

SAFE *at* Home

BY CHRISTINE MCCABE



The Executive Director of the National Center for Healthy Housing offers tips to keep your family safe during home construction and remodeling.

So you've decided to upgrade your kitchen. Or update your bathroom. Or add an extra room. Regardless of the home remodeling or construction project you've decided upon for this year, the safety of your family during the process should be at the top of your priority list.

As it turns out, there are many different types of hazards that a remodel project can create – from revealing problems that already existed to inadvertently making new ones. "You might come across mold or moisture, electrical issues, or combustion problems," says Rebecca Morley, Executive Director National Center for Healthy Housing. "There are a couple things that you can do to deal with the problems you come across during the course of a renovation."

Moisture issues can be addressed in a number of ways, she explains. "If you're doing a remodel, you might pull out kitchen cabinetry and all of a sudden notice you have a mold problem behind the cabinets from a water leak. If the problem is more extensive than six square feet, you want to call in a professional," she says. "If it's not, then you just want to make sure the leak that caused the damage is resolved. Then you can clean the mold up with detergent and water."

Interestingly, Morley advises against using bleach. "Some people think bleach is the best method for mold clean-up, it doesn't work any better than your common detergent. It's an asthma trigger in itself because of the chlorine in it," she adds.

Electrical issues are also important to consider. "I just recently did a remodel and my contractor did not install ground fault circuit interrupters (GFCIs) when he was replacing a basic bathtub with a Jacuzzi tub. You really should have GFCIs any place where you have water within five feet. For example, all of your kitchen and bathroom sink outlets should have GFCIs," says Morley. GFCIs are designed to protect people from severe or fatal electric shocks. Because a GFCI detects ground faults, it can also prevent some electrical fires and reduce the severity of others by interrupting the flow of electric current.

Making sure your contractor is pulling all the appropriate permits for the work you are having done can resolve many issues like this. "It's the homeowner's responsibility, in most cases, to make sure the contractor has the proper permits for the work. That will help you make sure they address health and safety issues," says Morley. "Some contractors will avoid getting a permit because they know the code person will come out to make sure the work is up to code. Yes, it adds expense, but it also protects the homeowner from added expense. My contractor did not get a permit for the work. When my home inspector came along later when I was trying to sell the home, he asked for the ground fault circuit interrupter for the Jacuzzi tub. If there had been a permit for the job at the time, they would have caught that then."

There are things you can request from your contractor that would make your

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remodel healthier, as well. "One is specifying green and low VOC products. You can choose low VOC paint and adhesives. You can choose wood products that do not contain formaldehyde, too," she says. "It's a good thing to ask your contractor about their experience using green, healthy products. Ask them where they select them from and the criteria they use in terms of making that selection."

In addition to revealing problems that may have already existed, like mold, contractors can also unknowingly create hazards. One critical danger to avoid is lead exposure. "Any home that is built before 1978 is likely to contain lead-based paint. During renovation or remodeling, contractors can disturb that paint and create dust and debris," she says. "Although a lot of people think you have to put paint chips in your mouth to get lead poisoning, it is actually dust that is the most serious exposure now. Minute amounts of lead dust can poison a child."

Lead paint was used in high-end homes frequently, says Morley, oftentimes because it is very durable. "For that reason also it was not always used all over every surface. People would be a little more discriminate in terms of how they used it – trim, windows, porches, baseboards," she says.

If your house was built before 1978, but has since been painted, you are still at risk for possible lead exposure during a remodel process. "Even if your home has been painted recently and you decide to rehab it, then you will get to the paint below the surfaces," she says. "You could have seven coats of paint, but if you drill through it, then you're back down to the surface coat of the lead paint."

The EPA has just published new regulations to combat this problem. "It's pretty sweeping regulation. We know that about 38 million homes in the U.S. were built before 1978. We also know that about one million children are at risk for lead poisoning each year when their homes are renovated," says Morley. "The new rule is intended to cover an average of 4.4 million renovation events each year. The estimated cost per job, according to EPA, is about \$35. It doesn't sound like it will have a huge cost impact. EPA figures assume that contractors are doing most of their clean-up and working in an appropriate manner to begin with. The level of quality contractors are using now will figure into the ultimate cost for them."

Certified renovators will have to observe pre-containment protocols, like placing plastic sheeting around the room where they are working to keep dust from distributing throughout the house. "They're also forbidden from doing certain things, too. For instance, sandblasting paint because that creates a lot of dust. They're not supposed to dry scrape paint, but rather use wet methods," she explains.

They are also required to do a careful clean-up and the rule does require a white glove test. "At

the end of their job, they have to use essentially a Swiffer mop and go over the surface they worked in until the color on that sheet matches a white verification card. It's a unique methodology the EPA has selected," she says. "We actually disagree strongly with using it as a method for a range of reasons. We wanted them to require dust testing, which is where you send the dust to a lab and the lab tells you whether it is hazardous enough. We don't believe that a visual can actually be protective enough. Lead dust is invisible. We don't think the level of cleanliness of the floor is a proxy for whether or not you have lead remaining."

The rule has been in the works for 16 years. Congress passed a law in 1992 that told the EPA to publish this rule by 1996. For a range of reasons, the rule just became published in 2008. Since that time, they've given firms a chance to get trained, she notes.

Other safety issues to consider involve the materials you select for installation during your home remodel. Flooring is one product that offers homeowners many different options. "The biggest concern is in wet areas – bathrooms, kitchens – you don't want to use carpets. You want to use something that's smooth and cleanable. Linoleum, while a lot of people think of it as the 1970s floor, is actually a renewable material and it is very cleanable and comes in a lot of different colors now. Some people use poured concrete – that's another great option. There's cork, another renewable material. You can seal it. I know people have used it in wet areas like basements and bathrooms and kitchens. One thing you want to think about with tile is the likelihood of slips and falls."

Making use of rugs and mats in appropriate places, like kitchens and bathrooms, is a simple way to guard against slips and falls. Imprint Comfort Mats can be a wonderful addition to the home. Not only will they make the certain areas less prone to slips, but they will also help your legs feel less fatigue where you tend to stand for extended periods of time. Their Anti-fatigue Cushioning Technology incorporates a multi-layer air cell cushioning system consisting of a soft upper layer and cushion firm lower layer that provides excellent cushioning benefits which are designed to reduce fatigue and other problems such as foot or back pain associated with standing on hard surfaces for extended periods. Imprint Comfort Mats are:

- Perfect for many areas of the home including the kitchen, laundry, bathroom or garage
- Environmentally Friendly. Non toxic, phthalate free, no formaldehyde or other toxic heavy metals used in production
- Waterproof and washable. Easy to clean with soap and water
- Anti-microbial
- Safe, non slip bottom helps avoid slips
- Absorbs noise providing soundproofing benefits
- Safe. Exceed all US & European safety standards.

Morley asks homeowners who are doing

energy efficiency upgrades like replacing windows and doors to consider the impact these changes may have on air quality in the home. "Right now there's been a rush for people to do energy efficiency work, because energy is so expensive and because there are incentives. When you're doing energy efficiency upgrades, keep in mind that the tighter you keep the home, the more contaminants you can potentially trap inside," she warns. "You want to make sure that any contractor you hire to do energy efficiency work in your house also takes into account bringing fresh air in and exhausting out contaminants. You want to have a fan that's vented to the exterior in your bathroom and kitchen. Radon is another issue. It's the second leading cause of lung cancer. That's another thing we worry about trapping inside the home in terms of energy efficiency. Get a radon alarm. It's very cheap and I recommend most people do it."

To give homeowners an easy-to follow checklist, the National Center for Healthy Housing has compiled the following Seven Principals of Healthy Housing:

DRY: Damp houses provide a nurturing environment for mites, roaches, rodents, and molds, all of which are associated with asthma.

CLEAN: Clean homes help reduce pest infestations and exposure to contaminants.

"I usually recommend against using things like plug-ins and air fresheners and powders you put down," says Morley. "They are all basically chemicals masking what could potentially be a larger problem. We advise people to use more natural scents, like lavender or potpourri that aren't chemical-based."

PEST-FREE: Recent studies show a causal relationship between exposure to mice and cockroaches and asthma episodes in children; yet inappropriate treatment for pest infestations can exacerbate health problems, since pesticide residues in homes pose risks for neurological damage and cancer.

"A lot of people are still treating pests in their home with sprays or bombs or fogging. Those are quite toxic for families, especially if you're pregnant," says Morley. "We recommend people use an alternative method called integrative pest management. It eliminates food, water and harborage, so you can keep the pests out to begin with, rather than spraying once they get in."

SAFE: The majority of injuries among children occur in the home. Falls are the most frequent cause of residential injuries to children, followed by injuries from objects in the home, burns, and poisonings.

"Everyone should have a Carbon Monoxide alarm if they have gas-powered appliances and a smoke alarm," she says.

CONTAMINANT-FREE: Chemical exposures include lead, radon, pesticides, volatile organic compounds, and environmental tobacco smoke. Exposures to asbestos particles, radon gas, carbon monoxide, and second-hand tobacco smoke are far higher indoors than outside.

VENTILATED: Studies show that increasing

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the fresh air supply in a home improves respiratory health.

MAINTAINED: Poorly maintained homes are at risk for moisture and pest problems. Deteriorated lead-based paint in older housing is the primary cause of lead poisoning, which affects some 240,000 U.S. children.

“Think of your house as your car, but an even more expensive investment. We just don’t have a homeowner’s manual like we have a car manual that tells us when it’s time for a tune-up. People need to think about what their annual budget for maintenance is, too,” she recommends. **IM**