

Understanding Radon in Old Rowhouses: A Practical Guide for Homeowners

Old rowhouses have a certain charm. Brick facades, shared walls, deep basements. But if you own one in York County, there is a hidden hazard you need to take seriously: radon. This radioactive gas comes from the natural decay of uranium in the ground. It seeps up through cracks and gaps in the building envelope. And in older rowhouses, the construction style and age can make the problem worse.

I have spent years working with radon mitigation in the York area. I have crawled under countless crawlspaces and tested basements in row houses built before 1950. The pattern is clear. Radon in old rowhouses is not a myth. It is a real concern that demands a real response. The good news is that with the right approach, you can bring your indoor air quality back to safe levels.

Why Rowhouses Are Different

Rowhouses are attached houses that share side walls. That shared structure changes how air moves and how radon enters. In a detached house, radon mostly comes through the basement slab. But in a row house, it can also migrate from the neighboring property through the common wall or through the ground below the slab. The building envelope in a rowhouse is more complex. Cracks along party walls, gaps around pipes, and openings near the foundation can all be entry points.

York County sits on granite bedrock, which is high in uranium. According to the EPA radon zone map, York County is Zone 1, meaning it has the highest potential for elevated radon levels. That is not a scare tactic. It is a geological fact. The Pennsylvania DEP recommends testing every home, regardless of age or style. But for old rowhouses, the recommendation is even more urgent because the construction methods used decades ago did not include modern radon-resistant features.

Start with Testing

Before you spend a dime on mitigation, you need to know what you are dealing with. The best first step is to buy a few radon test kits. The simplest type is a charcoal canister. You open it, leave it in the lowest livable area for two to seven days, then mail it to a lab. It gives you a snapshot of the radon level over that short period. For more detailed data, use an alpha track detector. It sits for three to twelve months and gives a long-term average. That is the number that really matters because radon levels fluctuate day to day and season to season.

If you want real-time feedback, invest in a continuous radon monitor. These electronic devices plug into a wall and show you the radon level every hour. They cost more upfront, but they let you see how levels change with weather, HVAC system operation, and even the time of day. I recommend them for anyone who is serious about indoor air quality. They also help verify whether your mitigation system is working after installation.



Where Radon Gets In

In an old rowhouse, the basement is the primary entry point. The basement slab is often poured concrete that has settled and cracked over decades. Cracks in the slab, gaps around the sump pump, and openings around the French drain are common pathways. The joint where the floor meets the wall is another weak spot. And if your rowhouse has a dirt floor crawlspace under part of the house, that is a direct route for radon to enter.

I once tested a rowhouse in downtown York where the radon level was over 20 picocuries per liter. The EPA action level is 4. The homeowner had lived there for fifteen years. The source turned out to be a small gap around an old floor drain that had never been sealed. Once we sealed it with proper crack sealing techniques, the level dropped by half. But it was not enough. We had to install a mitigation system to get it below 2.

Mitigation Options That Work

There are two main approaches to reducing [radon in old rowhouses](#): passive and active. Passive systems rely on natural air pressure differences to vent radon out. The most common is a passive stack. That is a pipe that runs from below the slab up through the roof. It relies on the stack effect, where warm air rises, to pull radon out. Passive stacks work best in cold climates where the temperature difference is large. In milder weather, they can be less effective.

Active systems use a fan to create negative pressure under the slab. The most common active system is sub-slab depressurization. A contractor drills a hole through the basement slab, digs a small pit below, installs a pipe, and attaches a fan-powered vent that pushes the radon outdoors. This method is very effective. It can reduce radon levels by 90% or more. The fan runs continuously, so it does add a small amount to your electric bill, but the peace of mind is worth it.

Another active method is soil suction. It works the same way but pulls from the soil under the house rather than from under a slab. It is used when there is a crawlspace or a dirt floor. Both methods require professional installation. A qualified radon mitigation contractor will know which approach fits your house best. They will also check your HVAC system to make sure the mitigation does not create backdrafting or other air quality issues.

Can You Do It Yourself?

Some homeowners try to handle radon on their own. They buy caulk and seal every crack they can find. That helps, but it is rarely enough. Radon can seep through invisible pores in the concrete and through gaps you cannot see. Sealing the basement slab and the building envelope is a good first step, but it should be followed by a system that actively removes the gas. I have seen too many cases where someone sealed everything, retested, and still got high readings. Crack sealing alone is not a complete solution.

If you are handy, you could install a passive stack yourself if you have the right tools and know how to flash the roof properly. But most people are better off hiring a pro. A good contractor will do a pre-mitigation test, design the system, install it, and then do a post-mitigation test to confirm it works. They will also know the local codes and the Pennsylvania DEP requirements.

The Role of Neighbors

In a rowhouse, your neighbor's radon problem can become your problem. Air moves through shared walls and through the ground. If your neighbor has high radon and does nothing about it, that can increase the pressure gradient under your house and pull more radon in. I recommend talking to your neighbors about testing. If you are on good terms, you could split the cost of a few radon test kits and test all the units in the row. That gives everyone a clear

picture. A single mitigation system in one unit can sometimes reduce levels in adjacent units, but it is not guaranteed.



Long-Term Monitoring

Once you have a mitigation system in place, you are not done. Systems can fail. Fans wear out. Pipes get blocked. The building envelope changes as the house settles. I tell every homeowner to retest at least every two years. Use a charcoal canister or an alpha track detector. If you have a continuous radon monitor, check it periodically to spot trends. Keep records of your test results. That data can help you and your contractor troubleshoot if levels start to rise again.

The Pennsylvania DEP offers free or low-cost test kits to residents. It is worth checking their website. They also have a list of certified radon mitigation contractors. Do not hire someone who is not certified. You want a contractor who knows the science and the local geology. A good contractor will explain the options, give you a clear quote, and stand behind their work.

Radon in old rowhouses is a solvable problem. It requires a clear plan, proper testing, and the right mitigation strategy. But it is not something to ignore. The gas is invisible and odorless, and it causes lung cancer over years of exposure. The EPA estimates that radon causes more

than 20,000 lung cancer deaths per year in the United States. That is a statistic that should wake anyone up.

If you live in an old rowhouse in York County, test your home. If the levels are high, call a professional. Mitigation is not cheap, but it is far cheaper than a medical bill. And it gives you the peace of mind that comes from knowing your indoor air quality is safe for your family.