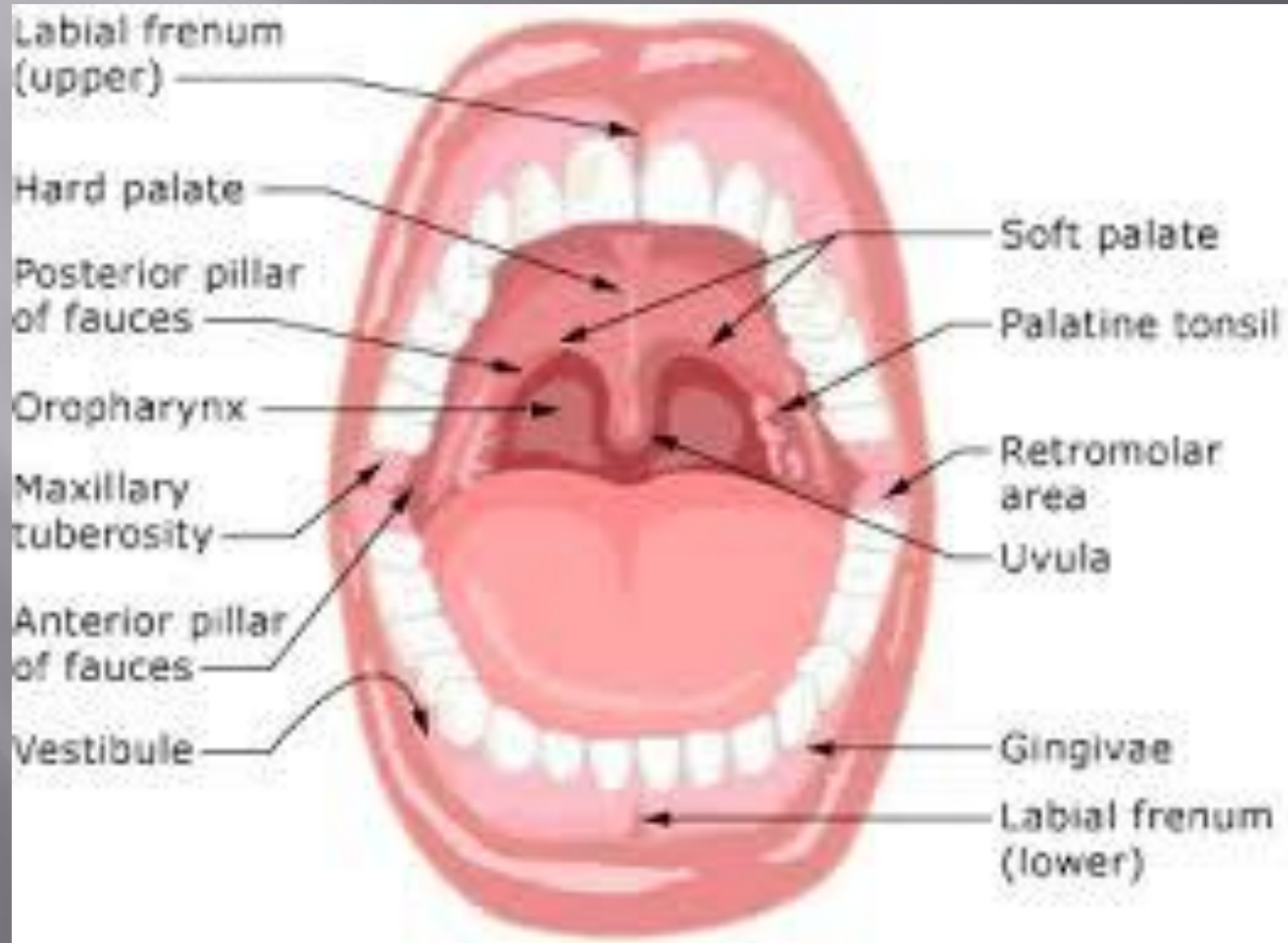


# Oral Health Overview

- ▣ Dr. Diane Bonanni
- ▣ Introduction to the mouth
  - ▣ Oral care/hygiene
- ▣ Over-the-counter teeth whitening products
  - ▣ Smokeless and smoking tobacco
    - ▣ Oral Piercing
      - ▣ HPV
    - ▣ Oral Cancer

# Oral Cavity



# Oral Cavity



# Oral health Affects Total health

- ▣ When gums are infected and inflamed from bacterial plaque , that bacteria can spread and grow below the gum line. The bacteria can spread and enter into the blood stream and travel to major organs and begin new infections.
- ▣ Research supports that gum disease is linked to heart disease, osteoporosis and diabetes.



# Retentive sugar



# What's wrong with refined sugar?

- ▣ Sugar + bacteria = acid byproduct
- ▣ Acid on a susceptible surface will break down that tissue ( your teeth and gums )
- ▣ Now you see why it is important to remove the bacteria from your teeth and gums

# Decrease Carbohydrate consumption

- ▣ 1. Stay away from things that stick. Besides how often you snack on sugary foods, the LENGTH of time that it remains in your mouth plays a large role in tooth decay.
- ▣ 2. Think twice about picking hard candy. Unless it is sugar free, candies stay in the mouth for a long period of time and subject teeth to increased risk of decay

# Gum





# Cheese



# Healthy Gums & Soft Tissue



# Unhealthy Gums & Soft Tissue



# Brushing Teeth

# FLOSSING



# SMOKING

# Quitting

- ▣ Smoking is a difficult habit to break, but you can do it! Quitting is the only way to decrease your risk of tobacco-related health problems. The addictive quality of nicotine, which is found in cigarettes, cigars and chewing tobacco, can make this especially difficult. That's why it's important to have a plan and a support network, people to help you stick to your plan. Write down your reasons for quitting. Exercising, chewing gum and keeping yourself occupied can help you quit. Talk to your dentist or doctor to see if the medications available would help you to stop using tobacco.

# What poisons are added to tobacco?

- ▣ 1. Polonium 210 ( nuclear waste )
- ▣ 2. N-Nitrosamines ( cancer causing compounds)
- ▣ 3. Formaldehyde ( embalming fluid )
- ▣ 4. Nicotine ( addictive drug )
- ▣ 5. Cadmium ( used in batteries )
- ▣ 6. Cyanide
- ▣ 7. Arsenic
- ▣ 8. Benzene
- ▣ 9. Lead

# Harm

- ▣ Chewing tobacco can harm your health because it contains toxins, which can cause gum disease. Other possible oral health impacts of tobacco products include: stained teeth and tongue; dulled sense of taste and smell; slow healing after a tooth extraction or other surgery; difficulties in correcting cosmetic dental problems; and oral cancer.

# Bad Breath

- ▣ Just like cigarettes, using chewing tobacco will give you bad breath. But most importantly, it also puts you at risk for many diseases and decreases your life expectancy. Quitting is hard but you can do it. Take it day by day, hour by hour, and reward yourself for small successes. With all the money you save on tobacco products, you can treat yourself to a stress-relieving massage or a nice vacation.



# Teeth fall out

- ▣ You know smoking is bad for you, so it should be no surprise that cigarettes and chewing tobacco are also harmful to your dental health. For one, tobacco products can cause bad breath, but that's only the beginning. Repeated use of chewing tobacco can lead to gum disease which, if left untreated, can eventually lead to tooth loss. Other possible health impacts include a dulled sense of taste and smell, slow healing after a tooth extraction, and mouth cancer.

# Addictive

- ▣ Because it contains nicotine, chewing tobacco is just as addictive as other forms of tobacco, including cigarettes. Talk to your dentist or physician to see if the medications available would help you to stop using tobacco.



# Chewing Tobacco



# Oral Cancer



# Cancer Lesions





# Smokeless tobacco

- ▣ American Medical Association calculated that smokeless tobacco users who use “chew” or dip 8 to 10 times a day could be exposed to the same amount of nicotine as people who smoke 30-40 cigarettes a day.

- ▣ This next slide will tell the story of Gruen Von Behrens.
- ▣ He was on his way to the major leagues when at age 17 he was diagnosed with oral cancer.
- ▣ This is a testimonial how that changed his life forever.

# Gruen Von Behrens

# Gruen Von Behrens



# Oral Cancer





# Early warning signs

- ▣ A sore in your mouth that will not heal and bleeds easily
- ▣ A lump or thickening anywhere in your mouth or neck
- ▣ Soreness or swelling that does not go away
- ▣ Red or white patch that does not go away
- ▣ Trouble swallowing, chewing or moving your tongue or jaw

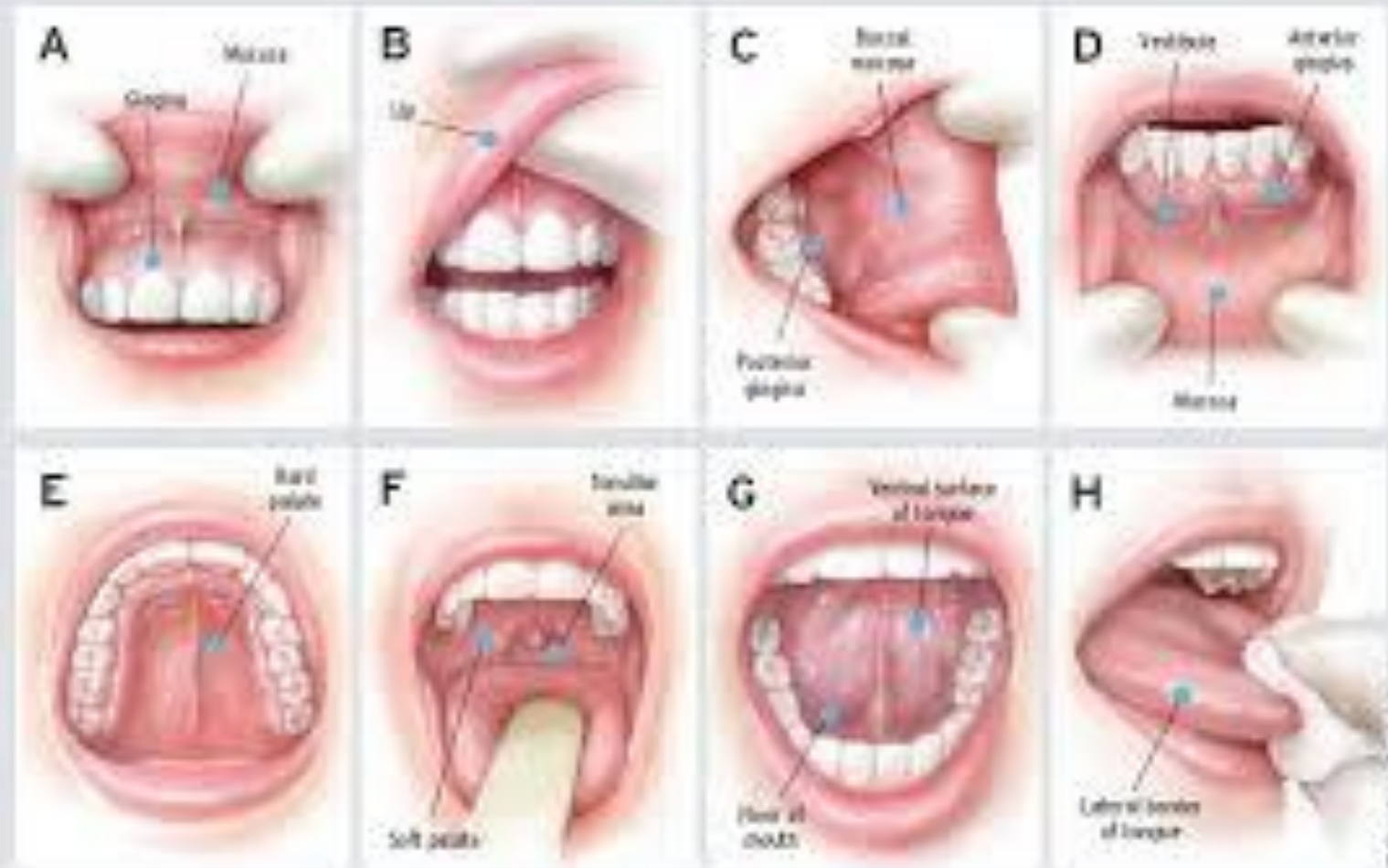
# Oral cancer and HPV

- ▣ The American Cancer Society diagnosis estimated 30,000 new cases each year. Oral cancer includes cancer of the lip, tongue, pharynx, jaw bone and oral cavity.
- ▣ Human Papilloma Virus can present in any age group.
- ▣ Any teen , college student or 60 year old can present with oral cancer with a connect with HPV
- ▣ A strain of HPV is among the causative factors for Nasopharyngeal cancer.
- ▣ PRACTICING SAFE SEX IS A MUST TO PREVENT CANCER.

# HPV Vaccine

- ▣ 90% decrease in infection of HPV with the vaccine

# Oral Cancer Exam



**FIGURE 5.** A brief screen for oral cancer includes this eight-step examination of the inside of the mouth.

# Human Papillomavirus

## HPV From Infection to Cancer

*"High-risk" human papillomavirus (HPV) types have the potential to lead to cancer over a decade or longer. When the virus infects cells, it gradually causes increasingly severe damage.*

### Squamous cells



#### Basement membrane

In mild abnormality, only a few cells are changed; this sometimes goes away on its own.



#### Abnormal cells

In moderate abnormality, affected cells are found throughout much of the surface lining of the cervix.



#### Cancerous cell

Abnormal cells progress to malignancy after the virus slips two key cancer-causing genes into the DNA of the host.

MCT Source: Dr. Richard M. Haupt, Merck & Co.

# Oral Cancer Treatments

- ▣ Will vary depending on the type and extent of cancer diagnosed.
- ▣ Two percent of all deaths in the U.S. are oral cancer related.
- ▣ Almost any cancer when caught at an early stage can be treated successfully with surgery, radiation and chemotherapy.

# Rehabilitation

- ▣ May require Prosthetics and cosmetic surgery, speech and swallowing therapy and physical therapy.



# Oral Piercing

- ▣ Body piercing is a popular form of self-expression. Oral piercings or tongue splitting may look cool, but they can be dangerous to your health. That's because your mouth contains millions of bacteria, and infection and swelling often occur with mouth piercings.



# Oral Piercing cont.

- ▣ For instance, your mouth and tongue could swell so much that you close off your airway or you could possibly choke if part of the jewelry breaks off in your mouth. In some cases, you could crack a tooth if you bite down too hard on the piercing, and repeated clicking of the jewelry against teeth can also cause damage. Oral piercing could also lead to more serious infections, like hepatitis or endocarditis.

# Oral Piercing cont.

- ▣ If you pierce your tongue, lips, cheeks or uvula (the tiny tissue that hangs at the back of the throat,) it can interfere with speech, chewing or swallowing. It may also cause:

# Infection, pain and swelling

- ▣ **Infection, pain and swelling.** Your mouth is a moist environment, home to huge amounts of breeding bacteria, and an ideal place for infection. An infection can quickly become life threatening if not treated promptly. It's also possible for a piercing to cause your tongue to swell, potentially blocking your airway.

# RECESSION



# Damage to gums, teeth and fillings

- ▣ **Damage to gums, teeth and fillings.** A common habit of biting or playing with the piercing can injure your gums and lead to cracked, scratched or sensitive teeth. Piercings can also damage fillings



# TOOTH FRACTURE



# Hypersensitivity to metals

- ▣ Hypersensitivity to metals. Allergic reactions at the pierced site are also possible.

# Nerve Damage

- ▣ **Nerve damage.** After a piercing, you may experience a numb tongue that is caused by nerve damage that is usually temporary, but can sometimes be permanent. The injured nerve may affect your sense of taste, or how you move your mouth. Damage to your tongue's blood vessels can cause serious blood loss

# Excessive Drooling

- ▣ **Excessive drooling.** Your tongue piercing can increase saliva production.

# Dental Appointment difficulties

- ▣ **Dental appointment difficulties.** The jewelry can get in the way of dental care by blocking X-rays.

# Already have an oral piercing?

- ▣ Contact your dentist or physician immediately if you have any signs of infection — swelling, pain, fever, chills, shaking or a red-streaked appearance around the site of the piercing.



# Oral Piercing Care

- ▣ 1. Keep the piercing site clean and free of any matter that may collect on the jewelry by using a mouth rinse after every meal.
- ▣ 2. Try to avoid clicking the jewelry against teeth and avoid stress on the piercing. Be gentle and aware of the jewelry's movement when talking and chewing.
- ▣ 3. Check the tightness of your jewelry periodically (with clean hands). This can help prevent you from swallowing or choking if the jewelry becomes dislodged



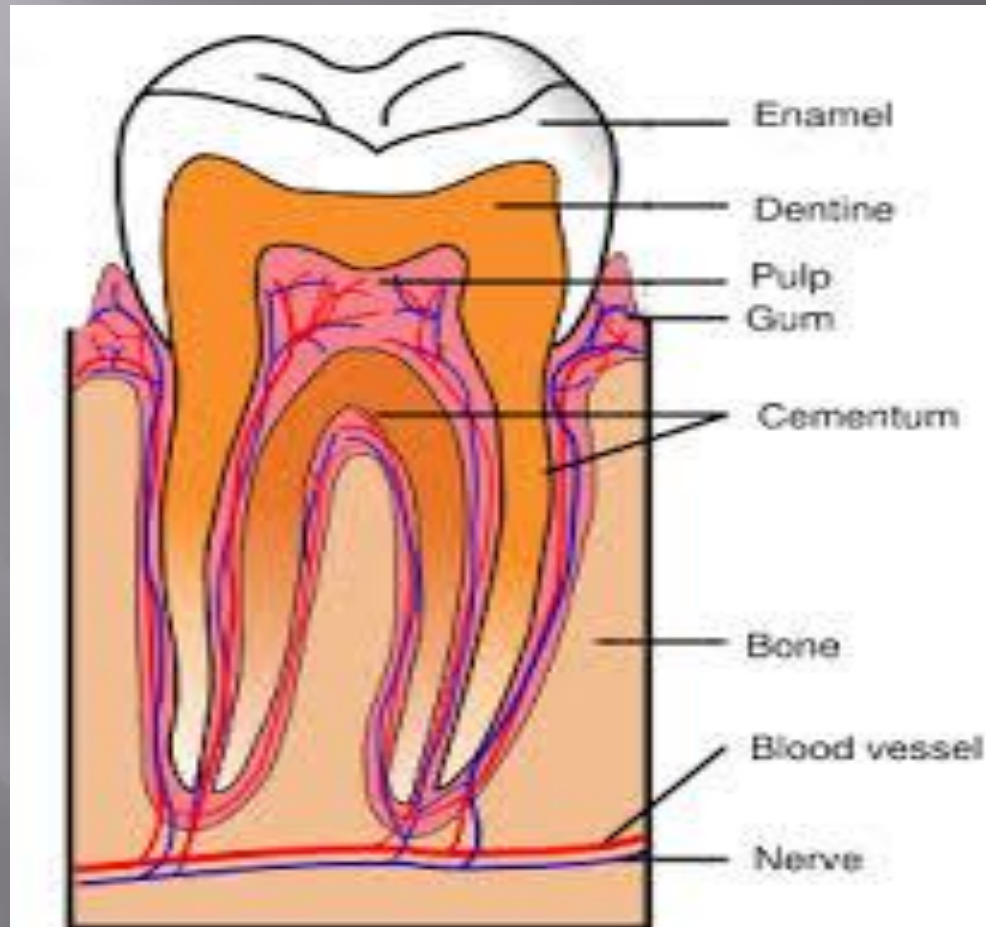
# Oral Piercing Care cont.

- ▣ 4. When taking part in sports, remove the jewelry and protect your mouth with a mouthguard.
- ▣ 5. See your dentist regularly, and remember to brush twice a day and floss daily.

# Remove mouth jewelry

- ▣ Of course the best option is to consider removing mouth jewelry before it causes a problem. Don't pierce on a whim. The piercing will be an added responsibility to your life, requiring constant attention and upkeep. Talk to your dentist for more information.

# Tooth Enamel



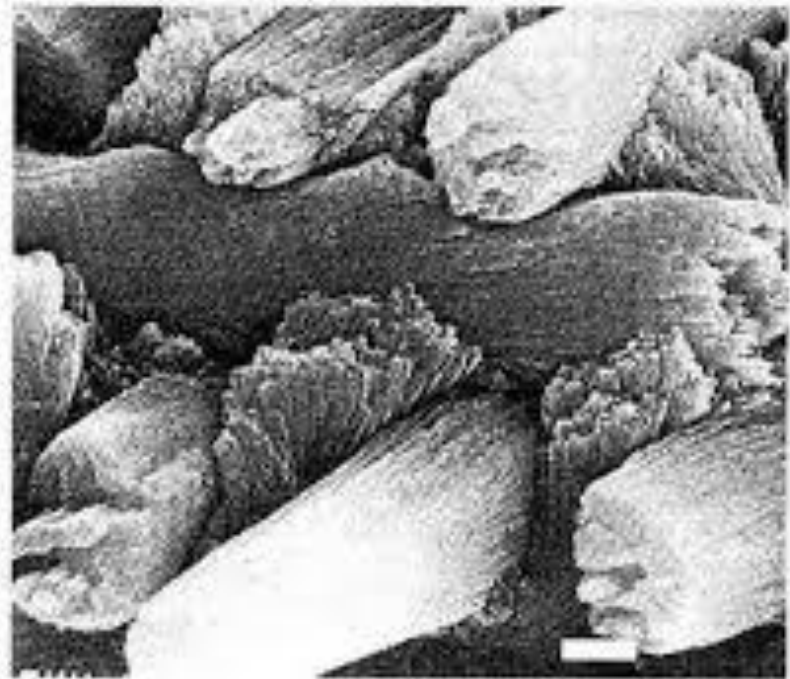
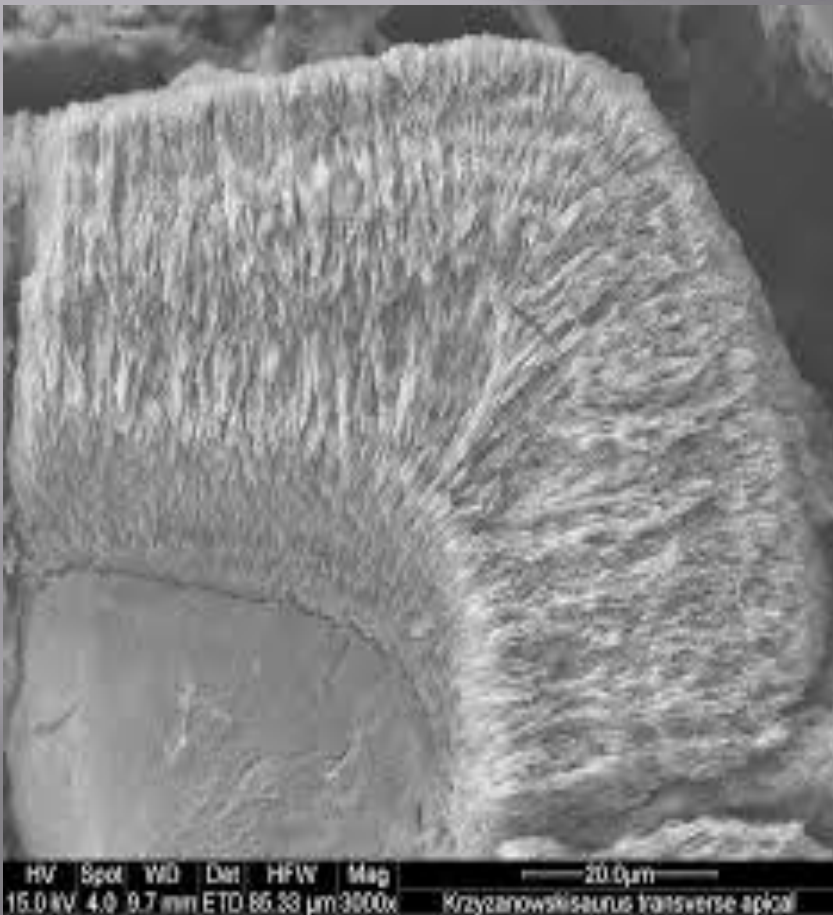
The enamel is the outer layer of the tooth

The function is to protect the tooth

It is a clear layer

Its structure is straight rows of enamel rods with collagen matrix

# Enamel structure



**Fig. 2.12** The internal structure of enamel. Scale bar, 1  $\mu\text{m}$ .

# Teeth whitening...Can you over do it?

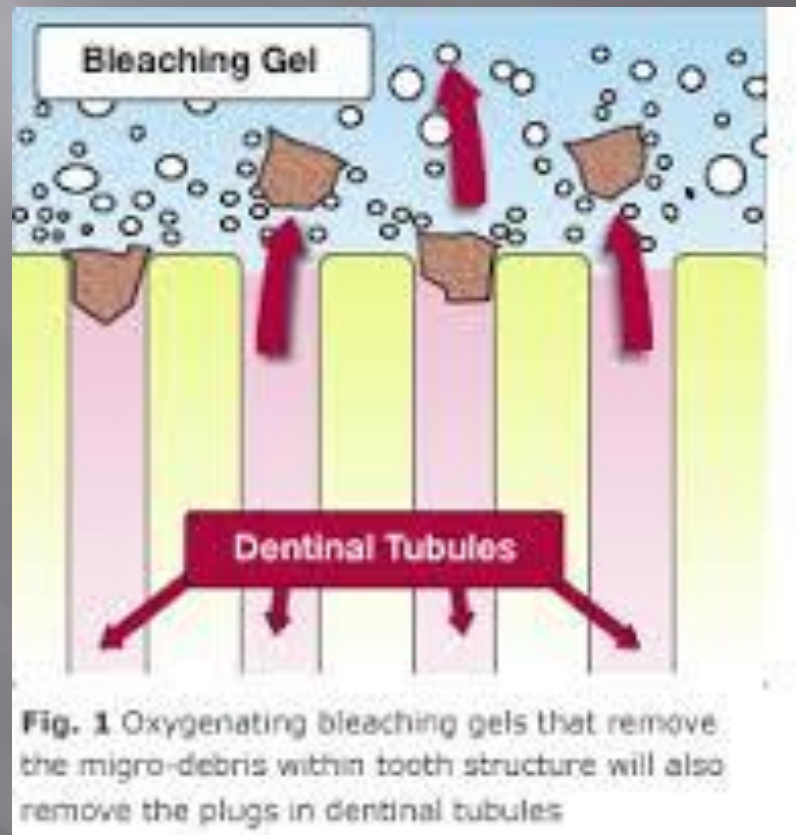
- ▣ Teeth whitening is one of the easiest procedures that can be done to improve the appearance of a smile.
- ▣ In the U.K. it is illegal to sell products over the counter with a greater than 6% hydrogen peroxide content and the use of 35% hydrogen peroxide can be administered by a licensed dentist. In the United States, these products are allowed over-the-counter.

# Tooth Changes with tooth whitening

- ▣ Chemistry: Hydrogen peroxide breaks down into oxygen radicals which destroy stain molecules in the teeth
- ▣ Higher concentrations 35%, can cause changes in the tooth enamel that make it rough and loss of strength and phosphate content in the deeper layers.



# Teeth whitening mechanism with a neutral or basic pH



# Whitening studies

- ▣ Under a microscope, enamel that was overexposed to hydrogen peroxide was found to be porous and the dentin had enzymes that break down collagen and disrupt the organic matrix.
- ▣ This has a dramatic result on the inner live nerve/pulp.
- ▣ The misuse/ prolonged frequent use of the over the counter whitening products with high concentrations of whitening will cause irreversible tooth damage.

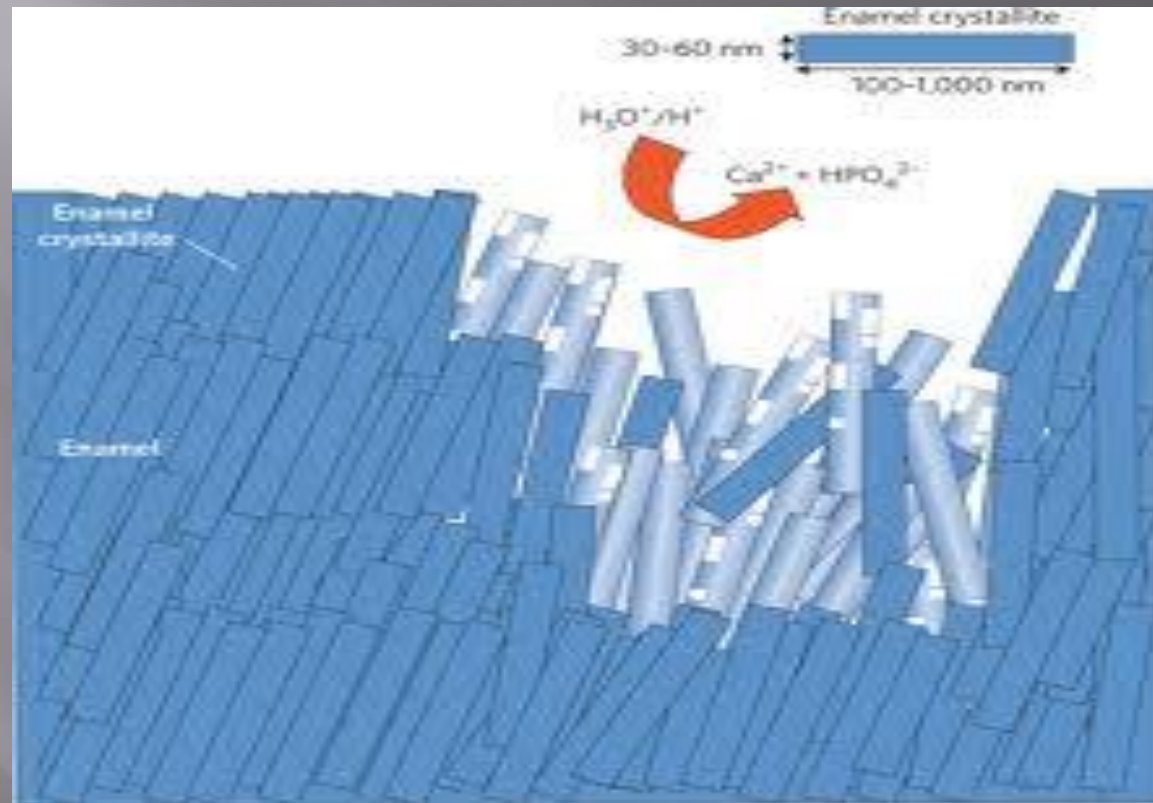
# Teeth Whitening



# SCAMS



# Acid on tooth enamel



# Fact or Fiction

- ▣ There's no harm in chewing tobacco.
- ▣ Fact
- ▣ Fiction

- ▣ Using chewing tobacco gives you bad breath.
- ▣ Fact
- ▣ Fiction



- ▣ Chewing tobacco is the best way to quit smoking cigarettes.
- ▣ Fact
- ▣ Fiction

- ▣ Chewing tobacco is not as addictive as cigarettes.

- ▣ Fact

Fiction

Using chewing tobacco can make your teeth fall out.

Fact

Fiction

- ▣ Oral piercing can cause nerve damage.

- ▣ Fact

- ▣ Fiction

- ▣ The oral cavity is the beginning of the digestive system and has the least amount of bacteria of that system.
- ▣ Fact
- ▣ Fiction

- ▣ Teeth whitening can be done repetitively without any tooth damage.

- ▣ Fact

- ▣ Fiction

- ▣ The safest method of teeth whitening is to be done in your dentist office.

- ▣ Fact

- ▣ Fiction