

Ever Had a Wet Basement?

Water may be a crucial part of life, but wet basements are all too common and pose potential risks to your home's structure and your health. Basement moisture can be a disguised trouble-maker since we often learn to ignore it. The impacts build up slowly over time making it difficult for us to notice since our senses have learned to label them as familiar. For the sake of your home and your family's health, it may be time to let someone else take a look at and sniff in your basement.

THE SUMMARY

Basement moisture generally does not cause serious problems. When it does, human impacts range from mold-induced allergy symptoms all the way to rare life-threatening infections. Home impacts range from disintegrating drywall to rotting of important structural lumber. No need to panic as the serious impacts are infrequent. But then so are heart-attacks and we still choose to have our blood pressured checked often.

Assessing risks generally requires seasoned experience as many indicators are hidden behind drywall and in the dark recesses of your framing-foundation connection. Moisture-fed mold is what creates the issues for both human health and is what can damage the house structure. Having mold does not necessarily mean serious risks to either people or house as Human Health Risk factors usually need to be present as well. Absent a professional assessment of your home, you can try to identify for yourself some of these risk factors:

House Mold/Rot Risk Factors:

- Visual Mold (1)
- Visual basement water at least once per year
- Foundation or floor that is damp from Spring thru Fall
- Finished walls that cover the foundation smell musty
- Basement shower/tub is often used
- Carpeting (synthetic fiber) covers floor and smells musty
- Ductwork for dryer or bath exhaust fan runs thru a ceiling soffit
- Clay soils below the black top-soil

Human Health Risk Factors:

1. Occupant with Immune System Deficiency - very serious health risks
2. Occupant with Mold Allergies - serious health risks
3. Young Children playing in the basement - risk of developing allergies
4. Basement Used for Sleeping/Living Space - provides significant exposure with unknown risks even to healthy individuals
5. Forced Air Heating/Cooling (versus hot-water radiator heat) - furnaces often draw in basement air and could distribute mold to other floors

Having human health risk factors in addition to mold/rot factors indicates a need for professional assessment. If no human health risk factors, then focus on potential damage to the building structure.

(1) mold is generally not visible until they form large networks or colonies and often they can be hidden behind materials or in dark locations, so the other risk factors are crucial indicators of "mold potential"

THE DETAILS

How Concerned Should You Be?

There are at least 3 areas of concern with mold found in wet basements:

- ** Damage to structure
- ** Health Risks
- ** Resale of Home

DAMAGE: Molds are a type of fungus which can “digest” cellulose based materials (among others) like wood and dry-wall paper which are very common in our homes. The spores and hair-like bodies can create a network (hyphae) that are generally not visible to the human eye. It is only when there is substantial mold that the human eye sees a “colony” that can look black or colorful and this quantity of mold needs a lot of food and water. If that food is the wood framing of your home, repairs can get costly. If things get bad enough, you could even find fruit bodies coming out of the mold colony and you know these by their more common name “mushrooms”.

HEALTH: Most people are not significantly affected by mold which is actually present in large quantities in your backyard. Mold is a basic link in the cycle of decomposing plant material back into soil. Yet, some people have greater sensitivities or allergies to mold and children are at greater risk of developing allergies when exposed to mold. Finally, some people with compromised immune systems can have very serious reactions to mold. For more details on health risks, click on the following link:

<http://www.health.state.mn.us/divs/eh/indoorair/mold/index.html>

The bottom line for your home is to prevent/minimize mold inside.

RESALE: Real estate disclosure forms require home sellers to attest as to whether they have had a wet basement. Such issues can certainly impact the resale value of a home and/or the time it takes to sell a home.

What Can You Do?

Many folks start by scrubbing the mold away... out of sight, out of mind. But unless you remove the moisture source, and sometimes remove/replace the moldy materials, mold will come back. So the basic approach is:

- 1) Stop the water source
- 2) Remove the mold
- 3) Dry out any wet materials

There are so many details and listing them all here would be too lengthy. Just remember that when you work to remove mold, it is possible you could make things worse. So it is best to thoroughly educate yourself before doing anything yourself or even before hiring someone to help.

In addition to the prior Mn Dept of Health web link, a heavily science-based source of information for you to consider can be found at the following links:

[what-you-need-to-know-about-mold](#)

[Why Testing for Mold is usually not needed](#)

[How to Remediate Mold](#)

Stop the Water Source

“Trickier than you think”. Contractors always say this about stopping water. On this one, you can pretty much believe it is true. For example, once you see water, it has likely been working it’s way into wall/roof systems for years and the source can be far from the location where you are seeing it. In addition, there can often be multiple sources/causes. So once you think you know the source, assume there is at least one more and look further.

TIP: Finished Basements with Water Issues - Seriously consider tearing out any wall surfaces that are against the foundation. The paper-faced drywall is a primary food source for mold (think “backside” paper surface that you cannot see). The drywall prevents you from seeing where the water is coming from and makes it tough to determine whether your “fixes” are working. Also, If there is fiberglass insulation in that wall...there is a very high chance it is worthless as there are very few ways fiberglass batts can be properly utilized below ground. There are specialized methods for insulating basements and most involve foam based products.

So get yourself into a problem solving mode. Then consider the following strategies to fix your water problem. There are very expensive solutions that are almost fool-proof but few us can afford them. Those expensive options are listed last since most folks like to start with lower cost options and see just how much progress is being made.

1. *No Watering within 4’-6’ of the foundation {free}*
2. *Re-Grading {low-moderate cost}*
3. *Gutters & Downspouts optimized {moderate cost}*
4. *Interior drain-tile and sump-pump {costly}*
5. *Exterior water-proofing, insulation and drain-tile {very costly}*

No Watering near Foundation - at least 10% of basement water issues we see are at least partly caused by watering plants near the foundation. Seems too obvious but folks sometimes don’t realize that this watering can saturate soils near the foundation so that when rain hits, the ground can’t absorb as much water and the rest may want to run into the basement

TIP: Irrigation Systems Often a Culprit - have any sprinkler head that reaches to within 4’ of the foundation redirected. You may need to replace vegetation near the foundation with native species that are far more drought tolerant.

Re-Grading at the Foundation - 90% of basement issues we see have poorly graded yards. Why? Because at some point EVERY house has settling of soils near the foundation, often changing the grade. This is caused by the initial construction process and

digging into compacted soil to pour the foundation/slab. Then afterwards, dirt is filled against the outside of the foundation. This fill is never compacted as much as the surrounding yard so it settles over time thus leaving a slope toward the house. Many are reluctant to mess with the vegetation and yard in order to reduce moisture from flowing toward the house. Yet, it is one of the lowest cost options that can give significant results.

TIPS: (1) Tamp the new soil you place near the house... you can rent a hand-tamper or big mechanical tamper at a rental store; (2) Don't fill any higher than 6" from the house siding; (3) you may need to create a low spot between your neighbors house and your house if your soils are already too close to your siding.

Gutters & Downspouts optimized - Wow, there is always such a debate about whether installing gutters/downspouts makes sense. They clog, they can freeze, etc., etc.. Our position is firm: If your eaves (ie. overhangs) are less than 18" or if you have any basement moisture issues, then properly setup gutters and downspouts are crucial. And yes, preventing clogging/freezing issues will need to become part of the equation. Proper design of the system is a huge issue. Homeowners want the lowest bid so contractors install the fastest way...not always the best way. Water may then be directed to the side of the house where the general grade slopes toward the foundation. Huge mistake... and we see it often!

TIPS: (1) First assess general grading of your lot (East to West? & North to South?); (2) when possible, slope gutters toward the lower side of your lot; (3) 2"x3" downspouts are standard but 3"x4" cost very little extra and will clog less; (3) where a roof valley empties into a gutter, install a backsplash on the outside edge of the gutter to prevent over-wash

Gutter Guards? or Not? Here is another big debating point. We fully support installation of gutter guards if they are the more advanced systems. Most cheaper systems clog very often. We generally recommend solid "cover" type guards that cover about 90% of the gutter opening and then utilize surface tension of water to direct flow into the gutter while debris is kicked out. One weakness of these systems is where heavy flows of water occur which cannot fully enter the small opening. In these spots, such as just below roof valleys, the guard should be perforated to allow water to enter the guard surface as well as thru the gap between the guard the gutter.

Interior Drain-Tile & Sump-Pump or Exterior water-proofing, insulation and drain-tile

If you have tried the prior lower cost strategies and are still getting water into your basement, then consider these options. The interior drain-tile option will cost thousands of dollars and parts of your basement slab will be busted up to allow installation. The exterior drain-tile option is even more expensive and ideally should have been done as the house was being built since it requires lots of excavating and destroying the yard. For more tips on these options, you can view an extended version of this article at our website:

<http://www.bobalfconstruction.com/>