Public restrooms nowadays are more likely to have high-airflow electric hand dryers instead of paper towel dispensers, in order to provide a hygienic, fast, and environmentally friendly way to dry your hands. Although bathrooms with these electric hand dryers do save paper, many people find the loud noise that emanates from them to be irritating.

The noise is worse if you have a hearing problem. Some people complain that the dryers aggravate their tinnitus (ringing or buzzing in the ear). Those with hyperacusis, or sensitivity to loud noises, may also suffer. And for custodial workers, who are likely exposed to the sound of dryers for cumulative hours per day, the dryers may actually be an occupational hazard.

My post-baccalaureate students and I examined the decibel output of three common high-airflow hand dryers and published our research in the March-April 2015 issue of the journal Noise & Health. We measured hand dryers around Mercy College in Dobbs Ferry, New York, using a Radio Shack sound level meter to take readings at 2.5 feet (about arm’s length), 5 feet, and 10 feet.

We found that the sound generated by the machines—the Dyson Airblade, the Excel Dryer Xlerator, and the World Dryer Airforce—was over 80 decibels (dB), even at 10 feet away. The loudest sound recorded was 94 dB—about as loud as a subway train. The Occupational Safety and Health Administration says workers should not be exposed to more than 90 dB for eight continuous hours.

Unlike loud sounds in other settings, in these restrooms the noise of the dryers does not dissipate the farther you are from the source. We believe this is because of the high level of reverberation off the hard surfaces—tile, glass, concrete—commonly used in restrooms.

Of course the hand dryers do not run continuously. But a maintenance worker whose duties may include other noisy tasks—vacuuming, cutting grass, snow blowing—as well as cleaning bathrooms is at risk for hearing loss.

Why are these hand dryers so loud? It is to generate enough high-velocity airflow to quickly dry your hands. Jet engines also need to generate airflow, and think of how loud those are.

A state senator in Oregon is trying to pass legislation restricting the use of high-airflow hand dryers, and my students and I are undertaking a follow-up study of additional hand dryers to determine how they are actually used by patrons. For example, the manufacturers estimate they are used for 10 to 15 seconds per patron, but is that true? Is the dryer noise nearly constant in a busy restroom? That is part of what we aim to find out.

Aside from wiping your hands on your pants and making a quick exit, you can take these steps:

- If you wear hearing aids, consider turning them down (or off) before entering the bathroom. This will protect from over-amplification of the dryer’s sound. Just remember to turn them back on again when you leave.
- Noise-canceling headphones can be helpful here, if you don’t mind wearing headphones into a restroom. Or you can carry around smaller, inexpensive, drugstore earplugs to help protect against the noise. Pop the plugs in before you enter, and remove them when you leave. You can get quite a bit of wear out of one set if you store them in a case or a Ziploc bag.
- Measure the noise level using a smartphone app (see “The Best Apps for Measuring Decibels,” above) and use this evidence to lodge a complaint with the owner or manager of the shop, restaurant, or theater where the restroom is located. Vote with your wallet and frequent places that use paper towels.
Write to the hand dryer manufacturers to ask for quieter solutions. Significantly, the noise from the hand dryers we tested were mostly found to exceed the sound levels listed in their installation instructions.

Although it is a worthy cause to save paper (and trees) by using electric hand dryers, we are doing so at the expense of our ears. A public restroom, like any other shared space, should not be overtaken by loud sounds that can do so much to harm our hearing health.

Shari Salzhauer Berkowitz is an assistant professor in communication disorders at Mercy College in Dobbs Ferry, New York.