed up through the esophagus and into the oral cavity. Constant exposure to these acids can erode the tooth's outer surface (enamel). Often clients are not aware of the damage that reflux-induced erosion has caused to their teeth until it has reached an advanced stage of destruction.

Silent GERD, presenting without the symptoms of acid burn or heartburn, could still erode tooth enamel.

Tooth enamel begins to dissolve at a pH (acid level) of 5.5 and because stomach acid has an extremely low pH of 2.0, significant chemical erosion could result. If significant enamel is lost, then the underlying tissue (called dentin) may be exposed. This can lead to permanent weakening of the teeth that are prone to chipping, increased wear and decay. Teeth may



become overly sensitive and unsightly, possibly leading to extensive restorations, fillings, crowns and bridge work.

## SIGNS AND SYMPTOMS

- Heartburn – a burning sensation in the chest
- Regurgitation of food or sour liquid
- Difficulty swallowing
- Coughing, wheezing and chest pain, especially while lying down
- Hoarseness and sore throat
- Belching, nausea, vomiting
- Stomach ache and pain on awakening
- Sinus infections
- Asthma may worsen
- Burning mouth
- Tooth enamel erosion – increased wear and decay
- Tooth chipping, sensitivity, discolouration (yellow appearance)
- Bad breath

## RISK FACTORS

Adults, infants and children can have GERD. The following risk factors can increase acid reflux symptoms:

**Lifestyle** – Use of alcohol or cigarettes, obesity and poor posture (slouching)

**Medications** – For high blood pressure, asthma and allergies

**Diet** – Fatty and fried food, chocolate, garlic, onions, drinks with caffeine, alcohol, acidic food such as citrus fruits and tomatoes, spicy food, carbonated drinks, peppers, radishes and mint flavouring

**Eating disorders** – Compulsive overeating, bingeing and purging

**Eating habits** – Consuming large meals and/or eating just before bedtime

*In addition...*

- Acid reflux together with bruxism (tooth clenching and grinding) can increase tooth wear.
- Other conditions such as brushing teeth aggressively and long-term exposure to acid from vomiting (bulimia) can erode the surfaces of the teeth.

## TREATMENT AND CARE

Acid reflux and GERD are considered chronic conditions, which means once individuals experience them, they will likely have bouts of them for the rest of their lives. Fortunately, there are measures to control it.

Dental hygienists have an important role in helping to prevent or reduce dental erosion that can lead to tooth wear and decay by educating clients about diet and lifestyle changes. In some cases, dental hygienists will refer clients to physicians, gastroenterologists, oral surgeons, dietitians and other health professionals for treatment and counselling.

- Dental hygienists assess and evaluate clients with dental erosion, e.g., identify causes and the clinical signs and symptoms of reflux and evaluate dietary habits.
- They develop and customize preventive home care programs.
- Treatment for tooth sensitivity may include the use of desensitizing agents for in office and/or at home. Dental hygienists may apply fluoride treatments to strengthen teeth. The most effective way to prevent further tooth enamel loss is to eliminate acid reflux and change dietary habits.



- Wearing a night guard may be recommended to help prevent additional damage to the surfaces of the teeth.

### Maintaining good oral hygiene

- Visit a dental hygienist for regular professional cleaning and evaluation/treatment for tooth erosion.
- Brush twice a day using a toothpaste for dentin sensitivity. Use a low abrasive fluoridated toothpaste and a soft toothbrush. Toothpastes containing baking soda are low in abrasion and will aid in neutralizing acids.
- Do not brush after being exposed to acid, whether from acid reflux or food and beverages. Because acid softens the tooth's surface, brushing will cause more enamel loss. Wait 60 minutes until the natural flow of saliva washes away and neutralizes the acids.
- After reflux episodes, rinse with water or use a sugar-free antacid and let it dissolve in the mouth.
- Avoid mint flavoured products, since they relax the valve that can release the backward flow of stomach acid.

### Tips for self-care

- Adopt lifestyle changes, e.g., avoid alcohol and nicotine, lose excess weight. Smoking decreases the esophageal sphincter's ability to function properly.
- Eat smaller more frequent meals; eating a lot of food at one time increases the amount of acid needed to digest it.
- Avoid food that triggers heartburn, e.g., coffee, fatty and spicy food, chocolate.
- Refrain from eating three hours before bedtime; an empty stomach decreases acid production.
- Elevate the head of the bed to relieve reflux symptoms when lying down.
- Maintain good posture; standing straight and sitting upright helps food and acid pass through the stomach instead of backing up into the esophagus.
- Avoid clothes that fit tightly around the waist and bend from the knees to reduce pressure on the abdomen.
- See a physician if symptoms are recurrent or extend beyond two weeks.

*As professional health-care providers, dental hygienists are primarily concerned with promoting good oral health. Dental hygiene is among the largest of the regulated health-care professions in the province. In Ontario all dental hygienists are registered with the College of Dental Hygienists of Ontario, which regulates the profession to ensure the public receives safe and ongoing comprehensive oral care.*

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