

Check Your Sewer Vents

Roxanne Johnson, Water Quality Associate

Clogged vents can lead to sewer gas backup, which can make you or your family ill.

As people in this region work through one of the coldest winters on record, homeowners should take time to review safety measures to prevent illness from sewer gases.

“With the cold weather and snow piling up across North Dakota, we should remember to be aware of sewer vent blockages, which may cause you to become sick with symptoms such as headache, nausea, dizziness or drowsiness and, in some situations, can be explosive,” says Roxanne Johnson, North Dakota State University Extension Service water quality associate.

“If you have noticed a ‘rotten egg’ odor (hydrogen sulfide) or have symptoms such as described, you may have been exposed to an odorless gas such as methane or carbon monoxide,” she adds. “If you have difficulties distinguishing odors, ask for assistance from a friend or neighbor. People experiencing such symptoms should seek immediate medical care.”

House plumbing systems include waste pipes, vent pipes and water traps. Waste and vent pipes usually are the same pipe, with wastewater flowing downward and gases rising in the pipe. This 3- or 4-inch vertical pipe acts as a vent for gases that collect in the septic tank or sewer system. In cold weather, the gases exiting from the stack contain water vapor that will form a frost layer that can get thick enough to close off the end of the stack.

Excessive snow on the roof also can block the vent stack. If the vent stack is closed off, proper draining is hampered and water will siphon from the water traps in the drain line between each fixture and the main stack. Your first indication of trouble may be the toilet gurgling or not flushing properly as water is pulled from the traps to replace existing water/air flow.

“Water must be maintained in the trap to prevent sewer gases from coming into the house through the fixture,” Johnson says. “Adding water to basement floor drains, ‘abandoned’ shower stalls or unused basement toilets will stop the gas from entering your home.”

Living in a new home is not necessarily the answer, according to Johnson. More frozen vent stacks are seen in newer homes because ABS or PVC piping does not conduct heat from inside the home as well as the older cast iron pipe did. Also, attics in newer homes are very well insulated and do not have heat in this area for the pipe. In addition, many newer homes have two, three or even four bathrooms, plus dishwashers and whirlpool baths.

Because of the extreme weather conditions this region typically has, Johnson recommends hiring a heating professional to install a heat register directly to the attic to keep the space warm enough to prevent the sewer vent from freezing.

Another option is having a heating professional install a copper T down the sewer vent, Johnson says. The copper holds the heat from the steam rising through the vent. The warmed copper melts any frost that accumulates and prevents the vent from freezing closed.

Sometimes attaching an insulating sleeve to the pipe on the home's roof or wrapping a batting of fiberglass insulation around the vent pipe in the attic will be sufficient. Insulated sleeves are available commercially.

Plumbers recommend that heat tape be used only under mobile homes. Heat tape should not be used in other applications, such as on sewer vents in the attic, because it can create a fire hazard.

When using heat tape, homeowners should take care to follow manufacturers' instructions very carefully and verify the tape is certified by Underwriters Laboratories (UL), the Canadian Standards Association (CSA) or the Factory Mutual Research Corp. (FMRC).

Homeowners also need to think of their own safety while trying to keep vents clear.

"Keep safe by remembering that ladders and icy roofs are treacherous, too," Johnson says.

For more information, contact Johnson at (701) 231-8926 or roxanne.m.johnson@ndsuh.edu.