



Air Quality

The following is a list of steps to improve interior air quality:

1. If you are serious about improving interior air quality it involves the whole family.
2. Do not burn excessive amounts of candles or incense or other smoke or soot producing devices inside the house.
3. Do not permit smoking inside the house. Keep pets outside. Pet dander is an asthma trigger.
4. Keep areas uncluttered, this makes vacuuming and routine house cleaning easier.
5. Utilize vacuums with HEPA filters. Vacuum all carpeted areas and upholstered furniture at least once a week. The dust bags in your vacuum cleaner should be of high quality, which can trap particles as small as one micron.
6. Make sure that duct work in your house is **NOT** excessively leaky. Leaks in ductwork can draw heat, humidity, dust and pollen into your house from the attic, garage, crawl space or the outside.
7. Change the bed sheets and pillowcases weekly and wash them in the hot wash/cold rinse cycle. Vacuum the beds with the tools of an allergen-trapping vacuum cleaner.

8. To prevent roaches, mice or other pests. Food and/or food crumbs attract these pests. Store food in airtight containers and dispose of food wastes. Allergens from roaches are a major cause of asthma.
9. Carbon monoxide sensors are now required in New Jersey. Keep smoke detectors in good working order. Read the manuals of these devices and if the alarm sounds, take remedial measures as instructed in the manuals.

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10. Make sure water is drained away from the house. Problems arise due to sprinkler systems spraying water on the walls, landscaped hills in the front yard which drain water towards the house, lack of gutters or improperly directed or clogged down spouts.
11. If your home has vinyl or other vapor impermeable wallpaper on the exterior walls, inspect it carefully for mold. Pink or dark splotches are a sign. If you see them, cut a section with a knife and examine the backside of the wallpaper for mold. If there is mold the wallpaper should be removed, the walls cleaned with bleach, dried and then painted with a vapor permeable paint. Seek professional advice if your house has extensive mold.
12. Invest in good white pleated air filters for your heating and cooling system. At a minimum use the \$10-\$15 disposable pleated filters which are about one inch thick. Check the filters monthly and replace at least every two months. (If your filters do not get dirty, it may mean there are excessive leaks in the duct system between the filter and the air handler unit.) Make sure there is no air bypass around your filter whether it is located at the air handler unit or in the return grill.
13. Always keep the interior doors in your house open to promote better air circulation. If fire prevention or privacy is of concern, then consider

various return air pathways from the closed room to the return air grill. This may include additional ductwork, transfer grilles or a combination of both.

14. Do not close off the heating or cooling vents in unused rooms.
15. Excessive relative humidity (RH) in the house is a major cause of poor IAQ as it breeds dust mites and molds. To control the house RH follow these steps:
 - a. During the air conditioning season always keep the fan switch in your thermostat in the AUTO position rather than the ON position. The AUTO position dehumidifies about twice as well as the ON position. If you feel the need for air circulation for comfort, use ceiling or portable oscillating fans.
 - b. Once a year, have your air conditioner serviced by a reputable contractor. The coils should be inspected and cleaned if necessary. During a hot afternoon, the supply air temperature coming out of the registers should be about 20 degrees F cooler than the house temperature. If the supply air temperature is less than 15 degrees F cooler than the house, there is probably significant duct leakage on the return side of the air handler or the air conditioner needs to be recharged with refrigerant (proper charge is important - overcharging is as bad as undercharging). These need to be fixed.
 - c. Buy a good quality digital temperature and RH meter and place it in the family or living room. Observe the RH levels - during the summer months when the air conditioner runs regularly, the RH should be below 50%. 45% is ideal. If in the summertime your

house humidity is consistently above 60%, you have cause for concern.

- d. Do not set the air conditioning thermostats lower than about 75 degrees F.
- e. Do not operate exhaust fans located in the attic designed to cool the attic. These fans generally increase the infiltration rate of the house and increase RH.
- f. If your closet is not air conditioned and clothes feel moist, try keeping the closet doors open and keeping the closet light on all the time.
- g. Always operate the bathroom exhaust fans (if it exhausts to the outside) when taking a hot shower or bath. These fans should operate at least 15 minutes after the shower - this is best done with a timer. Ideally the fan should operate with the light.
- h. Operate the kitchen exhaust fan during cooking and cook on the rear stove top elements so the fumes and steam are captured and exhausted to the outside by the fan.
- i. If your clothes dryer is located inside the conditioned space, be sure that it is properly vented to the outside. Check the connection of the dryer to the exhaust pipe to ensure that it is attached and in good shape. It is recommended to utilize metal dryer vents. Plastic hoses can split, allowing most air into the room. Also check the discharge of the exhaust pipe; this may be blocked with lint, especially those that exhaust vertically through the roof. (NEVER exhaust the dryer into the attic.)
- j. Reduce the volatile organic compounds (VOC's) in your house.
- k. Keep gas cans, paints and any other products that out gas dangerous fumes well away from the air handler and the hot water heater.
- l. When buying furniture or cabinets, avoid new pieces with particle board. Either buy wood furniture or cabinets or used (not upholstered) furniture which has had a chance to out gas.

m. Do not use excessive amounts of perfumes, deodorants, cleaners or other fuming substances, especially near persons who have allergies or asthma.

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