

Purpose

This lesson investigates how to take care of your teeth and the importance of your oral health to your overall health.

Online Activities Link

Brush, Floss, Rinse Activity

Exhibit Link

Saliva: A Remarkable Fluid

The Saliva exhibit investigates the mouth-body connection to health. Keeping your mouth healthy is important to your overall health. Scientists are investigating possible links between periodontitis and some systemic conditions, including heart disease, diabetes, and stroke.

Background

Taking care of your teeth is important to maintain overall health. Emerging scientific research suggests a link between periodontitis, advanced gum disease, and some health problems. Bacteria that causes periodontitis can enter the bloodstream and have an affect on other systemic conditions, such as heart disease, diabetes, and stroke. Oral bacteria entering the bloodstream due to advanced gum disease may attach to fatty plaques in the arteries surrounding the heart helping to form clots and could lead to a heart attack. The link between advanced periodontal disease and diabetes may be a two-way street. Diabetics develop gum disease more easily because diabetes slows the body's natural healing process and blood-sugar levels may be adversely affected by advanced gum disease. Oral bacteria entering the bloodstream due to advanced gum disease may attach to fatty plaques in the arteries of the brain helping to form clots, which can block blood flow and lead to a stroke.

In addition to a mouth-body connection, researchers are trying to find ways to improve oral health for the future. These studies include gene therapy and bioengineering. To end oral diseases, such as Sjögren's Syndrome, scientists are looking into gene therapy techniques to correct misspellings in DNA. Through bioengineering, researchers are using stem cells from wisdom teeth and recently extracted baby teeth to find ways to grow new teeth to replace lost permanent teeth.

Key Point

It is important to take proper care of your teeth in order to have a healthy mouth and body.

Materials

Brush, Floss, Rinse Activity
Exhibit Text Sheet

Procedure

1. Ask students what they do to take care of their teeth. Ask them why they need to take care of them.
2. View the Brush, Floss, Rinse Activity found on the YSI website (<http://www.dentalmuseum.org/ysi/activities/>). Ask students to tell you something they learned from the video.
3. Talk to students about the importance of oral health to their overall health.
4. Explain to the class that there may be a connection between heart attack, stroke, diabetes, and oral health. Tell the class that they will be divided into three groups to research a way that oral health is connected to another disease. Assign students to each of the following groups: heart attack, stroke, and diabetes.
5. Each group is responsible for researching their disease and how it may be linked to oral health. Each group will present their findings to the class. They may present in a powerpoint, play, demonstration, etc. Hand out an Exhibit Text Sheet to each group for reference. If students want to learn more about their topic, they may use the Internet as an additional reference.
6. Give students class time to research and prepare their presentations. Have students present to the class.
7. As a class, discuss the importance of oral health to your overall health.
8. If extra time permits, you may consider setting up a school health fair to give students the opportunity to educate peers and staff about the importance of oral health.

Questions

1. How do you take care of your teeth?
2. Why is oral health important?
3. How does oral health affect your overall health?

Brush, Floss, Rinse

Exhibit Text

Brush, Floss Rinse

- You can help saliva protect your teeth, mouth and body by removing plaque.
 - Plaque is a white film of bacteria (biofilm) and food debris that covers your entire mouth.
- Plaque left on teeth can lead to:
 - **Gingivitis** – is a mild periodontal disease, which affects only the gums, causing bleeding and is the first step to periodontitis
 - **Periodontitis** - is a serious gum infection affecting the structures supporting the teeth and results in bone loss around the teeth

Steps to a Healthy Mouth

- Brushing
 - Brush Twice each day with fluoride toothpaste.
 - Use a soft bristle brush.
 - Brush your tongue.
- Flossing
 - Floss once a day to effectively remove plaque from the surfaces of teeth which touch.
 - Hold the floss in a “C” shape against the side of the tooth.
 - Move the floss up and down to remove plaque.
 - Never use a “back-and-forth” motion.
- Antimicrobial mouthrinse
 - Why use it? – Because the bacteria in plaque causes gingivitis and periodontitis
 - Brushing and flossing only removes plaque from your teeth.
 - Antimicrobial mouthrinse can reduce bacterial activity in your whole mouth. Even in places where a brush and floss can't reach.
 - How to use it – Rinse for 30 seconds morning and night.
- Eat a balanced diet and limit between-meal snacks.
- Visit a dentist regularly.

The Mouth-Body Connection

Is there a link between periodontitis (advanced gum disease) and some health problems? Emerging scientific research suggests that bacteria causing periodontitis can enter the blood stream and have an affect on other systemic conditions.

- **Heart Disease** – Oral bacteria entering the bloodstream due to advanced gum disease may attach to fatty plaques in the arteries surrounding the heart helping to form clots and could lead to a heart attack.
- **Diabetes** – The link between advanced periodontal disease and diabetes may be a two-way street. Diabetics develop gum disease more easily because diabetes slows the body's natural healing process and blood-sugar levels may be adversely affected by advanced gum disease.
- **Stroke** – Oral bacteria entering the bloodstream due to advanced gum disease may attach to fatty plaques in the arteries of the brain helping to form clots, which can block blood flow.