

# Dental Plaque and its Impact on Oral Health

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## DESCRIPTION

Dental plaque is a complex microbial community that forms on the surfaces of our teeth. It's a breeding ground for various bacteria, some of which can be harmful to our teeth and gums. When left unchecked, plaque can lead to a host of dental problems, including cavities, gum disease, and even tooth loss. This article discusses about the world of dental plaque, understanding what it is, how it forms, and why it poses such a significant threat to oral health.

### The formation of dental plaque

Dental plaque forms when a biofilm of bacteria adheres to the surfaces of our teeth. It begins with the consumption of carbohydrates, such as sugars and starches, present in the food we eat. These carbohydrates serve as a source of energy for the bacteria in our mouths.

As the bacteria metabolize these carbohydrates, they produce acids as by-products. These acids can erode the protective enamel on our teeth, creating tiny openings known as dental caries or cavities. The presence of these cavities provides a suitable environment for bacteria to thrive and multiply, leading to the formation of plaque.

Plaque is not just a single type of bacteria but rather a diverse community of microorganisms. Streptococcus mutants, in particular, are known for its role in initiating plaque formation. These bacteria, along with others like *Lactobacillus*, feed on the remains of food particles left in our mouths after eating.

Over time, if plaque is not removed, it can become more complex and harder to remove. It calcifies and hardens into a substance known as tartar or dental calculus. Tartar cannot be removed through regular brushing and flossing and requires professional dental cleaning to eliminate.

### The dangers of dental plaque

**Tooth decay:** As mentioned earlier, dental plaque's acid-producing bacteria can erode tooth enamel, leading to cavities. These cavities, if left untreated, can become painful and may require fillings or more extensive dental work.

**Gum disease:** Plaque doesn't just harm your teeth; it also targets your gums. The bacteria in plaque can cause inflammation and infection of the gums, a condition known as gingivitis. If left untreated, gingivitis can progress to periodontitis, a more severe form of gum disease that can result in tooth loss.

**Bad breath:** Plaque build-up often leads to bad breath or halitosis. The bacteria in plaque produce foul-smelling compounds, contributing to unpleasant breath odour.

**Staining:** Plaque can also cause tooth discoloration and staining. The pigments from foods and beverages, such as coffee, tea, and red wine, can adhere to the plaque, leading to noticeable stains on the teeth.

**Tooth sensitivity:** Plaque-related tooth decay can result in increased tooth sensitivity, making it uncomfortable or painful to consume hot or cold foods and beverages.

### Prevention and management

The good news is that dental plaque can be managed and prevented with proper oral hygiene practices. Here are some tips to keep plaque away:

**Brush regularly:** Brush your teeth at least twice a day, preferably after meals, using fluoride toothpaste. Use a soft-bristle toothbrush and pay attention to brushing all tooth surfaces.

**Floss daily:** Dental floss can help remove plaque and food particles from between your teeth and along the gum line. Make flossing a daily habit.

**Use mouthwash:** Consider using an antimicrobial or fluoride mouthwash to further reduce bacteria in your mouth and strengthen tooth enamel.

**Maintain a balanced diet:** Limit sugary and starchy foods, as they contribute to plaque formation. Opt for a diet rich in fruits, vegetables, and dairy products for healthier teeth.

**Regular dental check-ups:** Visit dentist for regular check-ups and professional cleanings. Dentist can detect early signs of plaque-related issues and provide guidance on maintaining good oral health.

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**Quit smoking:** Smoking not only stains the teeth but also contributes to gum disease. Quitting smoking can significantly improve the oral health.

**Drink water:** Water helps rinse away food particles and bacteria in the mouth. Drinking water after meals can be especially beneficial for oral health.

Dental plaque may be silent, but its impact on oral health is anything but subtle. Left unchecked can lead to a range of dental problems, from cavities to gum disease. However, with proper oral hygiene practices and regular dental check-ups, all can keep plaque away and enjoy a healthy, beautiful smile for years to come. Remember, prevention is the key to defeating the silent attack of oral health.