

Inspector (*Indoor Environmentalist*) Brad

Dust Mites??

I had asthma as a child before there was any significant understanding of indoor air quality. My Dad used to smoke "Lucky Strike" cigarettes without the filter. I will believe to my dying day that second hand smoke greatly attributed if not was the only cause of my asthma. Second hand smoke is definitely an important indoor allergen. Once a youngster is exposed to an increased level of any irritant there is a higher probability of that kid developing a reaction to the environment, typically known as an allergy. When there are multiple different irritants in the environment the child may well develop sensitivities to some or all of the irritants. The irritants may combine to make the child's allergy symptoms worse. Determining how the environment affects a child quickly becomes very complicated and difficult to understand.

Almost everybody is aware of the San Joaquin Air Quality Control Board and how they are trying to lower the particulate levels in our valley. The EPA has rated the air in the San Joaquin Valley to be among the unhealthiest places to live in the nation. We have days where you cannot use your fireplace, and the farmers must institute dust control measures in order to lower the PM 10 levels. Particulate Matter of 10 microns is so small it can find its way into one's lungs bypassing the filtering systems of the nose and lodge in the tiny little air sacs of the lungs causing all sorts of problems. I can remember as a child one could see the Sierra Mountains crystal clear everyday from the school yard; now it is the exception to even see the outlines. All one needs to do is drive to Yosemite and compare the air there to our valley air and it becomes clear that the residents of the valley need to understand our air is not as good as it could be and that some extra effort may be required to protect our families.

Individually there is very little a person can do for the outside environment but there is quite a bit you can do for your indoor environment. If you have a child who has asthma or other respiratory problems it is important that you know about at least some of the more common irritants that can be found in the average home.

Dust mites are a little bug too small to see that is found everywhere. All they need to grow is some dust (food) and a little humidity (water) and a safe place to grow (your pillow). Dead dust mites and their fecal matter can become a significant portion of the weight of your pillows over time. What you think is the little fluffy stuff inside the casing may not be so fluffy! It is not the dust mite that is allergenic; it is the fecal matter that causes all the problems. Their fecal matter (poop) is about the size as a grain of pollen and can float in the air the same way as does flower pollen. When you drop your head on the pillow all the fecal matter is pushed into the air as a dust cloud where you breathe. Many times a person will blame a sneezing or a coughing attack on laying horizontal on the bed allowing your lungs to fill with liquid, where the real blame lies with the dust mite fecal matter. Yech! My personal opinion is that the dead bodies of the dust mites will turn to dust and contribute to the problem much the same way a cockroach does but I cannot prove it. It is virtually impossible to remove all the dust mites from your home, all you can do is try to control them by washing the bedding in

hot water and detergent weekly, using the plastic covers over the pillows and mattresses and most importantly lowering the humidity level of your home to 50% or less. Dust mites cannot live in anything less than about 50% humidity so installing a dehumidifier may be necessary in some situations.

Cockroaches are another important source of allergens. It is estimated that 20% of all households that show no visible evidence of cockroaches do have them present and that the allergens can be measured in the air. If you can see one it means there are a whole lot more present that are out of sight. Cockroaches deserve their nasty reputation, their saliva, feces, and body parts are allergenic. What is not commonly known is that when a cockroach dies the body will eventually become desiccated and become part of the environmental dust. Now as I watch my daughters dust the house, (this only happens once in a blue moon) I wonder how much of it is regular dust, whatever that is, and cockroach dust. Household dust is made up mostly of human skin cells that have naturally shed off the body. But the skin cells are a perfect food for the dust mites and for the cockroaches.....

Anyway, another important source of allergens is your cat. The saliva of the cat is the main source of allergens but the thing is that the cats are always licking their selves so that there is an extra amount of saliva that is available to be shed into the environment. The saliva is sticky so that it stays on the shed hair and the carpet or anywhere where the cat may touch. Because of this the allergen stays in the environment longer than some of the other allergens and can stay in your house for years after the cat is gone. Cat allergens can be measured for years after the cat has been removed from the house. Just taking the cat out of the room does virtually nothing to stop an allergic response for a sensitive child. I personally believe that the breath from a cat can actually cause an allergic reaction. The water and saliva in the cat's breath must become aerosolized when the cat breathes and can be breathed into a child's lungs, and if it is sticky then it can become attached to the kid's clothes to be an irritant after the kid goes home. I am unaware of any research in this area but I bet you dollars to dough nuts it is true.

Dogs can be allergenic but not as much as cats. Dog saliva can be allergenic and their skin cells can cause some reactions. Dogs are much less allergenic than cats. I knew there was a reason I was a dog lover.

Rats and mice allergens are found in their urine and feces. It is especially important that these rodents be kept out of the heating and cooling duct systems because the urine and feces will turn to dust and spread through out the home. Not only is this dust allergenic it can also cause some serious diseases. The Hanta virus is found in mouse feces and can be fatal if not diagnosed quickly. Histoplasmosis is a fungal infection that can be found in bird and bat droppings. Sometimes these animals are found in attics and can find their way into the ductwork.

Mold is another important irritant that can range from sniffles to brain damage. But the important thing to understand is the dose is what causes the damage, not just the presence. A single aspirin can relieve a headache but 20 aspirins may well be fatal. One

cup of water can quench your thirst but you can drown in a swimming pool. The same is true for mold. The mold spores must be contained in an enclosed area so that the concentration becomes higher than what would naturally occur. As the concentration increases the chance of some people being affected increases. Some people react to lower concentrations and some people can withstand a higher concentration of mold. It also depends on the type of mold present, or on the combination of different molds present. It can also depend on whether the mold is in a non-stressful environment (happy) or in a stressful environment where they are competing with other molds for a food source (unhappy). Molds will excrete mycotoxins (thus the term toxic mold) as a defense mechanism against the other molds that can greatly contribute to an allergic response. These toxins can be very potent and have been used by the Russians to develop nerve gas. How do you tell if a mold is happy? Testing for these mycotoxins is extremely difficult. I suspect that the odor from these toxins would chase you out of the room before anything could adverse could happen. It is easy to see why molds are so mis- understood and unfairly blamed for so many problems.

For most people these things are not a problem, but if you are allergic then you will definitely benefit by understanding the allergens that can affect your health. I have been toying with the idea of evaluating homes for families that have allergies or asthma. This is an emerging science and there are no guidelines or protocols for this type of evaluation but I suspect there may be protocols in the future.

If you are suspicious of your home it is best to start with the basics first. A good home inspection will help identify important issues in your home. A certified inspector member of the California Real Estate Inspection Association can help you identify some of these safety issues. Check out the website at www.CREIA.org to find a qualified home inspector in your area. If you have any questions I can be reached at HomeInspect2020@aol.com or at 613-1430.