173: Resiliency Radio with Dr Jill. Jen & Rusty Stout - Healthier Living Starts in a Healthier Home

Dr. Jill 00:12
Well, hello, everyone! Welcome to another episode of Resiliency Radio with Dr. Jill. Today we're going to talk about healthy homes, and I cannot wait to introduce our guests.

Dr. Jill 00:23
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Dr. Jill 00:37
Today, without further ado, I really want to introduce our guests. We got introduced by a mutual friend in publishing. They have an amazing new book out that I cannot wait to share. It's one of those where we were just talking before we got on: I always love books where they feel good, they look good, and they're beautiful. This is one of those books that you actually want on your coffee table. That's where mine is in our office. It's in our waiting room, literally for patients as they come in. It's one of the things that I have. We don't have a lot in the waiting room, but it's one of those things like, "This has to go in the waiting room." So it's a really beautiful—

Jen Stout 01:08
Oh, that's so cool. Thank you for that.

Dr. Jill 01:11
Yes. And great job! Your book is called—I have it right here, I want to say it right—*Healthier Homes: A Blueprint for Creating a Toxin-Free Living Environment*. Now, I know there are going to be so many people who listen to my podcast, who are patients, who are clients, and who are just fans. This is going to be a great episode they're going to want to share and re-listen to because this is a topic I cannot tell you the number of questions I get asked about. And I cannot wait to dive in because you guys are clearly the experts. Let me just briefly introduce you and we'll jump right in.

Dr. Jill 01:40
Jen Stout has a bachelor's in journalism from the University of Colorado Boulder and an MBA from Southern Methodist University. When she discovered that her chronic health issues were the result of toxic black mold, she set out to build one of the first truly healthy homes using mainstay modern-day building materials. She was the executive director of the Hill Country Builder Association in Central Texas when she met Rusty and together they founded JS2 Partners Healthy Home Builders. Since then, they've become nationally recognized leaders in healthy home building and home design. And Rusty brings 20+ years of home-building experience to JS2 Partners. Am I saying that correctly?

Rusty Stout 02:19
Yes.

Dr. Jill 02:20
Cool. He was president of the Hill Country Builders Association Board of Directors and is a member of the Texas Association of Builders, a national association of home builders. He has served as a building trades education mentor for high school students and a licensed realtor in the state of Texas. And of course, this new book we're talking about today, *Healthier Homes*, is by both of you guys. And like I said, I wanted to just emphasize that you guys want to get this book. This is something you want to actually feel, touch, and flip through. It is gorgeous. You've done a great job.

Jen Stout 02:50
Thank you.

Dr. Jill 02:52
So welcome, welcome, welcome! And thank you for taking the time to talk to me.

Rusty Stout 02:55
Of course!

Jen Stout 02:56

Thank you for inviting us on.

Dr. Jill 02:58
Yes. So we heard just a little, tiny glimpse, Jen, of your story. But tell us a little bit about the journey that led to where you're at now with building healthy homes and then even writing a manual, a book, for so many people out there who are suffering like you have. Tell us a little bit more about your journey.

Jen Stout 03:16
Yes. I never really set out to be a builder, but I guess you can say building definitely found me. It was a little bit over 10 years ago. I was in graduate school in Dallas at SMU pursuing my MBA. I had always been super healthy and active, and I started getting really tired and got rashes all over my body. I ended up losing most of my hair. So I had to wear a wig for several years. I had gone to doctors all over the country. Nobody could figure out what was wrong with me. I was like this medical mystery child. And right before graduation, I found this horrific black mold problem behind the walls in my apartment. I was like, "Man, this has to be what is going on with me—at least some of it."

Jen Stout 04:04
So I found an environmental doctor, Dr. Ray, in Dallas. They found high levels of mycotoxins in my body—the ones from Stachybotrys. They're all bad, but that one's especially terrible. I learned that it wreaked havoc on my health. My immune system had basically crashed. I became allergic and sensitive to everything around me—not just molds and grasses, but everything I was eating—all my foods, the fabrics I was wearing, the makeup, the shampoos.

Jen Stout 04:42
Chemicals were the worst. That was a real problem because formaldehyde and petroleum solvents are used in everything in construction materials nowadays. So I was in this conundrum. I couldn't figure out a place to live where I wouldn't react to things because I had become so sensitive to mold. I'd walk into a house that maybe had a few years to off-gas chemicals and I would react to some little amount of mold in the HVAC system, in the showers, and whatnot.

Jen Stout 05:14

So I looked online and I couldn't find anyone who did healthy home building. It was like this was not even thought of yet. I was like, "Well, I'm just going to take my research skills and I'm going to build myself my first healthy home." And I did. I researched every screw, every piece of concrete, [and every piece of] drywall—everything that goes into a home. It took a couple of years. The big focus for me really was no VOCs, no HAPs, hazardous air pollutants, and also looking at indoor air quality and water quality.

Jen Stout 05:51
Not long after that, this was in Houston, I moved back home to be closer to my family. I received a job opportunity here in central Texas—where we live now—with the Hill Country Builders Association as their director. So I was like, "I did this once; I can do it again." So I moved out here. I met Rusty. He was actually the president of the HCBA at the time. And we fell in love and got married. What was really cool about it was that I had this body of knowledge about how to build healthy homes and he was learning that through our processes. I also learned how to build from him. So we just started JS2 Partners. It was his idea.

Dr. Jill 06:38
I love that so much. You know—you were just saying you were reading my book—my story. Whenever we can take something so difficult, the suffering, the tragedy, and the awfulness that you had to go through... And I'm so sorry, because it is so painful—and even more painful, I think, for you, for my patients, and for so many people out there that are even listening. You have these mystery symptoms, and you're told, "Oh, it's all in your head," "You need an antidepressant," or these crazy things that are literally medical gaslighting. You know there's something not right. You were losing your hair.

Dr. Jill 07:09
And what you described is so classic with mold because it massively weakens the immune system—especially those nasty black stachybotrys and some metabolites—so you're very susceptible. It also usually triggers the mast cells, which makes histamine go crazy. That's one of the reasons people lose hair and then have all this massive reaction to chemicals. And the gut gets permeable. So there's this whole slew of things that you described. And I'm thinking medically, "I know what's going on," right?

Jen Stout 07:34
It's a vicious cycle.

Dr. Jill 07:36
Yes. I'm sorry that you had to go through that, but what a great blessing that you met Rusty. I think God had another plan on a bigger picture.

Jen Stout 07:45
That's definitely true.

Dr. Jill 07:47
I love that. And I love, love when there's meaning and purpose in the midst of difficulty and when things get transformed into the good work that you guys are doing in the world. It's so needed. On this call, I could not wait to talk to you. I do medicine. I do my little thing, and I do it well—just that—in the office. But environmental remediation, building homes, and finding safe places to live—I can find people like you to help patients. But I'm not the expert. And I can learn like you did, Jen, but I'm certainly not as knowledgeable as you guys. So you bring this incredible, important knowledge because so many people are finding they can't buy a place.

Dr. Jill 08:25
For example, I'm in a condo, and right outside me, there are lots and lots of multi-condos and apartments being built right now—crazy amounts. And I'm watching them as they put wood up in the midst of these rainstorms; they're not letting it dry. I mean, you know. And I'd love to talk to you both about some of that. I'm watching. I am not the expert, but I'm like, "That cannot be good." I would never buy a place there because I'm seeing these places get drenched with no roof, the materials are porous, and then all of a sudden they put up the drywall. Even the drywall sometimes sits out in the rain. I'm like, "How in the world can this be good?"

Jen Stout 08:56
I know.

Rusty Stout 08:58

There's one in our neighborhood. We were riding our bikes last weekend. And you know it's bad when you ride or walk past it and you can smell it coming out of the building. It's like, "Somebody is going to live in that place."

Dr. Jill 09:11
Right? I want to go so many places with this conversation. Let's start there, though. First of all, people typically think new houses are the best because maybe they haven't had the years and decades to accumulate mold. And there's some truth to that. But let's talk about new versus old, because then you have the VOCs and then the construction. So I want to talk a little bit about: What are you looking for when you're looking for a clean home?

Jen Stout 09:33
I want to tell you too that the apartment that I got so sick in was new. And that's exactly what happened. It rained. Well, actually that and also, the shower pans were cracked. There's just a lot of oversight that goes into construction practices that can really ruin someone's life.

Rusty Stout 09:52
Yes. The big thing now with new construction too—you touched on it—[is that] if it's brand new, maybe it doesn't have mold, but the VOCs, if people aren't building like we build, it's full of them. And then, the way that you have to build houses now to meet energy codes, they are airtight. So all of those things are staying in there. And most likely, in what we would call a tract home, they haven't put much thought into the HVAC system, exchanging air and making sure that we're getting fresh air and stuff. Their main objective is to finish this really fast and really cheaply so they can get somebody in it.

Jen Stout 10:32
Yes. Most people don't think about what's going on behind the walls. They just want it to look pretty. But you can have both.

Dr. Jill 10:39
I agree. Say someone is hiring you, they're looking to construct, or they're getting into a home that was constructed or partially constructed. They're getting in, maybe, and still putting some materials in and picking out some design elements. What are some of the questions or things that the average person is not going to

know that they should be asking or looking for? If there was a checklist, which I'm sure there is in your book... What questions are you asking? Go through some of those kinds of basic things that a buyer or a renter should be asking or knowing about before they get into a home.

Jen Stout 11:13
I think if it's an existing home, you want to ask if it's had any water damage and if it was ever remediated properly. Doesn't that have to be disclosed?

Rusty Stout 11:26
Yes. Legally, it does. Whether or not people do...

Jen Stout 11:30
Looking at a house's roof [is important]. You want to look underneath sinks. Look behind the washing machine or dryer. You can kind of tell when things start to go awry. You'll see cracks in places where they shouldn't be, and that is a recipe for disaster. And if you have the money to remediate it, that's one thing. But if not, I see a lot of people find a house that's pretty and they want to overlook the other things.

Rusty Stout 11:56
Yes. An existing home is tough because you likely aren't buying it to tear it apart and look behind the walls. So it's really hard. That's where hiring a really good inspector who works for you and doesn't work for the bank or the seller is important. You want to look at [not only] the roof but also the windows. People think that most leaks and all that stuff happen with roofs and honestly, the windows are the biggest offenders in older homes if they're not flashed properly. And we can tell you from experience that those inspectors that work for the bank will bring [what] they call a flare gun. They can shoot the wall and it'll show if there's any moisture. [Those] 100% do not work. We did a house for a couple and completely gutted it and they had that report of the flare gun and it showed no signs of moisture. That house was basically like a sponge. It was soaking wet.

Dr. Jill 12:58
Wow. I've had several patients who were so sick. One sweet girl was young—in her 20s—and bought a house. She told me about the soggy walls. And of course, it was filled with Stachybotrys. Eventually, she was in a lawsuit. It was just horrible for her. But she had no clue. I think many people, until they get sick—like you, Jen, or like

me—don't really know that mold can cause this illness or water damage or intrusion. And what you said, Rusty, is so true. Some of these lead-certified [constructions with] the best cleanest ecological materials are so airtight that all of a sudden you have this differential for condensation, temperature, or just no airflow exchange. Let's talk about that briefly—because that's something I don't know a lot about, but I think it's so critical—the ability for air to flow through the house properly. Tell us what you want to look for between the attic and crawl space and air exchange and no air exchange. And what kinds of things would a person think about with that airflow in a home?

Rusty Stout 13:55
Sure. Kind of what you said is one of the things that we like to say: Green does not mean healthy. Healthy can mean green, but green can not mean healthy all the time. And I'm going to speak strictly from where we're at in Texas because it's really hard in different climates. But here, what we want is to not oversize the air conditioner. One of the main problems in high-heat areas is that the AC contractors and the homeowners think: "I want the biggest, the baddest. And I want it to cool it down really fast." What happens is that it will cool it down really fast, so fast that it creates condensation behind the walls. So we want our system [to be] sized properly. We only use variable speed, multi-stage. So to kind of simplify that, it's puffing air constantly. It's not a force of air every 10 or 15 minutes. It's just puffing air. And by doing that, it is pulling fresh air in and then, in return, it's taking the stale air out and exhausting it.

Jen Stout 15:04
ERVs and HRVs help with that too. Go ahead, sorry.

Dr. Jill 15:09
ERV, HRV—what is that?

Rusty Stout 15:15
Where we're at in our climate and ERV is more what we would do.

Jen Stout 15:19
It's energy recovery ventilation.

Dr. Jill 15:22
Okay.

Rusty Stout 15:23
Yes. So basically, what that does is that even while your air conditioner or heater is working, you can set it to exchange the air in your home every 30 minutes. It'll completely change the air in it, and basically, it brings in fresh air. And to simplify it, it pre-cools it before it gets to the air conditioner so it doesn't have to condition it as much. So it saves on energy.

Dr. Jill (pre-recording) 15:53
Hey, everybody. I just stopped by to let you know that my new book, *Unexpected: Finding Resilience through Functional Medicine, Science, and Faith*, is now available for order wherever you purchase books. In this book, I share my own journey of overcoming a life-threatening illness and the tools, tips, tricks, hope, and resilience I found along the way. This book includes practical advice for things like cancer and Crohn's disease and other autoimmune conditions, infections like Lyme or Epstein-Barr, and mold- and biotoxin-related illnesses. What I really hope is that as you read this book, you find transformational wisdom for health and healing. If you want to get your own copy, stop by ReadUnexpected.com. There, you can also collect your free bonuses. So grab your copy today and begin your own transformational journey through functional medicine and finding resilience.

Dr. Jill 16:49
Okay. That makes sense because that degree of change is what we don't want. We don't want it to go from 80 degrees to 20 degrees or whatever. I'm just randomly throwing out numbers, but you don't want it to be that dramatic [of a] drop. Okay. First of all, you guys are building homes, right?

Rusty Stout 17:08
Yes.

Dr. Jill 17:08
Okay. So you're not necessarily going into old homes and inspecting a lot, are you?

Rusty Stout 17:13
Not really. We don't take on very many remodels. Our bar for remodels is: Are you ready to completely tear this thing apart? That's where we're at.

Dr. Jill 17:27
I love that. As I've been ever looking for houses, I've always been like, "Okay, if there is an issue"—which I think any house that you're going to buy, there's going to be some issues, you're just going to expect that—my thought is always, "Okay, this is something I'm willing to do." If it's a foundational issue, it's like, "Probably not." And I'd love to know, as builders—if you were to see a home, see a remodel or just [by] knowing what you know about construction—what are the kinds of water damage or kinds of issues that you're like, "That's probably not worth dealing with"? Obviously, if you have a window or a little leak, maybe you could replace that wall. That feels doable. Maybe sealing a crawl space—that feels doable. Foundational issues, though, any thoughts on that?

Rusty Stout 18:10
Yes. If you see cracks in the foundation that carry up the wall and even outside on the brick, I would say that's a run for the hills. If you have mold growing in your shower on the tiles, either you're going to rip your entire shower out and start over, or that's a run-for-the-hills situation. Windows are the big offenders on the outside of your house. Showers on the inside are the worst. You could ask any remodeling contractor and I would imagine they're going to tell you the biggest issues they see are from showers not [being] properly done. And unfortunately, most of the time they're only waterproofing about two feet of the wall, and it just doesn't make sense to me.

Jen Stout 18:58
There are a lot of things. When I started covering how to build a house, I was like, "Why are they bringing in fresh air from the top of the roof where the asphalt shingles are instead of on the side of the home?" Only waterproofing two feet up—there's a lot of just standard practices that—

Dr. Jill 19:17
[They're standard practices] that don't make sense, right?

Jen Stout 19:18
No. Yes.

Rusty Stout 19:21

And we touched on this a while ago: You could line up five good builders and we can all make it look pretty and it's going to look like the architect intended. Now, what separates good from great is—people like us, and I'm going to brag on us—that we care just as much about what happens behind the wall or underneath the floor, things that you as a customer would never see, but that's where we really care about. That's what's important. And unfortunately, in construction, that's not really the case for the most part.

Dr. Jill 19:56
Right. And again, most of the stuff going up quickly here is cosmetically going to look okay or maybe [inaudible], and inside it's a disaster. So, Jen, what did you learn? Obviously, you went through this first before you guys met and then you started this company. But you obviously learned on your own, like what materials and stuff. Let's talk a little bit about some of the things that you would choose. Say I'm going to build a home with you guys and we're going to choose materials. What kinds of things would I want to think about?

Jen Stout 20:29
Before I forget to mention, dehumidification is really important. That would be one thing for [inaudible].

Rusty Stout 20:35
For our clients.

Jen Stout 20:36
Yes. Well, unless you live in Las Vegas—but most places. Even inside the homes, you have showers going, you're cooking, and it's all closed up tight. Humidity can build up. So keeping that humidity level down with a whole home dehumidification system that ties in with your HVAC is awesome. Also, the air purifiers—basically, they can clean your air up to hospital-grade air. Those are essential too and those tie in as well. Basically, starting from a broad scope on materials, you look for things that don't have formaldehyde. It's used in a lot of building materials simply because it speeds up the curing process and makes, I guess, mass manufacturing more efficient and economical.

Jen Stout 21:26

But I would encourage people to look at the SDS sheets—sometimes those are helpful, sometimes they're not—and even contact the manufacturer. That's what I did. I would actually contact manufacturers like drywall and ask them specifically. A lot of times, they would be willing to tell me because it's my health at stake. It is kind of a fine line because, even with other builders, we were kind of worried at first. Like, "Oh, well, y'all are building healthy homes. What does that make my house toxic?" But we've had really good camaraderie and feedback. I think people see that there is value here and it's just something that people haven't really thought about yet, like: "Oh, what's the health of my house? How are the air and the water inside my home affecting my health?"

Jen Stout 22:13
Also, [I recommend] avoiding things with petroleum products in them. The only things that we use with petroleum products are certain types of inert plastics, but there's no tar. All the adhesives are all VOC-free. I think nowadays, there's more out there than there used to be. But it's still a matter of taking the time and doing research.

Rusty Stout 22:41
And to add on to that with doing the research, I think what Jen said is important—calling the manufacturer. What one person might call zero VOC doesn't really mean anything to someone like Jen or someone who's sensitive to chemicals. I mean, vinegar is a VOC, but is it hazardous? There's a big distinction there. So even [with] zero VOC, some of the paints have hazardous air pollutants. So that's where you have to really be... HAPs are a big deal.

Jen Stout 23:14
Hazardous air pollutants. EPA has a list of them.

Dr. Jill 23:17
So they have a list of HAPs. I would say too that I know a lot about VOCs; I know about measuring them, filtering them, the dangers, and all of that. But HAPs—I don't think that's something that's been in my vocabulary.

Jen Stout 23:29
Yes. It's probably not a new term, but we started using it simply because there's so much misinformation about the VOCs. The exempt VOCs, like acetone, ammonia,

and even formaldehyde, are in those paints that you buy at the big-box store that say Greenguard certified. I'm not trying to scare everybody, but it's just like you said, you have to do your homework and actually look at it and not read a certification on the label and be like, "Okay, cool."

Rusty Stout 24:01
And we always, always encourage testing, touching, feeling, smelling, and getting it in your hands before you put it on your walls or wherever it's going to go. Like Jen said, it's not meant to scare anyone. The good news is that there are ways to do it and we're proving that. We're not building mud huts or anything. We're still building custom homes.

Dr. Jill 24:31
That's exciting. And, Jen, so many listeners I know will relate because I have a ton of patients that are incredibly chemically sensitive and have had mold exposure. And this is just such a real issue. So let's just talk [about] specifics. Say we're doing a kitchen—the flooring. I had my office and I was trying to decide between wood and a luxury vinyl tile. I ended up deciding that luxury vinyl tile with a lower VOC was better for me than in the office. Maybe I made a mistake. Flooring is a big one. Cabinetry is a big one. Let's start with flooring. What kinds of things are going to be safer?

Jen Stout 25:10
Flooring—you can't go wrong with porcelain tile. It is inert. It is zero maintenance so you can just clean it with whatever. It doesn't stain. It doesn't chip. You'd have to really, really take a hacksaw to it for it to chip. Most engineered woods I wouldn't recommend putting in homes. But there are a few brands out there that are very cognizant. I think they're using soy-based glues and PET plastic components. Carpet—there are healthy carpets that are zero VOC wool. But carpet harbors pathogens and it gets dirty. Get a rug because you can wash a rug. Carpet—it's, like, there.

Dr. Jill 26:01
I couldn't agree more. I've seen so many issues with carpet, no matter how clean it is. It holds stuff. So yes, I totally agree.

Rusty Stout 26:08
In six years, I think we've done two carpet installs.

Dr. Jill 26:12
Whao!

Jen Stout 26:16
Speaking of rugs, looking at your materials, do they have fire retardants on them? A lot of those stain treatments are made out of chemicals similar to Teflon. They're extremely carcinogenic. And that was one of the hard things. After we built the home, we were like, "Okay, so now we have to furnish it." I was doing these interior design packages for people and I'd be like, "Hey, West Elm" or "Crate & Barrel, what kind of foam do you use in your couch?" And they don't know. Furniture is so fragmented—that whole industry. We actually started Healthier Homes Furnishings because there was no place for us to source decor and things that you actually put in your house, [like] rugs, after it's built. Okay, flooring. We said cabinets. That was a pain point. Solid woods like plywood and hardwood. Most cabinets are MDF or particle board components and those off-gas formaldehyde indefinitely.

Dr. Jill 27:30
I think cabinets are one of the worst sources in most homes, right?

Jen Stout 27:31
Yes. I walked into Home Depot the other day and I saw the cabinet boxes. I'm so used to seeing ours. I was just like, 'Ugh!' People don't know. I feel so bad.

Dr. Jill 27:44
And, Jen, the same thing. When I walk into those kinds of stores—we won't name any names—sometimes it smells like glyphosate in the aisles. I'm like, 'Ugh!' It's just so awful—what people just assume is normal. Or in their garages, they have these chemicals. Really, we are all swimming in toxic soup, as you and I know so well. To get to that clean space, it feels like we're abnormal. But the truth is that all these chemicals really are an issue.

Jen Stout 28:11
Yes. I think there's a growing body of people who are Whole Foods shoppers that are, I think, starting to take note of [how] eating organic is important and taking your supplements. And that was part of the reason why we wrote the book: People

work out and eat right, [but] they don't think about their homes and their environments. In environmental medicine, gosh, it's something that is so needed. Dr. Ray saved my life. My house didn't save my life. Dr. Ray saved it and then I had to get into a clean environment to get well.

Rusty Stout 28:51
To maintain.

Jen Stout 28:52
And to maintain, yes.

Dr. Jill 28:54
I love that. I'm sure you've probably heard me say what I always say: Clean air, clean water, and clean food. It starts with these things. There's no amount of supplements, IVs, or magical protocols that you can do if you don't have those inputs that are really basic. And say I'm in the office of the patient one hour a day. It's those other 23 hours where they're in bed on a mattress that has flame retardants or in the kitchen with cabinets that are off-gassing or rolling around in the carpet that have all these dust, mites, VOCs, and all these things. So our environment really, really does matter.

Dr. Jill 29:26
Let's talk about airflow and air quality. We talked just a little bit about that, but I want to talk about: What do you put in a system of air filtration when you're building a specialized home? Obviously, I have standalone air filters too. But how would you talk about air quality and air filtration in a new home?

Rusty Stout 29:42
Yes. So one thing that we do is filter the fresh air as it comes in. And it varies by system, but they're always going to be attached to the AC system. So as the air comes in from outside, it's filtered in. A lot of the time—if people even have them, let's say a standard AC set up with a filter—the air comes in, it blows around your house and then it goes to the return to get filtered.

Jen Stout 30:11
It's like one of those things like, "Why are people doing this?"

Rusty Stout 30:16
So you're bringing in, as we call it, dirty air, cycling it, and then filtering it before it goes back into the house. So we wanted to catch it before it gets there. We find that that helps. We have several different purifiers that we use—the size depends on the system, the climate, or anything like that.

Jen Stout 30:40
I was in a big-box store the other day and I saw these air filters. They're just tiny and they're thin. I'm sure it helps somewhat, but the air filters that we buy—it's a worthy investment and they're not super expensive—they're like big suitcases. They slide in and—

Rusty Stout 31:07
The filter is about six inches thick.

Jen Stout 31:10
MERV 13 or higher is considered [to be] super clean air. So looking at the MERV ratings is important whenever you're purchasing your filters. What is the system called that purifies?

Rusty Stout 31:28
Our filter also has a separate filter that ionizes any of the particles. It does pollen and germs.

Jen Stout 31:41
It takes it to the next level. And UV lights are another awesome add-on for purification. Air is tricky. There's the ventilation, the purification, and the thermal components of it. You have to look at all of these different things and then work with someone who is a professional. We have HVAC professionals that we are with that size them correctly. They run all sorts of...

Rusty Stout 32:16
They basically run engineering calculations. That would be one of the main questions if somebody was talking to a builder about building a new house: "I want to meet your AC guy. I want to know," the system that this person is installing, "are they trained on it?" Now they are basically computers. They are very high-tech. It's not like it used to be, where you had the mercury dial and all that stuff. If they're

done wrong, it's really hard to get them fixed. You've got to do it right from the start.

Dr. Jill 32:48
That's one of those foundation-brain issues where it's like a piece of the house that you don't want to really mess around with. And I can imagine because you're calculating airflow. Really, clean rooms in the hospital, they have these—whatever their quality engineer control people are—mechanical engineers, basically. So that makes sense.

Jen Stout 33:08
And the ducting, too. You want to look for ducting that's formaldehyde-free or metal ducting, which is more expensive. But once you have it, it lasts forever and it's easy to clean. We use—they call it pookie. I don't know what the actual term is for it, but it's like the mastic that goes around the components in the HVAC systems. You want to get something non-toxic for that, too. So it's thinking about all the different little pieces and asking yourselves, "What are you using to put this together?" And then you go out and source it. And then, by the time it's time to install, you've got it there for them to use. That's what I figured.

Dr. Jill 33:46
Yes. So we talked just a little bit about moisture. And moisture is so huge because, as you and I know, Jen, this mold thing is real and it's so common. It's becoming more and more common just because of poor quality, quick construction, and water intrusion. And everywhere you look in the news, there's a hurricane, there's a flood. Every time I see these news stories, I'm like, "Oh, those poor people," because if they don't really know what they're doing, it's going to be a mold nest eventually on some of these [inaudible].

Dr. Jill 34:11
So we talked about windows, obviously a big deal, and roofs, a big deal. And, of course, showers, like you said. What about grout? I feel like a lot of people don't know how porous grout is. Do you use grout? How do you grout? How do you waterproof it if they are using big tiles so that you don't have a lot of grout? What are some thoughts about a bathroom construction and what matters for mold reduction?

Rusty Stout 34:36
Yes. We're building custom homes, so the clients dictate that. We certainly encourage the bigger media tile to eliminate grout lines. Grout is something that, if you're doing tile, you're going to have. So what do we do? We have a water penetrating water stop. And instead of painting it on the grout lines and then having it do that every year, we mix it in with the water 50/50 so it's actually integrated into the grout.

Jen Stout 35:12
It's called Fumes + Formaldehyde Blocker.

Dr. Jill 35:16
Say that again, Jen.

Jen Stout 35:17
Fumes + Formaldehyde Blocker. It basically is 50/50, integrated into the grout. So it helps to waterproof it.

Rusty Stout 35:27
And we talked about those showers where the standard is about two feet up from the shower floor. We don't do that. We waterproof all the way to the ceiling. There are other brands, but the one we use is the KERDI system. I don't have an issue saying that one because it's such an awesome system that if any water does get through that grout and gets behind there, it hits this KERDI waterproofing and it just goes right to the drain. It doesn't linger. It's not going to hit the drywall. It's not going to get anywhere where it—

Jen Stout 36:04
It's like [inaudible] plastic that goes along the wall in the shower pan.

Rusty Stout 36:09
It's all integrated into the drain. For the money, and it doesn't cost that much more... It's just that it takes more time. You have to put in the time to do this right.

Jen Stout 36:22
And also the tiles—sticking with porcelain. Ceramic is more porous. Porcelain, pretty much you can't penetrate it. The same thing with quartz. It's more expensive, but beautiful.

Dr. Jill 36:40
What about marble?

Rusty Stout 36:43
It's kind of porous.

Jen Stout 36:44
Yes, it's porous. Plus, you have to continually seal it, so it's a lot more maintenance.

Rusty Stout 36:51
The cool thing nowadays, though, [is that] with porcelain, you can get slabs that look like marble. They're beautiful.

Dr. Jill 37:00
Oh, that's great to know. Yes. In my experience with clients and patients, the showers are, like you said, so often... And often beautiful new homes that had no waterproofing and no maintenance of the grout just went right through. I've seen lots and lots of those showers that get pulled out and there's mold. It's super common. What about basements, under the underground level, or below grade level? Window wells? What kinds of things would you think about?—because basements always make me nervous. What kinds of things would you think about when constructing? Say you wanted to finish a basement and you're building the home or you have control over it. What are the things that you're going to think about with basements, below grade, window wells, or anything particular there?

Rusty Stout 37:45
We don't do a lot of basements where we're at in Texas. But we do some walkout basements where you're kind of building into the side of the hill. So the first thing that we're going to do if we're building that house is pour the concrete. We're not going to use cinder blocks. I know a lot of people like to use cinder blocks to do their basements. We pour concrete stem walls, we waterproof them, and then we put a French drain system. Instead of just putting dirt back, we're putting gravel with pipes. You're not going to stop it from [inaudible], but at least you can give it quick access to—

Dr. Jill 38:21

To get away.

Rusty Stout 38:25
That's the level at which we take it. It does cost a little bit more, but it sure saves if you have an issue.

Jen Stout 38:34
We also put tar...

Rusty Stout 38:36
That's what I said, waterproof.

Jen Stout 38:37
Yes. At least two or three layers. It's probably an overkill of waterproofing on the concrete. Concrete is porous, like you said.

Dr. Jill 38:47
Yes. Got it. And when you say a French drain, is that like a classical hook to a sump pump? Or what is that? How does that work?

Rusty Stout 38:54
So a French drain, in our instance, being on the side of the hill, the water is going to hit that concrete wall. And instead of it just being dirt, you fill it up with big gravel. So it works its way to the bottom and then there's a drain pipe there and it can [inaudible].

Dr. Jill 39:10
Got it. That makes perfect sense. Thanks for my ignorance.

Rusty Stout 39:13
No, no, that's fine. That's a super, super important question. Like I said, we don't do a lot of basements, but even with our foundations, we don't like to put dirt up against it. We always like to have some sort of a gravel barrier there.

Jen Stout 39:31
As far as finishing on the inside, there are some paints that are very alkaline, I guess you could say, where mold can't grow on them.

Rusty Stout 39:45
It's a primer.

Jen Stout 39:46
A pre-primer would be helpful. And paint is such a big deal. More area in your house is painted than anything else by a long shot. Using paint that seals the walls has been critical for us in terms of being able to build healthy [homes], so much so that we manufacture our own paint. [With] none of the nasty chemicals in it, it effectively seals the walls. So if you are moving into a remodel or if you're doing a basement, sealing off any kind of off-gassing or whatever's going on back there helps with peace of mind.

Rusty Stout 40:29
Yes. The last component of the basement obviously is going to be dehumidification too, keeping that moisture out of there. The window wells are going to just need to be really flashed properly. You don't want them leaking.

Dr. Jill 40:45
Oh, that makes so much sense. So we talked a little bit about paint. If you were to buy a home and there's no mold that you found and everything seems clean, would you recommend repainting everything with something like you said, just because of that being such a big deal?

Jen Stout 41:02
Absolutely. It's a small cost for something that's going to last a very long time. Plus, you get to pick your own pretty colors and [inaudible].

Dr. Jill 41:12
Right. What about brands and styles and even including your own? What would you recommend for paints?

Jen Stout 41:19
What do you mean? Oh, you mean like sheen?

Dr. Jill 41:22
Like, what kinds of brands would people be looking for? Or maybe yours?

Rusty Stout 41:26
Yes, Healthier Homes is good.

Jen Stout 41:32
That's all we use.

Rusty Stout 41:33
Yes, we don't use any others. I wouldn't have an issue recommending [something] if I had used it before.

Dr. Jill 41:42
Me too. Yes, that's fine. That's perfect.

Rusty Stout 41:45
There are others out there and I'm not bad-mouthing them. I'm sure they're fine. We had never used them so...

Jen Stout 41:51
Well, that's part of the reason too why we made our own, because I couldn't find any other paints that were at the level of [having] less chemicals and kind of [inaudible].

Dr. Jill 42:04
Yes. No, I love this. It really is an industry that needs a revamp and you guys have clearly found multiple solutions. I love it. Jen, in your first experience with the mold being so sick and trying to find a place to live and learning all that you could about building your first home, what was the thing that was most surprising to you?—either cost-wise or just like, "Wow, I cannot believe the average person has no idea." What would you say was the biggest shock in that process? Is there anything in particular that comes to mind?

Jen Stout 42:37
Honestly, it's the amount of chemicals that go into everything that goes into a home. It's shocking and it's sad. Homes weren't always so closed up. So it really didn't affect people like it does today. I mean, it's for energy code reasons, which is excellent; we all want to be greener. But over the last 30 years, those have gotten stricter and stricter. And if you look at the rate of chronic disease, it's gone up too.

And I'm sure it's not just because of that, but it's definitely a contributor. Now more people have chronic diseases than people who don't. So that's shocking. But yes, it's what people put in their houses and they just don't think about it.

Dr. Jill 43:22
You're right. The awareness

Rusty Stout 43:24
As a builder too, and I know Jen knows, there are so many moving parts and materials that go into a build.

Jen Stout 43:34
Like tar. That was a shocker.

Rusty Stout 43:36
Most people won't even think about working with a builder. So that's where it becomes important to do that research and know, "Okay, this material is going in; let me find a solution," because there are solutions. There are workarounds. There are materials out there.

Jen Stout 43:53
Like natural gas. It's not good for you so we don't really put it in homes unless people want it. But a solution for a fireplace that's natural gas is to have [what's] called direct vent. They vent out the side of the home and they're completely enclosed so no gas can get into your house. But you still have the warmth. You still have the feel of the gas fireplace.

Dr. Jill 44:20
I love that you mentioned that, Jen, because the studies have shown—and in my condo here, there's still a gas range—that the benzene is off-gassing even when the stove is off. It's there. So there are natural gas and benzene products that are carcinogenic, even when we're not using that stove. So I love that you said that because most people are not aware. And like you said, the clean air, people don't know what they're... Literally, Walter Crinnion, who is a colleague of Dr. Rays as well, would say that 80% of our environmental toxic load is from the air that we breathe and probably no more commonly from the homes that we live in.

Dr. Jill 44:58
Like you said, not to scare people, but I'm all about awareness. And I deal with people who have illness and have dealt with mold like you have, and they want to do the things they can to be clean, live clean, and live well. So this is critical information. You talked about some things, like in the shower, that special material and design and it wasn't super expensive. What would you say is the biggest thing that does cost a little more? And obviously, to me, these things are worth it. Where would you say in a super clean home that you're going to spend? There's probably a lot of places you're going to spend more money. But what are the things that might be a little more surprising that you're going to want to put more money into?

Rusty Stout 45:38
There's a lot of misinformation out there about insulation. We use closed-cell foam insulation. And then I want to make the distinction that most people are using open cell, and it is nasty, nasty stuff. It's like a sponge. [With] closed cell, once it cures in 24 hours, it's hard as a rock. It's not going to off-gas. We take it to the next level and we seal it up anyway with our sealer.

Jen Stout 46:06
We seal the whole house.

Rusty Stout 46:07
We seal the entire cavity of the home. So when you walk into one of our new homes, you're not even going to smell wood. You're not going to smell anything. We had an appraiser one time say this wasn't a new house because it didn't smell like paint. And I'm like fumbling for my phone, I'm like: "Can you say that again? It's like the best commercial." So our closed-cell installation is quite a bit more expensive than standard insulation. I would also say that the other thing that's a little more expensive is that we will not build a house without putting a full-time superintendent on that job to manage that job and make sure that what we're telling our clients that we're going to do is actually getting done. So if a builder is not willing to do that, if they're just driving by once a day, there's no way to guarantee if the tradespeople ran out of our adhesive and they ran to the truck and grabbed just whatever from the big-box store to finish the job. They're not doing it to be malicious. They're just trying to finish their job.

Jen Stout 47:13
Oversight is huge.

Rusty Stout 47:14
So the oversight is a big deal to make sure that those little things don't happen.

Jen Stout 47:18
Plus, they know what products we use. The project managers are the conduit between the homeowners. It's important, I think, to have your little family on your side for building a home because that's where you're going to spend 90% of your time, inside, especially for people who work from home.

Dr. Jill 47:41
Tremendous. And I love that you said that because so often, especially nowadays, when the workforce is harder to get, whether it's in the medical field or the construction field, the quality of the workers sometimes isn't like it used to be. It's harder to find really good people. And these may be people who are well-intentioned, but if they're not trained, they're certainly not engineers or they don't have the knowledge level that you do. I really love that extra step that you guys do because it's so critical. And it's rare, like you said. I have all these constructions next door. I'm watching it. I don't know what I'm doing, but I'm flabbergasted to see what's happening in the average home and apartment and things.

Rusty Stout 48:19
I tease our clients. When we're interviewing them, they'll say, "What's the hardest thing?" And I always say, "Overcoming what the last builder did to you." That's the hardest thing—proving we're not that same...

Dr. Jill 48:35
Well, tremendous. Well, thank you for your work in the world. If you guys are listening, for sure you want to get their book. This is called *Healthier Homes: A Blueprint for Creating a Toxin-Free Living Environment*, published in September 2022. I will be sure wherever you're listening to have those links below so you can grab a copy on Amazon or anywhere you get books. This is such a needed resource. And like I said at the beginning, if you didn't hear me, this is a beautiful book. You're going to want to own it, hold it, and flip through it. It's really, really well done, which speaks to the work that you do. The last question I just want to leave with Jen

and Rusty too [is]: What do you wish you would have known 20 years ago before all this? What is the one piece of advice that you wish you would have known years ago?

Jen Stout 49:21
I'm guilty of it, too: Working out, eating right, all that kind of thing—not taking the time to really take care of myself and my body until things break. If I had this knowledge 20 years ago and really started thinking about what I was subjecting my body to, I wouldn't have ever lived in a moldy apartment. It's hard to say because a lot of times it's behind the walls and you just don't know. But I think that maintaining your health and wellness—not letting it get bad and then trying to fix it—is what everyone should be striving for.

Dr. Jill 50:05
Brilliant. And hopefully, this interview has even brought some awareness where people are like, "Oh, I thought my home was okay, but I'm not feeling so well." So thank you, guys, for the work that you're doing in the world. Thank you for taking the time today. I absolutely love the work you're doing and appreciate you so much!

Rusty Stout 50:19
Yes, thank you!

Jen Stout 50:19
Thank you! We really appreciate it.

Rusty Stout 50:21
We enjoyed it.