

Clean Air @ Home

Air Cleaners: Filtering Facts



BY LAURIE ROSS

“... purifies a room in 5 hours ... true HEPA ... better than HEPA ... filterless ...”

Wondering what air cleaners are all about – and if one will help your family breathe easier at home?

Healthcare professionals often recommend them; manufacturers cite scientific data that proves their systems remove pollutants from the air; but the U.S. Environmental Protection Agency (EPA) cautions there’s no proof they actually improve users’ health.

At the same time, some AANMA members suggest anything that gives them even the slightest help in reducing asthma episodes is worth having. You decide. Air cleaners should play just one part of an overall strategy to reduce allergens and irritants in your home.

For airborne allergens, such as pollen, mold, pet dander and dust:

HEPA (high efficiency particulate air) filters remove the majority of airborne allergens and are the standard recommended by allergists. **ULPA** (ultra low penetration air) filters remove smaller, ultrafine particles, but EPA cautions they may also reduce airflow.

Electronic air cleaners don’t use filters. Instead, they put out charged ions that attach to airborne allergens or dust, creating statically charged particles that then stick to collecting plates in the air cleaner (electrostatic precipitators) or to walls, floors and furniture (ion generators). Some electronic cleaners emit ozone, a powerful lung irritant.

For smoke, gases and odors:

Gas-phase filters such as activated carbon remove odors and gases, including some elements of tobacco and wood smoke, chemicals and fumes. Look for units with high concentrations of carbon or other materials. EPA cautions that tobacco smoke is made up of more than 400 different particles and toxins, only a few of which can be removed with air cleaners.

For bacteria, viruses and mold:

UVGI (ultraviolet germicidal irradiation) lamps use UV

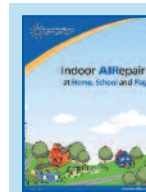
radiation to kill viruses, bacteria and mold spores. EPA cautions that dead mold spores can still trigger allergies and typical home units may not have strong enough UV exposures to effectively kill germs.

Comparing Claims

- Look for units with sealed compartments that do not allow captured pollutants to escape back into the air.
- Match the air cleaner to your room size. Figure square footage (multiply length times width); add extra if your room has very high ceilings. A unit built for a large room may actually clean your smaller one more efficiently, replacing the air more quickly. For maximum efficiency, keep doors and windows closed when running the unit and place unit away from walls and furniture that would restrict airflow.
- Multiple filters do not mean greater efficiency if they restrict airflow and decrease the amount of air processed.
- Air cleaners become less effective as filters fill up; when considering a unit, check how frequently filters need to be replaced and how much they will cost.
- **CADR**, or clean air delivery rate, is a standard developed by the Association of Home Appliance Manufacturers that measures performance of room air cleaners against tobacco smoke, pollen and dust. These are lab tests in ideal conditions; real-life results will be affected by how tightly sealed the room is, how dirty the air, how much activity there is in the room, how full the filter is, and how old the unit air exchange in the amount of time it takes an air purifier to cycle all the air in a room.

More information: www.epa.gov/iaq/aircleaners.

Reviewed by Eileen Censullo, RRT



Family friendly, easy-to-follow tips to find and reduce allergens and irritants in your home. Download a FREE copy at www.aanma.org/publication or call 800.878.4403.

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