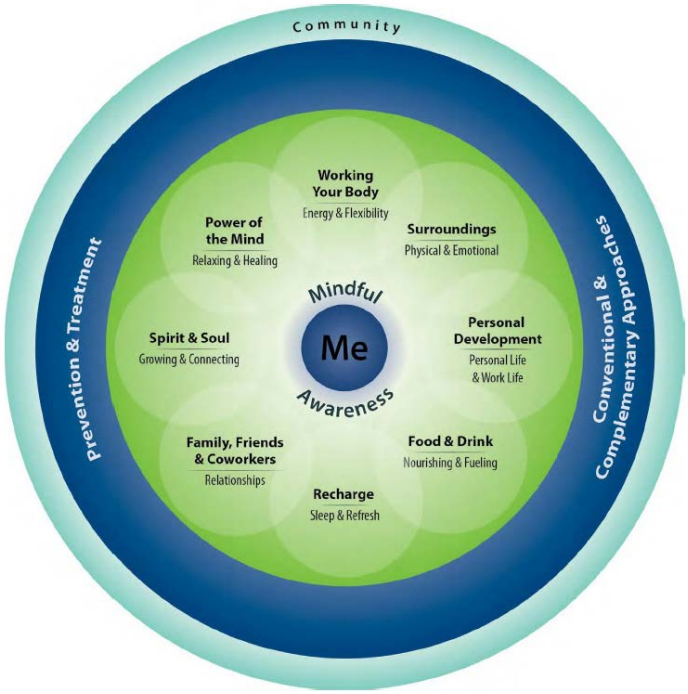
WHOLE HEALTH: INFORMATION FOR VETERANS

Toxins and Environmental Inflammation



Whole Health is an approach to health care that empowers and enables YOU to take charge of your health and well-being and live your life to the fullest. It starts with YOU. It is fueled by the power of knowing yourself and what will really work for you in your life. Once you have some ideas about this, your team can help you with the skills, support, and follow up you need to reach your goals.

All resources provided in these handouts are reviewed by VHA clinicians and Veterans. No endorsement of any specific products is intended. Best wishes!

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Whole Health for Life

Toxins and Environmental Inflammation

What is toxic to my body?

A toxin is something that can be harmful to your body. One way that can happen is if it causes inflammation. (Inflammation is part of the way your body heals itself. But too much inflammation can lead to disease. See the Whole Health handout "Eat to Reduce Inflammation" for more information.) People can come into contact with a toxin by breathing it in (like smog), eating it (like pesticides), or having it touch the skin (like mercury). Just coming into contact with a toxin does not mean that you are in danger though. Every toxin has a range of how much you need to come into contact with before you have symptoms. Some people are more resistant to certain toxins. They might be at a higher end of the range and have no symptoms. Other people are sensitive and show symptoms at the lower end of the range.

Can I protect myself from toxins?

The best way to protect yourself is by avoiding toxins. The most common way for a toxin to get into the body is by eating or drinking it. To decrease your exposure, it may help to avoid drinking from Styrofoam and plastic, and to use glass or ceramic instead. It will also help to eat organic food when possible. If meat is a key part of your meals, having plenty of fruits and vegetables will also help.

Avoiding all toxins is hard because they are so common. Don't worry though. Your body has several natural ways to disable toxins and stop them from affecting you. This is explained in more detail in the next paragraphs.

If toxins are able to enter your body, your body has multiple ways of removing them, such as sweating, having bowel movements, and urinating. If you want to learn how to help your body get rid of toxins, then read the Whole Health handout "Improve Your Health by Removing Toxins from Your Body."

I have breathing problems. Is it because of toxins?

There are many reasons why you might be having breathing problems. It might be a temporary problem, like a virus. In addition, you could have permanent changes in your lungs such as chronic obstructive pulmonary disease (COPD). If you think you have a breathing problem, it is important to talk with your health care provider.

Your nose and throat have hairs lining their surface. These help to protect your body by trapping toxins that might be in the air. Your body then makes more mucus and phlegm to help get rid of the toxins that are caught. This is why increased mucus and phlegm are not necessarily a sign that you have a bacterial infection. As you get closer to the lungs, the hairs get smaller to catch more and more toxins. They work together like an elevator to push the toxins up to the nose and mouth. If toxins get too far into the lungs, they can get absorbed into the body or can cause inflammation in the lungs. Inflammation is the body's way of sending cells and chemicals to try to destroy the toxins.

What toxins in the air do I need to avoid?

The following list contains a few toxins in the air that often bother people.

- **Smoke**: Smoke of any kind (cigarettes, cars, and pollution) is one of the most common toxins that people are exposed to. Smoke can stun the hairs that protect the airways. This makes the remaining hairs work harder. This is why people who smoke often cough and produce a lot of phlegm. Because the hairs are stunned, more smoke and other toxins are able to get deeper into the lungs. There they get absorbed into the body and produce inflammation.

  Even people who are not smokers can be affected when they breathe in smoke. People with asthma especially are sensitive to smoke. Their bodies can react with inflammation quicker even to smaller amounts of smoke. Children constantly exposed to smoke are more likely to develop asthma. That's because their bodies' defenses are weaker from always being active.

  The good news is that the body can get better, inflammation can go down, and the hairs can work again. Decreasing and avoiding smoke gives your body time to recover.

  If you do smoke, be sure to smoke outside the house/car. Furniture can easily absorb the smoke particles and release them at a later time. Also, if children or older adults are in the house, be sure to change clothes and to cover your hair or wash it after smoking. Smoke stays on hair, skin, and clothes to be breathed in later.

- **Dust mites**: Dust mites are another common thing that can cause inflammation. If you or someone in your house has constant allergies or asthma and you can't figure out why, you might be allergic to dust mites. Dust mites are usually caught in the hairs of the nose and throat, so they don't make it to the lungs. But people with asthma or allergies will have inflammation in the body. If you think you might have inflammation from dust mites, ask your health care provider how you can clean your house and sheets to get rid of them.

- **Mold**:[1] Mold is harmless for most people. It only bothers people with a mold allergy, asthma, or a weak immune system. Mold grows where there is moisture. If you think there is mold in your house or apartment, then there is moisture in the area. For example, you may have a leaky pipe, or you may be keeping the air too moist.

  Testing for mold may not be necessary because once you clean up the mold and take care of the moisture, the mold doesn't return. If you need to do construction to get rid of mold, be sure to isolate the room. Otherwise, the mold could spread since you are releasing it into the air by tearing things down. Remember to wear protection, like a mask and hair covering, and to change your clothes when entering other rooms. Most importantly, find the source of the moisture or else doing construction won't stop it from coming back.

- **Asbestos**:[2,3] Asbestos is less of a concern these days, but concerns still come up. Asbestos was used as insulation in buildings built before 1970. In buildings built after 1970, you likely have nothing to worry about. Asbestos that is intact will not cause issues. The issue occurs when asbestos is worn and torn, or damaged and exposed. When this happens, the asbestos can get into the air and be breathed in, causing inflammation. Many older buildings are being renovated. It is important to use a licensed professional if you are doing this, as asbestos may be present. They are trained to keep the asbestos from spreading in the air or staying on the walls and ground where it may be later breathed in.

- **Volatile organic compounds (VOCs)**: VOCs is a general category for a lot of household chemicals. They may include ammonia, bleach, paint, and more. These chemicals may irritate your eyes, mouth, nose, or ears. If you are using these chemicals in your house, be sure to air out the rooms. If children are in the room, consider airing out the rooms for a longer time, as smaller amounts may affect children easier. Mixing chemicals is a common way that these VOCs harm people. When cleaning bathrooms, people may combine ammonia and bleach. This combination can be very toxic to the body. Be sure to read the labels of any household chemicals prior to using them, mixing them, or disposing of them.

- **Carbon monoxide**:[4] Carbon monoxide is a gas. When you breathe it in, it can block how your body uses oxygen. In your house, carbon monoxide might come from stove leaks, water heaters, car exhaust, clothes, sooty fireplaces, or anything using fuel. To help prevent this, be sure your appliances are clean and not broken. Having a carbon monoxide detector or alarm and making sure that it works can also help. If your detector gives a readout at 10 ppm look for a source of carbon monoxide in the house.

  In general, try to have fresh, moving air in your home. Some people find air filters to be helpful in decreasing toxins. If you have strong allergies, asthma, or other breathing problems, consider getting a high efficiency particulate air (HEPA) filter. This filter will help to collect and remove some of those toxins from the air.

What toxins should I avoid touching or eating?

Your skin provides a lot of protection and unless there are cuts in the skin, it stops toxins from getting into your body. If you are worried you've touched a toxin, often washing or wiping it off will be enough. If it's a chemical, the container will have instructions on what to do. If the toxin gets into your body, remember your body is constantly getting rid of it. There are potentially many toxins you might come into contact with. Below are the three most common toxins:

- **Lead**:[5] Lead is becoming less of a concern but is still present. If your building was built before 1950, or remodeled before 1978, then you might want to check the paint for lead. This is a concern for children especially. There are some home lead paint testing kits you can buy. Their quality may vary. The United States

Environmental Protection Agency (EPA) recommends having a certified inspector come to check your house.

There has been a lot of controversy over tap water. Older pipes may have lead in them. The majority of cities have updated their pipes. If you are in a rural area, or are not sure if your pipes are old or not, you can have your water tested for lead. In general, running cool water for one to two minutes prior to drinking or cooking with the water will flush the pipes of any lead that might have been there. Filtering your water will also help to get rid of lead.

- **Mercury**:[6] Small amounts of mercury are present in water. Small fish often have such little amounts of mercury that if you eat them, your body gets rid of it very easily. Because bigger fish eat many smaller fish, mercury can build up in their bodies. For this reason, if you are eating large fish like shark, swordfish, or sea bass, consider limiting them to once a week or less. It is best for pregnant women and children less than six years old to avoid eating these big fish. Some states have warnings about certain fish, depending on the season or recent findings in the fish. You can go to the EPA for information on your state (www.epa.gov).

- **Pesticides**: Pesticides are toxins used on food while growing to keep bugs away. To lower your exposure to pesticides, try to do the following. Eat fresh foods when able, and try to avoid processed foods. When you buy fruits and vegetables, be sure to wash them. Some people mix water with something acidic (like vinegar or lemon) to wash their fruits and vegetables. This will get rid of any pesticides on the surface or chemicals applied to the outside to help keep them fresh. Each year the Environmental Working Group lists foods that contain the greatest amount of pesticides.[7] These foods are often referred to as the "Dirty Dozen." (See the list at this website: https://www.ewg.org/foodnews/dirty_dozen_list.php.) When eating these foods, it is best to choose those that are organic. For more information on ways to eat that can decrease inflammation, consider reading the Whole Health handout "Eat to Reduce Inflammation."

I heard that some people are worried about vaccines. Should I be concerned about a toxin if a family member or I need a vaccine?

For people without allergies to vaccines, vaccines and the timeline of getting vaccines are safe. Many people worry about thimerosal in vaccines. When added to a vial of vaccine, thimerosal prevents the vaccine from expiring after filling one needle. The vial then can be used to fill many needles. For example, if a vaccine is 1mL in a 1mL vial, one needle can be filled to vaccinate one person. If you have a 10mL vial, then ten needles can be filled to vaccinate ten people. Without thimerosal though, once you put one needle into the 10 mL vial, the vaccine has an expiration time. It might then go bad before you can use the rest. In 2001, thimerosal was removed from all routine childhood vaccines. Very few vaccines carry thimerosal nowadays. The main ones to consider for this are "multi-dose" vaccines (vaccines that come in bigger vials to fill multiple needles).[8] You may ask for a vaccine without thimerosal, but the vaccine you are getting probably is thimerosal free to begin with now.

Is there anything else I might want to know about avoiding toxins?

Many toxins are in the environment, but the ones in this handout are some of the main ones. Other common toxins are more related to your workplace or where you spend a lot of your time. Therefore, guidance is specific to each person. If you are concerned about this issue, consider talking with your health care team. If you do so, try to have the name of the chemical or toxin. It is helpful to give your health care team this information in advance. Not all toxins are common enough to know by name. They may need to do research prior to your visit. Not all toxins can be tested for, and not all the tests for toxins are accurate. This is another reason why giving your health care team time to look into it before your visit may be helpful.

For you to consider:

- What toxins do you come in contact with regularly? How often?
- How have you been protecting yourself from toxins?
- Is there something you want to be more careful about in the future? What is it? What will you do to be more careful?

The information in this handout is general. **Please work with your health care team to use the information in the best way possible to promote your health and happiness.**

For more information:

ORGANIZATION	RESOURCES	WEBSITE
Veterans Health Administration	A variety of Whole Health handouts on: • "Improve Your Health by Removing Toxins from Your Body." • "Eat to Reduce Inflammation"	http://projects.hsl.wisc.edu/SERVICE/veteran-materials/index.html
United States Environmental Protection Agency	Find information specific to your community.	www.epa.gov

This handout was written for the Veterans Health Administration (VHA) by Eugene Lee MD, Academic Integrative Health Fellow, Integrative Health Program, University of Wisconsin Department of Family Medicine and Community Health. The handout was reviewed and edited by Veterans and VHA subject matter experts.

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