

A New Column—

Your Dental Health

The contents of this series of "Dental Health Talks" was originally prepared by the American Dental Association. They are made available for Tundra Times through the Public Health Education Office of the Alaska Native Health Service.

It is well known that our dental health program in Interior Alaska has not yet reached everyone needing dental services. This is especially true about the people in the rural communities. However, everyone understands how important it is to take care of our teeth which is a part of our total well-being.

No. 4 — Plaque and Tooth Decay

Tooth decay has always affected mankind including our prehistoric ancestors. Yet it hasn't been until fairly recently that scientists began finding out what causes this most common problem.

It seems that we carry the seeds of our own decay with us. The cause of decay, scientists tell us, is the bacteria that naturally exist in our mouths. Billions of bacteria live in the sticky, almost colorless film of plaque that is continuously forming on everyone's teeth.

Dental researchers now believe that three things are necessary for a cavity to appear. They are bacteria in the mouth, fermentable carbohydrates (sugar) and a susceptible tooth.

What we see as decay is essentially the destruction of our teeth caused by acids. Bacteria thrive on sugar. When you eat or drink something sweet (or that contains fermentable carbohydrates) the bacteria are given food to grow and multiply and produce acid.

Tooth enamel is the hardest substance in the human body. But since the acid from bacteria is kept in constant contact with the tooth by the sticky plaque, it is almost as efficient as a drill in making a hole in the tooth.

So efficient is the production of acid that there is some indication that the most damage occurs within the first 15 minutes after sweets are eaten.

This is why dental experts advise us to limit sweet snacks between meals and why you should clean all bacterial plaque from your teeth at least once a

day. To accomplish an adequate cleaning, both dental floss and a toothbrush are necessary.

After the acids have eaten a hole in the enamel of a tooth, the bacteria move in to continue the disease process. Next, the underlying dentin is attacked and then the acids penetrate to the pulp where the blood vessels and nerves are.

Dramatic evidence of the role that bacteria play in the decay process can be seen in animal experiments. Animals that are born in germ-free environments in laboratories and kept in isolation away from all exposure to bacteria can eat unlimited amounts of sugar without developing cavities.

But within a few weeks after they are exposed to some of the bacteria that normally exists in the mouths of humans, the animals develop extensive decay.

Similar dramatic evidence of the role that sugar plays in the decay process can be seen in the Eskimos in Alaska. They had few problems with decay until they began eating the same kinds of sweetened foods that most other Americans eat.

Unfortunately, most of us have teeth that are susceptible to decay. A few people seem to have a genetic resistance to decay no matter what kind of food they eat.

Scientists are trying to learn the reasons for this resistance in order to help prevent cavities in the rest of us. So far, the only thing we know that helps our teeth resist decay is fluoride.

(Next article: "Plaque and Periodontal Disease")