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SCIENCE CORONAVIRUS COVERAGE

How to safely go to the dentist during the pandemic

With new safety protocols in place, dentists are encouraging patients to come back for routine care. Here's what to know before your next appointment. BY MAYA WEI-HAAS

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My tongue first detected the problem when it caught a sharp edge on my teeth: A hefty hunk of my back right molar was missing. I'm not sure how it happened, but it meant that after months of avoiding any sort of physical closeness with other people, I needed to brave the dentist's chair.

With the pandemic raging across the United States, the office I entered in Alexandria, Virginia, looked very different from the one I had visited months before. Two cups of pens sat on the receptionist's desk, one for "clean" writing utensils and the other for those recently used. A plexiglass partition divided me from the rest of the office behind, and everyone—myself included—donned a mask.

Dental work is a uniquely risky environment for spreading SARS-CoV-2, since medical practitioners work face-to-face with openmouthed patients for extended periods of time. "We, unfortunately, work in a danger zone," says <u>Mark Wolff</u>, dean of the University of Pennsylvania School of Dental Medicine.

Yet with the proper precautions, dentists argue that the risk of patients catching COVID-19 during dental visits is minimal—and delaying routine care is a major health concern that can lead to problems outside the mouth; gum disease is linked to other chronic conditions, such as heart disease. Here's what you should look for to feel safe before hopping back into the dentist's chair during the pandemic.

What are the risks at the dentist?

SARS-CoV-2 spreads through the mist spewed as people breathe, talk, cough, and more. People may inhale these globs or touch contaminated surfaces and then rub their eyes, nose, or mouth. Common tools in dentistry, such as drills and ultrasonic cleaners, can also generate itty bitty particles, known as aerosols, that potentially harbor infectious coronavirus and can linger in the air for minutes to hours. (Learn more about the airborne spread of coronavirus.)

In March 2020, when information about SARS-CoV-2 was scarce, the American Dental Association (ADA) <u>called for practitioners</u> to delay non-emergency care to limit possible viral spread. The move also helped preserve personal protective equipment for frontline hospital workers amid severe shortages. The ADA, in close contact with the Centers for Disease Control and Prevention, assembled a team of experts to study how to reopen safely—and by May, <u>routine dentistry</u> recommenced across the nation with new recommendations for safety.

"We look at what is safe for our patients," says ADA president <u>Chad Gehani</u>. "That's our number one priority: What is in the best interest of the public."

Should I go to the dentist if it's not an emergency?

In general, yes-with a few caveats.

<u>Delaying dental care</u> poses considerable risks to long-term health, Gehani argues. Not only can non-severe conditions, like a cracked filling, dramatically worsen if ignored, but even simple cleanings are vital. For example, there's a "definite link" <u>between gum health</u> and diabetes, as well as a connection with heart disease, he says. Dental cleanings can stabilize gum condition.

The prolonged period at home has also meant a turn for the worse in people's diets—with <u>increased intake</u> of tooth-decaying foods, such as sweets and carbonated drinks. That's not passed unnoticed by <u>Jessica Hill</u>, the dentist who recently repaired my chipped tooth. "Certainly we notice a difference," she says with a chuckle. "People's mouths, they just look dirtier, and it's taking a little longer to get them clean. But that's okay, we're up for the challenge so long as we can open our doors and practice dentistry."

The greatest risk of patients catching SARS-CoV-2, Wolff says, is while traveling to and from an appointment. He worries about patients—particularly those with <u>preexisting conditions</u>—riding crowded subways or buses in places where viral transmission is high. People with concerns should consult their dentist before going in, he says. Delaying a cleaning for a few weeks or a month in hopes that coronavirus transmission rates decline is likely okay, Gehani says, but he's concerned about people waiting for six months or more.

Hill adds, "That's my biggest fear: Because there's no end in sight, people are going to continue to wait, and by the time they get back to their care, they're just going to have a lot more problems."

What does a 'safe' dentist visit look like?

Since people can <u>spread SARS-CoV-2</u> even if they don't have symptoms, and <u>inexpensive rapid testing isn't available</u>, dentists have initiated a slew of precautions, Wolff says. As suggested by the ADA and CDC, the differences in your dental appointment should start even before arriving at the office with a pre-screening questionnaire. This is a rough check of your health status that includes questions about recent coughs or fever and potential contact with people infected with COVID-19.

To limit risks once in the office, dentists are seeing fewer patients at a time and asking people to enter alone, reducing each patient's potential number of interactions. Soon after you enter the office, a nurse will likely take your temperature. The waiting room chair setup may even be different to allow ample social distance. Gehani's office once had 14 chairs in the waiting room. Now there are only four: One in each corner. And everyone in the waiting room, both the dental team and patients, should wear masks.

The changes should be obvious as soon as you enter the dental office—and indicate your dentist is taking the ADA and CDC recommendations seriously, Wolff says.

Dentists also now sport many layers of personal protective equipment, such as N95 masks. These not only reduce the aerosols they breathe in during the procedure but also limit what could escape from their own mouths. Gehani notes that he doesn't maintain his usual chatter during visits to minimize what he emits. Dentists also wear face shields to prevent any saliva or blood-laced spray from landing in their eyes—a practice Hill says she'll continue long after the pandemic ends.

"After every patient, I clean my face shield and see what was on it and I think, Oh my god that was just on my face before this," she says.

How have dental procedures changed?

This wouldn't be the first time a pandemic has changed dentistry. Many measures, such as consistent use of gloves and masks, began during the HIV/AIDs epidemic in the 1980s, Gehani says. Now, with concerns looming about the current pandemic, "we're just doubling up our efforts on making sure we are using proper infection control guidelines," he says.

Some dentists have started using what's known as a pre-procedural rinse—a mixture of diluted <u>hydrogen peroxide</u> or <u>iodine</u> known to kill off some of the microbial menagerie that thrives in your mouth and upper throat. The goal is to reduce the potential amount of SARS-CoV-2 in aerosols generated during your visit. There's no <u>scientific evidence</u> currently to suggest this reduces the transmission of COVID-19, Gehani says, "but it's not a bad habit."

Some offices are also tweaking the array of tools in use. Wolff says that his school now avoids ultrasonic instruments for cleaning teeth. These tools vibrate extremely fast, which is "almost an ideal method for aerosolizing a virus," he says.

During some procedures, dentists may also use a rubber dam, which is a thin sheet of rubber that covers most of the patient's mouth and only exposes the teeth that require work. By blocking off the saliva in the mouth, the dam can reduce the risk of generating viruslaced spatter and aerosols. But they're not easy to use: "You have to wrestle the patient to get this thing on," Hill says. She notes that an assistant employing high-volume suction can also limit the spray during a procedure.

"Know there are also a number of things you can't see that are happening behind the scenes," Hill adds. For example, her office rotates the room that is in use, which allows aerosols to settle before another patient enters. Some offices have also increased their ventilation, Wolff says, which prevents pockets of stale air that could potentially harbor the virus.

As a whole, the efforts seem to be paying off, even though the <u>World Health Organization and the ADA</u> disagree over whether nonessential visits should be happening right now in <u>areas with abundant SARS-CoV-2</u> transmission.

"At this point, we've now been practicing since early May and there's still no transmission of this virus from dental practitioner to a patient," Hill says. "So I feel like, as dentists, we must be doing something correctly."

Maya Wei-Haas is a science staff writer for National Geographic.

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