

DUST CONTROL AND ASTHMA

PROBLEM STATEMENT

The Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma; 2007 recommends that patients should reduce exposure, as much as possible, to allergens to which the patient is sensitized and exposed:

- The first, and most important step in controlling allergen-induced asthma, is to advise patients to reduce exposure to relevant indoor and outdoor allergens to which the patient is sensitive.
- Effective allergen avoidance requires a multifaceted, comprehensive approach. This approach includes reducing exposure to dust mites and dust.
- When dust is disturbed, it rises into the air. Once in the air, it can be breathed into the lungs. Dust contains allergens as well as potentially harmful chemicals such as lead and pesticides.
- Cleaning can set off allergies and asthma by temporarily raising dust in the air. If the person doing the cleaning has allergies or asthma, they may want to use a dust mask (see dust mask protocol).
- Use an integrated approach which includes vacuuming, dusting, removing shoes before entering the home, and have a doormat out front of the entrance of the house.

BACKGROUND

Do not assume that patients fully understand the association between dust and asthma. Also, help the patient to understand that the act of cleaning can have an effect on asthma symptoms. Many of the patient's also have clutter, which is a dust magnet. Reducing clutter is also a key message.

ASSESSMENT

Assess prior education received by caregiver for knowledge and current understanding.

- Assess how the caregiver uses the vacuum.
- Assess frequency of vacuuming, especially in child's bedroom/bedroom of a child with asthma.
- Ask how vacuuming is going and if the caregiver has any questions on how to use the vacuum or the attachments.
- Ask about dusting technique and understanding of proper dusting technique in order to keep dust rising into the air at a minimum.

FUTURE ASSESSMENT

- Ask caregiver to demonstrate vacuuming techniques. Observe vacuuming technique.

- Demonstrate how to vacuum, if needed.
- Ask if the client is using the dust sensor light to guide vacuuming. Is the light turning green? How long does it take?
- Assess if client needs help with vacuum maintenance. Topics include: use of the instruction book, checking to see how full the bag is, changing vacuum bags & cleaning the sensor plate by wiping with cloth.

EDUCATIONAL MESSAGES

- All homes have dust.
- Dust can contain allergens such as dust mites, animal dander and mold, which make asthma worse.
- Dust can also carry other substances that may harm a child's health, such as lead, pesticide residue and other toxic chemicals.
- Dust can make asthma worse when it is breathed into the lungs.
- Controlling dust can be a very important way to help control asthma.
- Control dust by 2 strategies:
 1. Don't let it get into the house (control track-in).
 2. Get rid of the dust in the house by effective cleaning.

To control track-in of dust:

- Take shoes off as soon as you enter the door.
- Store the shoes near the doorway on a rack or on the floor.
- Use a commercial-quality doormat.
- The best mat is 2' x 3', is made of dense level-loop woven nylon pile, and has non-slip rubber backing. A piece of level loop or plush carpet is an option. Rubber or coco mats don't work well.
- Place the mat inside the doorway, or outside where it will not get wet.
- Wipe feet twice on the mat when entering.
- Make sure everyone, including kids, uses the mat.
- Vacuum the front and clean or vacuum the backside of the mat once a month. This is best done outside.

To get rid of dust in the house:

- **Dust :**
 - 2 times a week - child's bedroom & play area
 - 1 time a week – other rooms

- Dusting can be done with a dust cloth, but a Grab-It® cloth or a Swiffer® cloth can hold onto the dust without letting it disperse into the room. Use a damp dust cloth, a Grab-It® cloth or a Swiffer® cloth to dust vinyl or leather furniture.
- Dust articles in the room that are higher up from the floor before dusting articles that are at a lower level.
- Vacuum before dusting. Vacuuming can release dust particles into the air which will settle on surfaces that then can be dusted.
- Using correct vacuuming technique, vacuum floors and cloth-covered furniture:
 - 2 times a week - child's bedroom
 - 1 time a week - other floors and furniture
- Clean rugs regularly (more on this visit).

Using a dust mop instead of the vacuum:

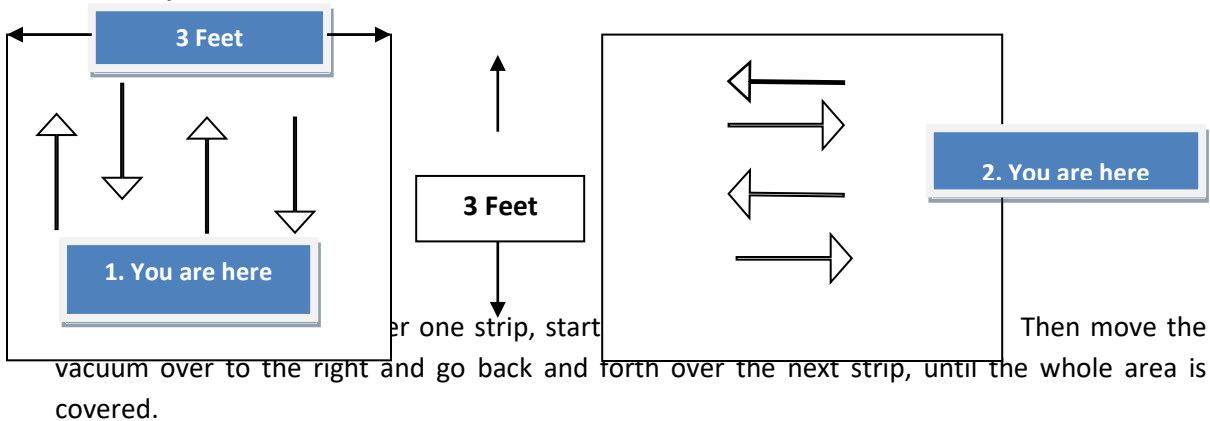
- Never pick up the dust mop while mopping. That will release the dirt back into the air, and it will again settle on the floor.
- Take the mop outside when finished and shake it out to release the dust.
- Some people like to use a large wet mop with a terrycloth cover that is especially designed for hardwood floors instead of a dry dust mop. If you do, it works well if you wet the mop with a little dish soap mixed with water.
- Swiffers® or Grab-it® cloths and the floor-cleaning tool that is sold with them can be used to remove dust from wood floors.

About vacuums:

- A low-emission vacuum is the best type for people with asthma because it has a special filter that keeps all the allergens in the dust collected by the vacuum in the machine.
- Regular vacuums allow some of the allergens to leak back out in to the air.
- It is still better to use a regular vacuum compared to not vacuuming at all. If you use a regular vacuum, you can use allergy-filtration, double-layer bags inside the vacuum. These will help cut down on the amount of allergens that leak out.
- It may take a lot of time to get the dust out of the house the first time, but once the house is clean, it's quicker and easier to keep it clean.
- Avoid vacuuming rug fringe, blind cords, string, yarn, coins, paper clips, gum, electrical cords (including one from vacuum cleaner).
- Never vacuum water, other liquids or wet objects.
- If the electrical cord gets caught in vacuum, turn off vacuum using switch, unplug immediately and release cord. If damaged, repair or replace cord.

- Unplug the vacuum cord at wall and pull only on plug, not on the cord. If plug comes loose from cord, replace it.
- Rewind the vacuum cord after each use.
- **How to vacuum:**
- Turn the vacuum on and off by using the switch. Turning the vacuum off by pulling the plug out of the wall socket will leave the dirt finder light “on” and the battery will run down.
- The “Embedded Dirt Finder” indicator should be on “Hi” to get out high levels of dirt or ground-in dirt that may be underneath the carpet.
- Check vacuum bag before each use and replace bag when indicator is red or bag is filled to the dotted line on the bag.
- The vacuum is meant only for picking up dust. Pick up toys, debris and large pieces of trash before vacuuming. Don’t use the vacuum to pick up large pieces of debris.
- Vacuum a 3 by 3 foot square in forward and back motion until green light comes on and stays on.
- Move the vacuum as follows:

Then the same square:



- Start over again on the left and repeat the whole pattern until the green light comes on and stays on.
- When the entire area has a green light, move the vacuum to the side of the same square and repeat the pattern (at 90 degrees from the first pattern) until the green light goes on.
- Move to the next square area and repeat.
- If each square takes a long time to clean, you can work on one square at a time. It all does not have to be done at once. The areas nearest the door will take longest to clean, so you might start in the middle of the room. It is better to clean a small area well than to try to clean a large area and not get to the dust deep in the carpet.

- **Using the vacuum on area rugs:**
- Use the carpet height setting appropriate to the type of carpet.
- Stand on one end of the rug to hold it in place. Move the vacuum with only forward strokes. Push down on the handle before reaching the edge of the rug to lift the vacuum off of the rug. This will keep the rug from being gripped by the vacuum.
- Avoid the fringe with the vacuum. To clean the fringe, use the dusting brush on the hose and vacuum parallel to the fringes.

Using the vacuum on hard floors (such as vinyl, linoleum or pergo®):

- Set the slide knob to HARD FLOOR and use the same cleaning pattern as for cleaning carpets. When moving the knob to change the height, make sure the vacuum handle is in the upright position.

Using the vacuum on hard floors (such as wood):

- Use a brush attachment to clean wood floors because the agitator in the vacuum can damage wood floors.

Using the vacuum to dust:

- Use dusting brush hose attachment for books, tabletops, lamps, baseboards, fringes of area rugs, drapes.
- Make sure to close the cover over the hose tube. The vacuum must be in the upright position to use the hose attachments.

Using the vacuum to clean furniture:

- Use furniture nozzle, the small wide tool that does not have brushes.
- It is important to vacuum upholstered furniture weekly, especially items that the child spends time sitting or lying on.

Using the vacuum to clean cracks:

- Use the crevice tool for getting between furniture cushions, behind bookcases and cabinets and at the carpet edge.

Vacuum maintenance:

- Use the instruction book if you have questions about how your vacuum works.
- Open the vacuum and inspect the bag after every hour of vacuuming or when the CHECK BAG indicator turns “red” Change the bag when indicator is “red” or dirt reaches dotted line on bag. A bag can get half full in an hour in a dusty room.
- Review the importance of cleaning both the secondary and final filters of the vacuum.
- Demonstrate how to clean the lens of the vacuum dust sensor.

- If string or other debris gets caught in agitator, turn off the vacuum and remove the debris by gently pulling it out or cutting it out.
- Replace vacuum belts each year.

ACTIONS

CHW ACTIONS	CAREGIVER ACTIONS
<ul style="list-style-type: none"> • Ask the client to try vacuum and all attachments. Assess that proper technique is being used. • Educate/demonstrate vacuum use. • Assure that the client completes and mails the warranty card. • If the caregiver has allergies or asthma, refer to Dust Mask Protocol. • Demonstrate how to check the belt. Advise checking the belt for tightness when changing bags and to replace the belt when broken or slack. • Review the importance of cleaning both the secondary and final filters of the vacuum. • Demonstrate how to clean the lens of the vacuum dust sensor. • Demonstrate how to clean the agitator by removing and/or cutting strings and debris found around the agitator. • Change the vacuum at the one-year exit visit. 	<ul style="list-style-type: none"> • Install and use doormat. Clean on both sides once a month with the vacuum. • Remove shoes when entering the house. • Vacuum floors and furniture: <ul style="list-style-type: none"> ○ 2 times a week in the child with asthma's bedroom ○ 1 time a week- other rooms • Make sure the child with asthma is out of the house (or at least the room) when you vacuum or dust and for 20-30 minutes after finishing. This allows time for dust and allergens, which may have gotten airborne during cleaning to settle. (Use a dust mask if the person cleaning has asthma.) • Fill in and mail vacuum warranty card. • Maintain vacuum regularly. • Vacuum before dusting

Follow-up Visits

- Observe client vacuuming
- Change belt at one year exit
- Review frequency and cleaning techniques with caregiver/answer questions.
- Provide vacuum maintenance tips

Supplies

- Vacuum
- Repair flyer
- Extra Vacuum belt
- Vacuum bag - Note: Some clients may need more if really motivated.

Education Handouts

- Vacuuming technique
- PH-S&KC Poster “Please Take Off Shoes Here”

Referrals

- None