

*Stephen's Healthy Housing Column****Welcome to MCS: Time to Look at Your Bathroom in a Different Light****- Stephen Collette, BBEC, LEED AP*

Stephen Collette is a Certified Building Biology Environmental Consultant (BBEC). This lengthy certification analyses the built environment and how it impacts people's health. Stephen was a natural builder for 5 years specializing in straw bale construction. Stephen has an engineering background and training which enables him to understand the various processes occurring within the home and how they can interact. Applying these skills and knowledge to the standard home and small office enables Your Healthy House to find the reasons for poor indoor air quality and to create solutions to help create your healthy house.

Stephen Collette is a Leadership in Energy and Environmental Design - Accredited Professional (LEED AP), which allows Stephen to use the Canada Green Building Council's guidelines and method to ensure a quantitative approach to building green.

Intro

For many people who have had MCS for some time, they have slowly made their living space their sanctuary. For those who are newly diagnosed, things are going to be different, and need to be for you to stay as well as possible. That means looking at your home in a different light. This series of articles will walk through the kinds of elements that I look for in a healthy house and where the potential problems lie within a home. We will focus on the sneaky things that you may have missed in your own process as well.

Bathroom

The bathroom is a very important part of the house as it has many potential hazards with water, chemicals, water vapor in the air, and ventilation. It is also one of the rooms that everyone visits, so if it's not healthy, it will impact everyone in the household.

Water, Water, Everywhere

It's no coincidence that the average bathroom has the underwater theme with fishes and watery creatures everywhere, because it is the wettest room in the house what with baths, showers, washing, and toilets, it's the room that takes the biggest beating from moisture and water, and has the

best chance for failure.

The Tub

The tub and often time's shower are together as one unit. If you have two separate fixtures, the same information applies to both. The tub flexes in place, even though it's made of steel. The surrounding wall can be made up of plastic, panel board or tiles. These wall elements don't really move much, so this is why at the joint between the tub and the wall, there needs to be some sort of flexible barrier system to stop the water from gaining access to the dark recesses behind the walls. This barrier is called caulking.

Inspecting the caulking should be carried out on a regular basis. If you can get a fingernail behind the caulking, that means that water can get behind as well, which means that you could have a water issue behind your walls. If your caulking is looking loosey goosey then change it out. I recommend zero VOC caulking of which there are more and more brands becoming available at green and regular building supply stores.

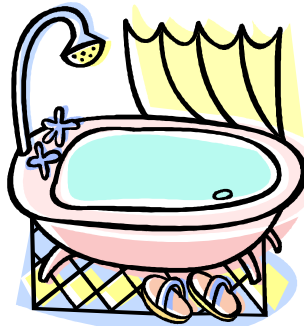
If you can't find any locally or on the internet and are desperate consider using aquarium caulking, available at any pet store. It should be lower VOC than normal, since it doesn't kill the fish. But still, use it as a last resort.

Always test the caulking outside on a piece of cardboard or such first to see how you react. Follow the steps outlined in the “Beginning Work in Your House” articles on how to prepare the area. Removal of the old caulking can be done with specific tools or plastic scrapers. The old caulking must be removed prior to installing new caulking. When installing new caulking along the tub/wall line, fill the tub right full of water as this helps lower the tub so that the caulking has the widest gap to work with. Get into the tub to caulk as well if you can to maximize that flex. (This might take some persuasive talking to your contractor however!) Now your tub will be able to handle you and the weight of the water for a much longer time, and flex within it’s normal range of movement. Don’t forget when caulking to look around the taps and spout as well, as these are openings into the walls, and any holes, are points of potential failure.

The walls need inspecting too, and if they are plastic may need to be caulked, especially if they are the multi-piece units, which **MUST** be inspected regularly as they are notorious for failure. The more pieces, the more problems. For those with tiles, the grout must be inspected periodically for cracks, loose tiles, and other signs of failure. If you have any of these, have the grout redone around the loose areas.

So what is the best way to inspect? It’s actually at the end of each shower or bath. You should wipe down the walls after each shower regardless of the type of wall system you have. A \$2 squeegee will take most of the water off the walls, and prevent that build up of molds and yucky stuff on your nice grout work and reduce the likelihood of failure. So, it’s a no brainer.

All that mold on the grout work arises from when you turn the shower off. There is no longer any momentum for the water on the walls to run down, so it goes slowly. It goes slow enough that it stops when it hits the caulking and doesn’t have the momentum to



keep going into the tub. It sits there with some soap scum and skin cells and it’s a little party zone for mold and that’s what takes hold. By wiping down the walls, you are removing the water that can help create that habitat, and controlling mold in the bathtub safely and chemically free.

Shower Filters

Approximately 70% of your chlorine exposure happens in the shower. That’s a lot of chlorine, especially when you are actually absorbing it through your pores rather than drinking it like we do with tap water. The hot water through the aerator in your showerhead volatilizes the chlorine and makes it aerosolize so that your skin absorbs it directly. Add to this the poly vinyl chloride shower curtain breaking down in hot humid situations and you have a massive exposure.

If you are on city water, you can filter it with a shower filter. They range in price from \$25-50, the ones I’ve seen easily install in a few minutes. Unscrew your showerhead, screw on the filter, screw on the showerhead and you are done. Change the filter every few months, just like your furnace filter, or water filter in the kitchen and you are good to go. You may very well notice the difference in your skin and hair right away.

Shower Curtains

As mentioned, plastic shower curtains are toxic and impacting you. I recommend switching out to a cloth, cotton, hemp, or other natural fabric shower curtain alone, and skip the plastic. Regular fabric works fine as a shower curtain. You simply have to remember to pull it out of the tub to dry after the bulk of the water has dried off. This way the lower part touching the tub will dry and you won’t have it getting musty and yucky. You can throw it in the washing machine periodically as well. A more lasting solution is to switch to a glass door set up so that you can just wipe it clean like the walls.

Moisture Control

Bathroom fans are critical to move moist air out of a house. If moisture builds up, especially in the warm weather, it creates a potential for mold growth within the space and beyond. If there is laundry in the bathroom or it is connected directly to a bedroom, it will create a higher potential for mold growth, as the dust and debris of clothes provide the food source and home for mold, with the elevated moisture content in the air being absorbed by the clothing.

Bathroom fans are ideally hardwired into the switch so that they are operating at all times, and cannot be turned off. It is important to get a quiet fan so that the noise is tolerable. Fans are rated in sones for noise, and the quieter the fan, the better.

You can also find fans that have external motors, which can be installed in the attic, to reduce noise in the bathroom. Bathroom fans should be able to hold a piece of paper with the draw, according to Canada Mortgage and Housing Corporation. This means the fan has the capability of removing the moisture in an average sized small bathroom. The fan housing should also be airtight to the drywall, meaning the metal box should be sealed to the drywall with tape, or spray foam or such, otherwise it could be drawing air from the attic into the bathroom, reducing the efficiency of the unit and impacting air quality.

Many people will just open a window and consider that to be enough of a moisture control. That might work if the window is facing the opposite direction of the prevailing winds, meaning, it's actually drawing out. My bathroom window faces west, towards our prevailing winds, so it just pulls air in, not out, and doesn't offer me much of a moisture exhaust. Ensure your "natural solution" actually is a solution, and if so, maximize it by putting a fan in the window blowing out.

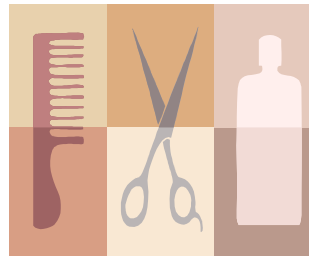
Carpets

Carpets should not be installed in bathrooms, under any situation. The days of grandma's shag green carpet, toilet seat cover, and such are long gone. These soft goods take up water, dust, skin and hair and create perfect biological breeding grounds for just about everything. Little rugs to stand on when you step out of the shower are fine, as they can go in the washing machine periodically. Keep the floors to solid surface such as tile, linoleum (made from linseed oil, versus the petroleum based poly vinyl chloride), cork, or other natural based chemical free flooring. These flooring types make it easier to clean, reduce concerns with water spilling and create naturally beautiful spaces.

Plants

Plants are a great addition to any bathroom. Typically there is enough moisture in the air for many water-loving plants to thrive. They also have the ability to improve air quality in a home as long as they are not over watered thereby creating a mold situation.

Personal Care Products



Although this is mostly a building column, personal care products have a massive impact on environmental health and this is typically where you store all of them. Most personal care products are unregulated, and have unproven (from a safety perspective) chemical ingredients. Don't put anything on your body unless you are willing to eat it. You are absorbing it one way or the other. If you can't pronounce or find the ingredients, it's probably bad for you. Stick only to natural based and ideally organic products for your safety and well being.

Water Efficiency

Water efficiency is a major issue, since many people with environmental sensitivities can be financially impacted. If you are paying for water, you should consider reducing your costs. This can involve more water efficient toilets for example such as dual flush, or very low flush toilets such as 4.8L or 1.3gal toilets. Your showerhead, a virtual oasis some days can also be reduced to even 1.5gal/min and still deliver outstanding pressure and feel. Keeping the sink tap off while brushing your teeth, and getting a more efficient aerator on it will reduce your operating costs as well as do something good for the environment. Many municipalities have rebates for toilets and such. Look into it and save some money.

Stephen Collette is a Building Biology Environmental Consultant and LEED accredited professional, who owns Your Healthy House, and is living with his family in Lakefield, Ontario.

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