

11 Ways to Greatly Improve the Air Quality in Your Home

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If you and your family are like most Americans, you spend 85-90% of your lives indoors. Much of that time is spent in our homes. We like to think of our homes as havens, as places we can go to be safe from the bumps and pressures of the outside world.

If you believe that safety extends to the air you breathe, you're sadly mistaken.

Studies show that indoor air is, on average, 3-5% more contaminated than outdoor air. And it's getting worse. If you or anyone in your family suffers from asthma or other chronic respiratory disease, you know first-hand how devastating the effects of poor air quality can be. Think about it: we pay attention to the quality of the food we eat and the water we drink. We eat and drink a few times a day, but we're breathing every second.

The fact is, poor indoor air quality is directly linked to all of the following conditions:

- asthma
- allergies
- sinus problems
- headaches
- fatigue
- bronchitis
- auto-immune diseases
- colds and flus

That's why you're reading this special homeowner's report. In it, you will learn 11 specific strategies for improving the quality of your indoor air. Not all will apply to you. But if you implement even two or three of them, you will quickly notice an improvement.

Why is Our Indoor Air So Contaminated?

In order to fix something, you must understand where and how it's broken. Six factors contribute to the terrible state of our indoor air.

1. Outdoor Pollution

Depending on where you live, your home is vulnerable to various kinds of pollution. In cities, you get smog, car exhaust, construction dust, and chemicals from smokestacks.

In suburbs, you have lawnmower and weedwacker exhaust, charcoal and propane grill pollution, pesticide applications on lawns, gardens and golf courses, pollen from grasses, trees and shrubs, and dust particles from home construction and repair.

Even in rural areas, pesticide and herbicide applications fill the "clean country air."

And of course, in our densely populated part of the country, a gentle breeze can spread any of these types of pollution to any of our homes.

2. Synthetic Materials in Furniture, Carpets, Household Items and Home Construction Materials

Since the 1950s, more and more man-made materials have found their way into our homes. For example, most furniture and cabinetry is made of pressed wood, which consists of wood chips held together with a formaldehyde-based glue. If you remember your high school biology class, formaldehyde is the stuff that preserved the frog you dissected. I don't think any of us wants that in our lungs!

Carpets, which used to be made of cotton or wool or jute, are now spun from petroleum products like nylon. They can off-gas (give off airborne pollutants) for months after installation.

Plastic items (TVs and stereos, storage containers, etc.) off-gas pretty much the same stuff.

Home cleaning products and personal care products also contribute particles to our indoor air.

3. Burning Things in Our Homes

If you have a gas or oil furnace, or a gas stove or oven, you are certainly releasing pollution in your home. If you're lucky, it's burning cleanly. If you're not lucky, you're also filling your home with poisonous carbon monoxide. Wood-burning fireplaces can also contribute to poor air quality.

4. Organic Matter – Dead Skin, Dust Mites, Pet Dander, and Molds

Most of the dust in your home is made up of dead human skin cells. That's why a sealed room that nobody goes in doesn't get dusty, while your bedroom breeds dust bunnies like, well, like rabbits.

And there are a variety of little creatures that live off the dead skin cells. We breathe them and their excrement all the time. Now, before you get all grossed out, this is totally natural and humans have been living with dust mites for millions of years. They just became a problem when we moved indoors and stopped cleaning our sheets in boiling water.

Our beloved Spot and Fluffy can also mess up our homes with their shedding, with the tiny animals who call their fur home, and with the stuff they track in.

Probably the most lethal indoor pollution is mold, which grows in dark, damp places (bathrooms and basements are the most common, but leaking plumbing can lead to mold

growth in drywall and insulation). Before doing anything about mold, get a professional to identify the type – some are highly toxic and should only be removed by an expert with the right equipment. Scrub it off the wrong way and you can turn a small problem on a wall into a whole-house indoor emergency.

5. Energy Efficient Homes

Until the energy crises of the 1970s, most of our homes were “leaky.” Air was exchanged between inside and outside through cracks in window wells, under and around doors, through chimneys, and through cracks in walls. When energy was cheap and plentiful, we didn’t think about keeping doors and windows closed to keep the heat or cool in. Our homes had adequate air flow and sufficient “air exchange” – a fancy term for how many times the air in a space is replaced by different air during a given time period.

Our commitment to energy conservation over the past 40 years has produced homes that are virtually airtight. We have caulked and padded the gaps around windows and doors, blocked up all areas of air exchange, and kept windows and doors closed to the outdoors to save energy.

So our homes concentrate the pollutants in the air and don’t let them out.

6. Complex Heating and Cooling Systems

If you have central air or forced heat (any system where air travels through ducts to get from room to room), you have a giant source of air pollution. This is because you can clean everything else in your house, but if your ducts are dusty, you are blowing pollution back into the air every time you heat or cool your home.

And because these systems are complex, they’re impossible to clean without the right equipment.

“Yikes! What Can I Do About All This Pollution?”

I’m glad you asked. Now that you understand the problem, we can talk about 11 specific things you can do to immediately and vastly improve the quality of your indoor air.

1. Clean Your Floors Regularly

Dust and dirt particles settle everywhere in your house. But when they’re on the floor, they get stirred up every time someone walks by. Here’s the schedule I recommend to keep your floors clean:

Vacuum rugs and carpets – at least every other day. Obviously this depends on the frequency and nature of the traffic. If there are a lot of kids and pets in your home, you probably want to vacuum every day.

Vacuum hard floors (wood, linoleum, tile, cork, etc.) – twice a day.

When you're vacuuming, don't forget to clean the upholstery on chairs and sofas. These are favorite breeding grounds for dust mites and other tiny critters.

2. Replace Hard Floors with Carpeting Where Appropriate

No, I'm not suggesting you get green shag for your kitchen. But carpeting is actually the most effective air filter your home has. The fibers trap a great deal of pollution that would otherwise be airborne. That's why it's so important to vacuum them regularly.

If you can't or don't want to carpet over hard flooring, then use area rugs and vacuum or wash them every couple of days.

3. Buy Better Vacuum Cleaner Bags

For almost every vacuum cleaner manufactured in the last 10 years, you can buy heavy duty bags that filter down to 1 micron. By comparison, standard bags filter to 7 microns. To give you a sense of the scale we're talking about, there are 25,000 microns in one inch.

This is so important because the smaller the particle, the most dangerous. Think about it. If the pollution in your home were the size of a baseball, you wouldn't worry about inhaling it. But the particles in the 2-3 micron range can get into our bodies more easily, and embed in our lungs.

2. Keep windows Open as Much as Possible to Get Fresh Air

As I noted above, outdoor air quality is usually higher than indoor, so you want to encourage air exchange to improve the quality of the indoor air. Exceptions include homes near an industrial area or a lot of construction or near a busy road.

You've got to use your judgment, or course. Close your windows when your neighbors or your neighborhood is polluting. This includes chemical lawn sprays, barbecues, gas powered garden tools, or dusty construction.

3. Get an Electrostatic Furnace Filter and Keep It Clean

If you have a gas air heater, it probably came with a fiberglass filter that's spiral wound, like fuzzy steel wool. When you look at this material, you can see right through it. Remember that the dangerous pollutants are in the 2-3 micron range and you realize how amazingly ineffective these wound filters are. They actually work better when they're dirty because the dirt decreases the space between the fibers.

Instead, replace the standard filter with an electrostatic filter that uses static electricity to bind the particles (like how balloons stick to your wool sweater when you rub them enough). This technology alone can make a huge difference in your air quality.

And of course, clean these filters according to the manufacturer's recommendations (I would do it once a week. It's easy – just stick them in a full bath and soak them for an hour, let them drip dry, and pop them back in place.)

5. Dust Smart

If possible, dust with the vacuum cleaner dusting attachment. Avoid using feather dusters, which just scatter particles into the air. If you have fragile pieces or the vacuum wand won't reach, dust with a rag.

You don't need to use cleaning sprays. All those lemony and piney odors just add to the pollution in the air.

6. Clean Your Pets and Their Food Bowls

Brush your dog on a daily basis when he or she sheds a lot.

Keep your dog or cat's bowl and food area clean to prevent mold. Don't just keep refilling the water or food bowl. Clean them out with soap and dry them well before refilling.

7. Eliminate Standing Water

It's a lot easier to prevent mold than to eliminate it. There's a reason I'm called an expert at mold "remediation," not "removal." Often the best you can do is contain mold, keep it from spreading, and keep it from getting in your lungs.

If your basement floods or gets wet a lot, use a dehumidifier or a sump pump. Keep the dehumidifier tank clean. If you have an indoor fountain, make sure it's running or has enough of recommended chemical.

If your forced air system has an integrated humidifier, you must switch it off in the summertime. Take that opportunity to clean it thoroughly.

8. Get a Safe, Effective Room Air Cleaner

If you or a family member suffers from asthma or allergies, the right room air cleaner can make a big difference.

There are a lot of people out there trying to make a fast buck on unproven, even dangerous air filtration technology. Take my advice to get an effective, safe solution.

Don't buy a filter that uses "ionization." They create ozone, which is a lung irritant. There's a very good reason the ozone layer is miles above the earth. Very good filter from far away, but we shouldn't be breathing it. High ozone levels are a sure predictor of asthma attacks. Emergency rooms listen to weather reports of ozone levels to predict how many patients will come in respiratory distress that day. If you have an air cleaner that produces ozone, you'll notice that breathing becomes more labored and difficult.

I recommend one kind of room air cleaner only: HEPA filtration. There are many models put out by reputable companies. Check out the rating system for air cleaners put out by the National Association of Electronics Manufacturers. The models are rated for square footage (how big a room they can clean) and effectiveness (how much pollution they take out of the air per hour). You also want to consider how big a unit you want, how noisy or quiet, and the cost of running the unit and replacing the filters.

9. Wash Your Clothes and Bedding Regularly

Dust mites live off of the dead skin cells that we shed every day. That's why the most common place for them to live and breed are our sheets, pillowcases, blankets, towels, and clothes.

Wash these items regularly, even if they don't smell or look stained.

If someone in your family suffers from asthma, buy anti-allergenic bedding, pillow, and pillow covers. There are many companies that sell pillow covers that live between the pillow and the pillowcase and keep dust mites away from your face at night.

10. Have Your Carpets Professionally Hot-Water Extracted

As I mentioned, your carpets are potentially your best ally in the battle against indoor air pollution. They trap particles in their fibers and keep them out of your lungs. But carpets lose their effectiveness as they get dirtier.

In addition to vacuuming them every couple of days, at least, you must have your carpets professionally hot-water extracted a minimum of once a year. This restores the fibers, resets the carpet for maximum filtration, and – by the way – makes them look great and smell clean and fresh. If you've ever moved a piece of furniture and been amazed at the difference in how they carpet looked under that piece, you know how much abuse a carpet can take.

But again, you have to be careful who you let into your home. There are a lot of guys out there who advertise really low prices in the coupon decks that you get in the mail. They typically use "bait and switch" tactics to quote you an amazing price and then find all kinds of "special situations" to bring the price up considerably.

Many of them use equipment no better, frankly, than you could rent at the supermarket or hardware store. They use chemicals which may be worse for your health than the dirt they're trying to remove.

Here's what you should look for in a carpet cleaner:

IICRC Certification

The IICRC is the recognized body that trains and certifies carpet cleaners. When you see this certification, you can be sure that your carpet cleaner won't ruin your carpet with the wrong chemicals.

Firm Quotes, Not Estimates

No carpet cleaner can give you a definite quote over the phone. When they come over and examine your carpets, make sure that the price they give you is firm, with no surprises.

Testimonials from Recent Customers in Your Area

Ask for references. At a minimum, they should be able to let you hear from three customers in your area who had their carpets cleaned within the last two weeks. Don't rely on old testimonials – things change.

Clear Statement of Results

Make sure your carpet cleaner states clearly what he or she can or can't do about a particular area or stain. Some stains will not come out, and anyone who tells you they can get them out is lying. Other stains will come out but will distort the color of the carpet when they do. Make sure your carpet cleaner is clear and specific about what the results will be.

State of the Art Equipment

Many carpet cleaners still use old-fashioned wands. In theory, there's nothing wrong with this system, except that it relies on the muscles of the wand operator. When the carpet cleaner gets tired, or loses interest (and face it, the person operating the wand will probably not be the owner of the company), the carpet doesn't get cleaned.

Instead, look for a system like the one I use, called a Rotovac®. Unlike traditional wands that depend on the strength and stamina of the operator, and clean in two directions only (forward and back), the Rotovac® cleans your carpet from all directions with 1500 mechanized cleaning passes per minute. Because the Rotovac® is doing all the work, the operator doesn't get tired, and it doesn't matter if he or she does.

Commitment to and Knowledge of Indoor Air Quality

Let's face it, most carpet cleaners are selling looks alone. While it's true that the look of your carpet is very important, you can have a great looking carpet and still have lousy indoor air quality. Some of the most powerful carpet cleaning chemicals are actually powerful pollutants as well. Make sure your carpet cleaner is an expert on indoor air quality, and only uses chemicals that promote the safety of your indoor air.

11. Have Your Forced Air Ducts Cleaned Every 3-5 Years

Here's the problem: no matter how much you clean your house, or filter your indoor air, if you have forced air ducts, they're blowing all the pollution back through your house every time you heat or cool your house.

You would absolutely not believe how filthy the ducts in your home truly are. The only analogy I can give you is to imagine you saved all your full vacuum cleaner bags for a year, and then dumped them all down your forced air vents into the ducts. That's what most of the ducts I've cleaned have looked like when I got started.

So you absolutely need to clean them out every five years at a minimum, more if you live in an area with a lot of pollution or if you have pets.

But there's another problem that I have to warn you about: If you thought carpet cleaning was full of scam artists, air duct cleaning is a hundred times as bad. The main reason is, you can't see the results, so you have no way of knowing if someone has done a good job or has just stolen your money.

The most common type of "duct cleaning" is sticking a blower into your vents and turning it on. There are two huge problems with this. First, it blows the pollution all over your house.

Second, it doesn't clean the vent.

Try this experiment (at least in your imagination). Empty a full vacuum cleaner bag onto a smooth table. Now blow all the dust and dirt off the table surface. Blow as hard as you can. Use an industrial strength leaf blower. Done?

Good. Now take your hand and sweep it across the table. Is it clean, or are there still lots of tiny dust particles clinging to the table?

Now take a brush and dustpan and remove the remaining dust. Successful?

That's the difference between blowing your ducts clean and actually brushing them clean. Make sure your duct cleaner uses a brush system to really clean the ducts. I use the Rotobrush®. It's a rotating dome-shaped brush attached to a high powered vacuum nozzle. It's the only system I know of that can brush and vacuum at the point of contact.

But don't let that fool you into thinking it can do the job quickly or easily. Duct cleaning is a long, laborious process if you're going to do it right. My average job lasts 4-8 hours, depending on how many vents, how dirty they are, and how easy or difficult the access.

Please believe me: There's ABSOLUTELY NO WAY a guy with a blower can accomplish anything at all in two hours for \$200, which is the offer you'll see over and over in the coupon deck. These guys make their money by driving around taking advantage of 4-5 homeowners a day, who are none the wiser because they can't tell if the ducts are clean or not.

To prove to you that my system works, I go one step further. I actually videotape your ducts before and after. I had to buy a pretty sophisticated system to do it, but because I'm in an industry dominated by scam artists, I felt I had no choice.

Next Steps

I hope this special homeowner's report helps you and your family breathe easier and healthier. If you would like to find out more about my services, please give me a call at (609) 631-0303. I am generally booked a couple of weeks out, so please don't delay and expect that I'll be able to clean your carpet or your ducts the same day or week that you call.

I also am certified in mold remediation, so if you know anyone with a mold problem in their home, please pass this report on to them and encourage them to call me to talk about it, at the very least. As I said before, don't mess around with mold if you don't know what kind of mold it is and you're not an expert at mold remediation. This advice could literally save someone's life.

If you're interested in proceeding with carpet or duct cleaning, please review carefully the attached scope of work. It spells out clearly what I can and can't do, and the standards to which I hold myself and my company.

Also, I would appreciate if you would copy or forward this report to others who could benefit from it. I'm not going to be satisfied until every homeowner in central New Jersey is providing their family with high quality air, and until unnecessary attacks of asthma are things of the past.

Thank you for reading.

Breathe deep and enjoy!

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