



Builder Barry Schram lounges in the chemical free kitchen he built for the Miscios, visiting with Veronica and Andy.

THE HEALTHY HOUSE

by Angeline Grenz

Veronica Miscio has become accustomed to delayed gratification. When she buys a pair of shoes, often ordered via a catalogue or website, they must sit in her third car garage or covered sun porch for three to four months. Ditto for husband Andy's books, which he collects regularly from thrift stores and used bookstores.

The items, no matter how eagerly awaited, have to spend their time exiled out of the home while they off-gas, slowly releasing the chemicals used to produce, manufacture, dye or otherwise get them ready for use.

This process is one that Veronica repeats for all new possessions unless they come from a handful of stores she can trust, and when she ventures out into the public realm, she is often masked to protect her from the chemical smells emanating from other people and products.

Living with Chemical Sensitivity

It is difficult to live in the beautiful state of Colorado and not prioritize your health and entertain green dreams of sustainability. Coloradans are surrounded by some of the most beautiful natural resources in the U.S. and we mean to enjoy them. But for the Miscios these matters are far greater than simple lifestyle choice.

Veronica's exposure started at an early age. Her mother worked in the office of the family body shop where she was exposed to lacquer thinner and paints.

"That set me up to not be able to detoxify like other people because of my liver," recalls Veronica. "During one of my pregnancies, I had complications, had to have a blood transfusion and got hepatitis from the tainted blood." These health problems were further complicated by a career as a beautician and florist, surrounded by the respective chemical, pesticides and herbicides common to those professions.

"You put that all in the mix and my bucket is basically full," says Veronica. After being diagnosed with MCS, multiple chemical sensitivity, she struggled with her health for another decade. Two years ago she began to finally get some relief as the condition began to be better understood and health systems created protocols for treating people with MCS.

Multiple chemical sensitivity has also been called "environmental illness" or "sick building

syndrome." Some resources estimate that as many as one in 10 people suffer from MCS. Many may go undiagnosed, and it is estimated that thousands of chemicals are introduced into the environment each day.

"There is a large spectrum of what happens to a person who has MCS," says Jacqueline Fields, M.D. at Healing Gardens in Fort Collins. She explains the difficulty of diagnosing and treating this syndrome. "MCS can be so varied in how it presents itself, there is no one diagnosis. However, patients with MCS usually have detoxification problems. It is not one thing but the result of bioaccumulation and individual processing and detoxifying systems."

But Dr. Fields adds that the occurrence of MCS is likely to continue to grow. "We all present with some concerns because we are all holding more [chemicals in our bodies] than grandma did, and so there are more conditions that present themselves because of environmental exposure." She cites the increase in asthma, allergies and sinusitis to increased pollution and environmental chemicals.

Dr. Fields advocates that consumers make get

educated about the products we buy for our everyday lives. "Our best first line of defense is to become educated, smart shoppers."

For Veronica, a mild reaction to an environmental contaminant may be as simple as some dizziness or a headache. "That's if I catch just a whiff." A serious reaction will cause a heart arrhythmia and the tissue of her brain to swell. She must be constantly vigilant to avoid chemical triggers. Because of her sensitivity, Veronica cannot fly so the Miscios travel via a camper – and the camper has its own air filtration system to prevent the exhaust from aggravating her condition.

Once Veronica had identified the cause of her poor health, she realized their 12 acres outside of town was exposing her to a great deal of agricultural fumes. At the same time, the retired grandparents wanted to simplify their lives to better enjoy their retired years.

The Challenge of a Healthy Home

After an extensive time spent looking for an appropriate existing home, and realizing that remediating an existing home to be chemical free is expensive and next to impossible, the Miscios decided to build.

"A house built with today's materials is constantly off-gassing," says Andy, "There is always some residual. You are never completely toxin free unless you build a new house to be chemical free." New homes built by today's construction standards can be more toxic than existing homes, he adds.

The Miscios cite commonplace chemicals used in air fresheners, fabric softeners, paints and stains

that exist and embed themselves into the walls of a home. This never-ending litany of products cost Veronica a high price in the quality of her health and building became their best option.

The Miscios found their lot north of Fort Collins. But finding an appropriate builder proved to be something of a challenge. "We interviewed seven or eight different builders. We knew we would need a hands-on builder who would personally watch over the project. Then developer Byron Collins (at Harmony Club) recommended Barry."

Barry Schram is owner of Lamar Valley Craftsman. Schram listened to the Miscios concerns and found a project that resonated with his personal philosophies. He had already built several green homes, but Veronica and Andy's new haven would be his first chemical-free home.

The Miscios provided a guidebook, *Prescriptions for a Healthy House* by Paula Baker Laporte. The book, along with some consulting with Baker Laporte, helped Schram plan a home that was chemical and toxin free, largely green and infinitely livable for Veronica.

"Barry took the book very seriously," says Veronica, "because he knew if this wasn't right, I was going to be without a place to live. It was life and death for me."

Though the project did have a handful of bumps along the road, like the instance when a subcontractor used a glue that was not on the recommended list and Veronica had a reaction, by and far the process was a success.

But what is entailed in building a chemical free home? The book provided recommendations for



Top: Veronica and Andy smiling in their newly built chemical free home. Middle: A kill switch allows Veronica to turn off the electric in her bedroom while they sleep. Bottom: The home's value for Veronica and Andy is largely in what is unseen: the entire home was built without chemical contaminants.



Left: Andy standing in his study with his extensive book collection. Right: Veronica selected this vanity to be replicated from a Pottery Barn catalogue; her version is built with approved adhesives and natural materials.

products that were created in a chemical free nature. All materials from the concrete slab to the final coat of paint on the walls were specifically chosen.

Insulation proved to be a challenge. Schram sourced a material that claimed to be chemical-free but came dyed pink, an indicator that it was not what it was purported to be. The insulation had to be removed and a replacement found.

The 2,170 sq. ft. home features hydronic heat floors (radiant heat floors), exterior grade real wood plywood and traditional wood framing for all walls and floor systems with no engineered products that contain formaldehyde, water-based glues and adhesives. Schram used no or low VOC paints and stains, NAUF (no added urea formaldehyde) cabinet and shelving, a metal roof as opposed to asphalt tiles, formaldehyde-free insulation, pre-finished hardwood floors with water-based sealants, an Energy Recovery Ventilator (ERV) for fresh air exchange with HEPA filtration, whole house water filtration, and mini splits for air conditioning. Even the concrete foundation was chemical-free.

An exhaust fan in the garage pulls out any gas fumes so that they do not enter the home. A kill switch in the master bedroom allows Veronica and Andy to completely turn off electricity in their sleeping area – people who have MCS have also been found to experience sensitivity to electromagnetic fields.

Some of the materials that Schram used in the project were actually old-school products that have been around for quite a while such as the drywall mud he used. They were viable products that often just required a little more time or finesse to use successfully. Some of the

chemical free products cost little more than the standard chemical-laden versions popular today.

While aesthetics were important, they were far overshadowed by Veronica's health concerns. However, the home was created to be bright and open with lots of natural light that takes advantage of the countryside views. Veronica even had the cabinet supplier make her a custom bathroom vanity based on a design she fell in love with in a Pottery Barn catalogue. He was able to recreate the furniture-inspired piece at the same price as the original but without the normal chemical contaminants.

They also had a challenge during construction – they couldn't just rent a temporary home or apartment. So they had the initial part of their home constructed so they could live there while the remainder of the home was built. An off-gassing room, the third bay of the garage, is an essential room for the Miscios to transition new items into the home. It now serves as guest quarters when they need extra space.

Healthy Home Cost Analysis

While initial assumptions may be that this sort of healthy home is ultra-expensive and time consuming to build, but that would be a faulty conclusion. Schram estimates that the home took approximately one month longer than a normal custom home project – largely so that the Miscios could approve every step of the project.

Cost was not a significant factor, either. While Schram estimates that a tract home might cost 20 to 30 percent more to be chemical free, a custom home project cost only about 15 to 20 percent more to build ("but every project and client is very different that there are no hard and fast rules,"

reminds Schram) – a worthwhile investment for anyone who is seeking to eliminate from their living environment the chemicals and toxins so prevalent in construction materials today.

However, for the Miscios who moved into the home in May 2013, the cost analysis is pure benefit to them.

"Thank God for this house because it has been an incredible blessing," says Veronica. The entire family embraced the project. Her son built the fireplace mantle with toxin-free materials and her daughter and son-in-law helped her make design choices and decorate the home. "And Andy was a rock. He supported this project unflinchingly. I can't say enough about how he supported me."

Andy, a retired commercial real estate broker, describes it this way, "This is a safe place for Veronica, and me, with my asthma. We look forward to coming home; it is healthier here than a hospital room. Emotionally, psychologically and physically, this house is a safe haven for us."

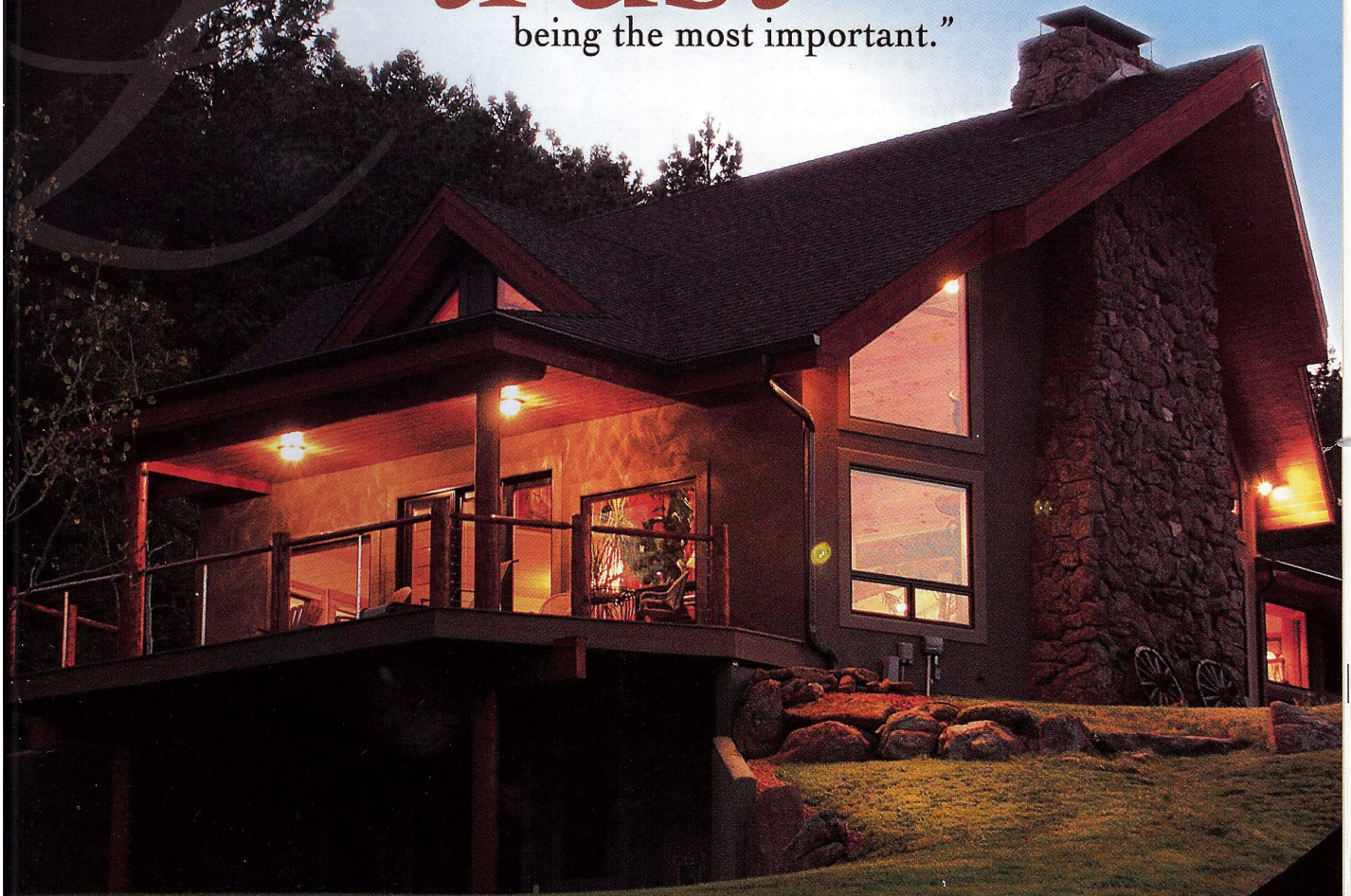
Schram also wants others to understand that a healthy home is not out of reach. "The important thing is to educate and build awareness around the fact that a healthy home can be done. My wife and I were already down this road but not to the extent that the Miscios were. But from a health standpoint and how we want to live, it ties in with building the types of high-performance homes that I typically do." He has been motivated to update his website and add a section about healthy construction and what that is all about. Visit www.lamarvalleycraftsman.com to learn more. ■

Angeline Grenz is managing editor for *Lydia's Style Magazine*.

"We build many things during
the construction process,

trust

being the most important."



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