

How to Build a Healthy Home

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STORY AT-A-GLANCE

- › While commonly overlooked, the materials used in the building of your home can have a significant impact on your health
- › “Prescription for a Healthy House: A Practical Guide for Architects, Builders and Homeowners,” co-written by Paula Baker-Laporte, principal architect at EcoNest Architecture, is a complete guidebook to building a healthy nontoxic home
- › Toxic chemicals, mold and electromagnetic fields (EMFs) are common sources of chronic health problems
- › Elevated EMF is typically the result of improperly grounded electrical systems due to inept electricians. One way to avoid this is to measure the EMFs before you consider purchasing or renting, because it is far easier, and far less costly, to find a home that's acceptable from the start than it is to remediate
- › Also get general air testing done before buying or renting to check for chemicals and mold. There are several labs and industrial hygienists who can collect air samples that can then be tested for hundreds of potential pollutants, including mold

Here, I interview Paula Baker-Laporte, principal architect at EcoNest Architecture¹ in Ashland, Oregon, and co-author of the fourth edition of “[Prescription for a Healthy House: A Practical Guide for Architects, Builders and Homeowners.](#)” She offers design and consulting services through [EcoNestArchitecture.com.](#)²

While overlooked by many, the materials used in the building of your home can have a significant impact on your health and Baker-Laporte can attest to this first-hand:

“I graduated from the University of Toronto School of Architecture [in 1978] and then, shortly after, moved to Santa Fe. I was living in a home that was far from ideal. It was new. There was a lot of formaldehyde in it. I didn't know what was happening to my health, I just knew it was going downhill. I started getting pneumonia every year.

I got sicker and sicker and moved from that house. The health problems still plagued me, but I didn't make the association. Then, my doctor, who was trying to help me – and I was designing a house for her – was getting progressively ill. That's when she discovered multiple chemical sensitivities.

There was nothing in either her medical education or my architectural education that would clue us into the fact that there was a connection between health and where we live.

Once she found out the cause of her ill health ... she called me up and said, 'I know what's wrong with you finally. It's wrong with me too and we've got to do this house differently.' That was the start.”

An Ever-Changing Landscape

The first edition of “Prescriptions for a Healthy House” was published 20 years ago. It's now on its fourth edition. “The scene has changed,” she says. “More people are asking for a healthy house than before, and there are better materials available. So, a lot of things have gotten better, and then some things have gotten worse.”

For example, when the book was first published, there was no wireless radiation to address. She's also seeing more issues with mold these days, and some experts believe electromagnetic fields (EMFs) might play a role in that development.

In the past, most who sought Baker-Laporte's services struggled with multiple chemical sensitivities. Today, mold and EMFs are typically cited as the primary sources of people's health problems.

Breathable Walls Prevent Mold

One common reason for mold is water intrusions from plumbing leaks or roof leaks. Another one is the use of nonbreathable vapor barriers, which are meant to keep water out of the wall. The problem is that if water does get into the wall, it now has no way to escape, so condensation builds up resulting in mold growth.

To avoid this issue, Baker-Laporte uses vapor flow through walls, or what Building Biology refers to as a permeable wall or a breathable wall. They're basically permeable to vapor (not oxygen) and can expire moisture in both inward and outward.

Natural Building Materials and High-Quality Alternatives

While using natural building materials such as adobe and straw clay would be ideal, as it follows the principles of building biology most closely, it can be challenging to find and build with all-natural materials in some places.

Fortunately, there are several healthy alternatives available these days. One excellent option is Faswall blocks, which are breathable, fire-resistant, thermally efficient, nontoxic, soundproof and inhibit mold. Autoclaved aerated concrete is another. Baker-Laporte explains:

"Faswall works like a concrete block, but it has insulation inserts. We can get formaldehyde-free inserts. It's made out of recycled wood chip that has been demineralized through a clay process and then made into a cement-based block. So, that handles moisture beautifully. Faswall in the U.S. and Nexcem in Canada are two manufacturers in North America.

The other one is autoclaved aerated concrete. It's a lightweight block. One of the manufacturers is in Florida. It's an excellent material. It's great for Florida where you have things like termites and a lot of moisture to handle, but we have used it throughout the country.

A wood frame home is both the most vulnerable and the easiest to build, the most understood and the least expensive. So, if I can talk someone into the health and beauty of having some of these more robust materials, then that's what we work with.

In our own design process, if we're the architects, we'll only work with one of these alternative systems or one of the natural systems, like adobe, rammed earth, straw clay or hempcrete. Those are all available to certain people, certain mentalities, in certain parts of the country. There are also much better ways to build frame construction."

Should You Remediate an Unhealthy House?

If you live in a toxic house, in many instances, moving is the ideal choice. But if you can't move, renovating to remediate the problem would be your next-best bet.

"My co-author, John Banta, has come up with a pathways testing. You do a number of inexpensive tests to find out where in the walls the mold is, because usually it's in the walls if it's not an obvious source. So, just start where you are, and there are solutions for everything.

Some of them, though, if you're living in direct line of a cell tower and you're sensitive, or you have the smart meter and you're sensitive, or if your house has endemic mold throughout it, the easiest solution, if you can, might be to move, because that house is going to be very difficult to make it serve your health.

If the cause of the mold is endemic throughout the building, then you can chase that mold for years. If it's because it was a plumbing leak or an event, it's much

easier. Same as if you have a site that's getting bombarded with electromagnetics.

You can live in a Faraday cage. You can shield your building, but it's got to be done very carefully. There's always other consequences for every intervention. It's almost like pharmaceutical medicine. It may control a symptom, but then when you look at the side effects, you wonder, is this really worth it?"

EMFs Are a Common Source of Health Problems

In my experience, EMFs are a major issue for many, and elevated exposures are typically the result of improperly grounded electrical systems due to inept electricians. It's surprisingly common. Baker-Laporte agrees:

"When I first learned about magnetic fields, I went around with a gauss meter and found lots of problems in my new house. So, it's common. I think that's the low-hanging fruit in terms of being correctable, compared to sources that come from the outside and invade our homes."

One way to avoid this problem is to go in with simple meters to screen for high magnetic, electrical and radiofrequency fields. It is important to measure the EMFs before you even consider purchasing or renting, because it is far easier, and far less costly, to find a home that's acceptable from the start than it is to remediate later.

EMF Remedies

Chicago and New York are two areas in the United States where the building codes for residences require the use of a metal conduit for both commercial and residential buildings. It's ostensibly for fire protection, but it also blocks electric fields from wiring, even improperly grounded wires.

They don't block magnetic fields necessarily but they do block electric fields.

Unfortunately, that's not standard everywhere, so many homes either need to be built to

address EMF from wiring or be remediated after the fact.

“For people who are sublimely sensitive, you're trying to create a whole-house sanctuary,” Baker-Laporte says. “For people who are either not sensitive or just slightly sensitive, if they're sensitive to Wi-Fi but not household wiring, we still always put either a kill switch or auto-demand switch in the bedroom.

We wire the house correctly and keep motorized equipment like refrigerators away from the back of the bed. That way, at night when their body's repairing, they can shut off all the electricity very conveniently. We've always done that.”

The kill switch can be either a physical switch on the wall that you use like a light switch, or it can be located in the circuit breaker and remotely controlled. If you're in an existing house, the remote switch is the way to go, because there's a remote in the electrical box.

“If we're hardwiring from the beginning, we hardwire in the ethernet and then we often just put a switch on the wall. Some people need the auto-demand. If you've got kids, you can turn off their bedrooms when you go to sleep.

So, it depends on the person, but that's the very minimum. I suggest that for people who are robustly healthy as well, because it just gives them more of a fighting chance in a world that's challenging,” Baker-Laporte says.

“That is the only solution because code requires you to have wires behind your bed. But just shutting the room off, that's something so simple, so inexpensive, and so approachable for everyone.”

Check for Chemicals and Mold Before Signing the Dotted Line

In addition to measuring EMFs before signing on the dotted line and moving in, check for chemicals and mold. “I always advise people, if they haven't already bought the house, to at least get some general air testing done and make sure it passes those tests before buying it,” Baker-Laporte says.

There are several labs and industrial hygienists that can collect air samples that can then be tested for hundreds of potential pollutants, including mold. It's a snapshot of a room at a given time, but it will give you a lot of valuable information, such as which chemicals are prevalent, and where they might be found in the home. If you find anything questionable, you'll need to do more detailed exploration, but general air testing is a great first step that can rule in or rule out a particular house.

Her book also lists devices that offer whole-house water protection, which can cut down your risk of mold in the long term. For example, there are devices that can detect minute leaks or extra waterflow and shut the water off automatically.

Most of the damage associated with plumbing leaks occurs because the homeowner is not there to notice it. Installing higher-quality hoses on your laundry machine and putting floor drains in strategic areas are other strategies that will minimize your risk of mold.

"I've had the pleasure of working with a mold expert who sees buildings after they've failed. He's been doing that for 30, 40 years. We learned from the mistakes he's found and see what to do proactively," Baker-Laporte says. "So, the book has a lot of information on how to prevent mold."

Virtual Consultations

When Baker-Laporte first started doing healthy housing 30 years ago, she decided to just offer it as a side service for those who wanted it. But over time, she came to realize two things:

"No. 1, I never had anyone say, 'No, we don't want the healthy housing option. The common question is how much more is it going to cost? No. 2, I couldn't in good conscience ... offer a standard house to anybody anymore. I couldn't offer the toxic one that had been my bread and butter."

So, our clients now are either people who have found us because they want a new healthy house, or because they understood what we were explaining to them and just decided it was worth investing in."

Like so many other businesses, Baker-Laporte had to make changes during the COVID pandemic, and most of her consultations are now done virtually. If you're in the market for a healthy home architect or builder, be aware that most aren't familiar with healthy home principles at all.

"It's not like you can look up a healthy home architect in your city," she says. "You'd be very lucky to find one, but there are people across the country now. One of the first places I always go is to the 'Find an expert' page on the Building Biology website³ to see who's located in the area that the person is calling from."

Cost Considerations

As for the cost of building a healthy home, that depends on a variety of factors. One obvious one is the size of your home. If you want a health sanctuary but have a limited budget, start by assessing your true space needs. Eliminating unnecessary square footage can in many cases compensate for the added production cost.

"I used to have fun with this," she says. "I had my office, and then my house was up the hill. People would come to my office and I'd ask, 'How much space do you need?' They say, 3,000 square feet.' Then I'd show them my house and they'd say, 'How big is this one?' I'd say, '1,400 square feet.' They say, 'Wow, I just need one more room.'

So, we can cut out several hundred square feet through good design. That's one way to approach it. We like to say we can show someone how to maintain the quality of life without as many square feet in a well-designed place ...

Also, if you already are building a high-end home, as most people know, you can get a light fixture that's \$1,000 or you can get the \$100 knockoff. You can get two faucets, one by Delta and one by some high-end European company that have the same ceramic valves.

Most people spend more on fancy finishes than investing in health. If they had the same house, the same footprint, the same budget, and it was a good budget,

the cost to do a healthy home and maybe sacrifice on some of the other things, which in the end is not a big sacrifice because of the variety of stuff that's available, then the cost difference is negligible."

Valuable Lessons

Among the many lessons Baker-Laporte has learned over the past three decades of consulting work is that building a healthy home is not about doing just one or two big things correctly. It's about getting hundreds of small things right.

"It's insanity that building for health is not the norm when we have such a high standard of living," she says. "It's as insane as people not knowing about some of the many beautiful health alternatives that you've presented to the world. You wonder, 'Why aren't people living this way instead of getting sick and having to depend, in your case, on the pharmaceutical world, and in our case, on a better conventional building.'"

Unfortunately, the building industry is in many ways just like the food and medical industries. Codes change very slowly. In her lifetime, Baker-Laporte has worked on getting some building codes changed. For example, she was successful in getting light straw clay accepted into the residential code, but it's far from easy.

"If you are trying to get a commercial building change, there's going to be lobbyists at that meeting to make sure nothing changes, because it's a very profitable, established industry," she says.

More Information

If you want a healthy home, the first step would be to buy Baker-Laporte's book, ["Prescription for a Healthy House: A Practical Guide for Architects, Builders and Homeowners, Fourth Edition."](#) Make sure you're getting the fourth edition, as it has tripled in size since the first edition.

If you would like to consult with Paula you can contact her by email at info@econestarchitecture.com, or call her office at 541-488-9508. You can also find more information on the [EcoNest Architecture website](#).

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