

Did you know that you have whole communities of microbes living in your mouth right now? And if you don't treat them right...they'll make holes in your teeth.

I'm Anna Rothschild, and this is Gross Science.

No matter how much you brush, your mouth is filled with microbes. Thousands of bacteria live on every single one of your teeth—and that's if you have excellent oral hygiene! You may even have some fungi and amoebas in there, too.

Which microbes are present changes all the time, based on, say, who you're dating. We swap something like 80 million bacteria with every 10-second-long French kiss, and couples who live together tend to have similar microbes on their tongues. That said, there is what scientists call your "core microbiome." That's the 150-ish different species of microbes living in most people's mouths.

Now, lots of these guys are totally harmless—and some are even helpful. For example, some microbes help keep you from getting thrush, which is a yeast infection of the mouth.

Increasingly, we're learning that to have a healthy mouth we need healthy microbes, as well. In fact, cavities are a good example of what can happen when the balance of microbes in your mouth gets out of whack.

Many of the microbes living on your teeth form something called "plaque," and in small quantities, these guys can be our friends. Plaque is what's called a "biofilm," essentially a community of different microbes that all stick to a surface—in this case, your teeth. The crazy thing is that these different microbes talk to each other, passing molecular signals back and forth, and swapping genetic material to keep on growing. Eventually, the community even develops what you could think of as a circulatory system to transfer water and nutrients.

And speaking of nutrients, the microbes in these biofilms need to eat, and one thing some of them really love is sugar. So, when you suck on a lollipop, you're not the only one getting a tasty treat. After their meal, these candy and soda-hungry microbes release acid as a waste product. And that acid is what pulls out the minerals in your teeth, eventually causing cavities. Now, if you stop eating sugary foods and clean off the plaque by brushing, your teeth have a chance to recover. But if, for example, you drink soda all the time, the bacteria just produce more and more acid, which not only causes cavities, but could actually kill off some of the other, good microbes hanging around. And as the balance of bacteria in your mouth changes, you could get even more tooth decay and other dental problems.

So what can you do about it? Don't eat too many sugary foods, remember to brush and floss, and get regular cleanings from your dentist. 'Cause we need to keep our communities of microbes happy and healthy.

Ew.