

**Julie Tyler:** Why don't you start by talking about your experience with cancer patients, maybe you could talk a little bit about what that background was. Tell me about your background. And I'd love to know, also, where your training was.

**Dr. Leonard Smith:** Okay. Well, I went to the University of Florida for college and medical school. And then, I came to Miami and did my general and vascular surgery residency. And I actually stayed on the faculty and was co-director of the intensive care unit. And ran one of the cancer services and trauma services for a couple of years. And then, I actually moved back to Gainesville and went into private practice. And I also taught while I was up there because I enjoy teaching. So I was on the adjunct faculty for teaching. And I taught physician's assistants and medical students and family medicine residents. And I also lectured to the family medicine program. And I retired from that about seven years ago. And so over the last four years here in Miami, I have actually been on the surgical volunteer faculty. Because that's where I started- It was down here in Miami. And I do some teaching there. But my main point of interest with the University is I'm the medical advisor for their integrative medical program. And I'm pleased to say over the last four years, we've gone from having 2 faculty members interested to about 20 or maybe even 30 faculty interested. And we actually have programs where we're teaching diet, lifestyle, exercise, elimination, and stress reduction.

**Julie Tyler:** Detoxification.

**Dr. Leonard Smith:** Detoxification, supplementation based on diagnostic testing. And it really is the medicine of the 21st Century.

**Julie Tyler:** So you do see a trend, as far as more and more physicians kind of adopting more of an integrative approach?

**Dr. Leonard Smith:** Oh, absolutely. And some of them, actually one of the surgeons, mentioned to me, "Well, I'm not going to do this forever. And I want to know what the new medicine's like, not only for myself. But maybe I'd like to practice it when I'm finished doing surgery." So I think people realize that. And of course, it has a great value for, quote, "anti-aging." The baby boomer group, the people born between 1946 and '64, are the people that really have the money and the education and the political influence. And they're also sort of the worried well. They're very educated and they understand that most illnesses can be picked up long before it's an illness. And if you actually, periodically, did the testing, as well as changing the lifestyle, you're not only going to add, you know, years to your life, but life to your years, as well. You'll feel better and function better.

**Julie Tyler:** What is your opinion on, for example, the Colon Cancer Alliance, whereby their whole message is prescreening. "We want to screen people at 50. And you've got to get your colonoscopy." And yet, it's my opinion that, as you said, we can be doing so much more prior to that, for years and years and years, to truly prevent, hopefully, some of these diseases. Even the United States Task Force for Preventive Measures, again, when I went to their website, it's all screening. But I don't see any true preventative, you know, measures that are suggested.

**Dr. Leonard Smith:** Well, more and more, they are coming out. And certainly most everybody would agree, you know, stay well hydrated. Eat fiber, plant-based fiber that comes from whole grains and vegetables and fruit and what not. Make sure that you exercise. Do something. Exercise actually releases prostaglandins that actually enhance colon motility. And, you know, what's interesting is a lot of the teaching at IACT, the International Association of Colon Therapy, is geared towards that. So I think they do a dual function. Not only do they help people with their intermittent problems with constipation. But they also educate on fiber, hydration, exercise, sleep, stress reduction. All of which affects...

**Julie Tyler:** Improvement to either the lack of motility or...

**Dr. Leonard Smith:** Right.

**Julie Tyler:** In your opinion, as far as the recommendations for having a high fiber diet, what is the main reason for that fiber, the diet?

**Dr. Leonard Smith:** Oh, well, you could write an entire book. I could talk all day about it. But simply put, you've got two kinds of fiber, soluble and insoluble. Legumes tend to be higher in soluble fiber. Fruit's a little higher in soluble fiber. A lot of the vegetables and grains may be higher in the insoluble fiber. And it's just what it says. The insoluble fiber will not dissolve in water. It adds bulk to the bowel, actually the biomass of bacteria and food that's coming through your system from one end to the other. The insoluble fiber adds bulk to that. Whereas, the soluble fiber dissolves in water but it also, because of the sugar in our diet and the simple carbs in our diet, dissolves in water, it slows their absorption. It also creates early satiety so people tend to get full. That's why a lot of people recommend the soluble fiber. But the beauty is then, what happens, if you have enough of that fiber when it gets to the colon, it does two things. I actually think the colon gets its best drink of water from having insoluble fiber. As we drink water, the small bowel sucks it right up, for the most part. But if you've got enough fiber in your diet, the fiber holds the water, the water gets to the colon. And the colon sucks it up. But it also serves almost like a matrix, three-dimensional matrix, for the commensal bacteria, which include

a lot of what are called neutral bacteria. And then, beneficial bacteria, like the lactobacillus abifidobacteria species, some streptomopolis...

**Julie Tyler:** Used in Activia yogurt.

**Dr. Leonard Smith:** Yeah, right. And it's so nice to see that a lot of the health food stores now...

**Julie Tyler:** Finally, finally, you're starting to see mainstream...

**Dr. Leonard Smith:** ...putting actual live bacteria in those. And I kind of comically say to a lot of people that the only problem is they still have too much sugar in them. And what you do with them is when you get them out of their refrigerator, you leave them on your countertop for either one or two days until they get a little sour. Now, you've doubled or tripled the potency. And if you didn't double or triple the potency, the bacteria weren't really alive anyway.

**Julie Tyler:** Interesting.

**Dr. Leonard Smith:** So it's just a little tip. But those bacteria, back to what does the fiber do. The soluble fiber is eaten by the beneficial bacteria.

**Julie Tyler:** Let's talk about the food of choice for the colon. Did you say earlier it's the butyric acid?

**Dr. Leonard Smith:** Yeah, but butyrate or butyric acid. They're just different forms of the same molecule. And the butyrate is taken up by the colon lining. It metabolizes it. But it also, interestingly enough, has an epigenetic effect on the nucleus of the cell. Which means that if, and the colon is exposed to all these toxins...I mean, I know people don't think we have toxemia there, but we definitely have toxins in the colon. Anybody who studies science understands that. The colon is bathed in toxins. And that's one of the reasons we tend to get cancer there and polyps and other things. So what the butyrate apparently does, it actually affects the nucleus of the cells response to toxicity. Because if the colon gets under too much stress, the nucleus is going to say, "Well, we're either going to make more cells like us to try to solve the problem. Or we're going to just fold up and die." And the fold up and die is called apoptosis or apotosis. It's A-P-O-P-T-O-S-I-S. And what happens is the nucleus of the cell actually sends a message to the whole cell, "We're just shutting down," just quit working. And then, your body sees a dead cell and it

brings in the macrophages and the reconstruction team to clean you out to allow another cell to come in there. The butyrate actually helps prevent colon cancer because it will defer to the cell suicide apoptosis. As opposed to say, "Let's make a bunch more like us that are sick, non-functioning cells," which is what leads to cancer.

**Julie Tyler:** And then, I suppose fiber as well, for motility purposes, to move the...

**Dr. Leonard Smith:** Absolutely. They've totally proven that. If you've got the...if you have enough fiber holding enough water in there, the colon, when it contracts, won't contract down as hard. And if it doesn't have to contract down as hard, you're a lot less likely to end up getting diverticulosis, which are pockets that are in the colon wall. And they come from the blood vessels, which are on the outside of the colon wall, that penetrate the muscle coat of the colon. But then, on the inside when you've got all this pressure build up, the lining of the colon can push up right next to a blood vessel and pop little pockets out. And they're called diverticuli, which can create real problems for people. And they're probably a major reason people get operated on.

**Julie Tyler:** So the colon actually wants some type of fibrous material on which it can contract, because it is a muscle. So the lack of fiber causes it to become sort of flaccid or sort of atrophied a little bit? Is that true?

**Dr. Leonard Smith:** Yeah. Well, also, what can happen, particularly what happens with diverticulosis, is the colon is in the habit of contracting harder because things don't flow. The harder the bowel movement, the less it flows. So you don't want diarrhea, but you don't want rock hard plopping bowel movement, either. If you do, the colon is contracting down. And they've actually put pressure thermistors in there to measure it. You can get up to 300 millimeters of water pressure in the colon. And that's how these pockets end up popping out. In cultures that eat high fiber diets, diverticulosis, diverticulitis, hemorrhoids, are unheard of.

**Julie Tyler:** Unheard of?

**Dr. Leonard Smith:** Yeah.

**Julie Tyler:** And you're probably aware of studies that were done in the early 1900s in certain countries in Africa, where they analyzed the diet. And thousands of individuals...

**Dr. Leonard Smith:** Well, actually, you're talking about Denis Burkett and it wasn't really that early. He's only a little older than me. And I'm sure he's passed away. But back early in my surgery practice in Gainesville in the '80s, I totally referred to him. He went over there and literally, I'm sure they thought he had gotten too much sun since he would ask them to put their bowel movement in a bucket outside their huts. And they would burn it down and measure the amount of fiber. And they were literally on about an 80 or more grams of fiber a day, which is probably more than anybody really needs. But then, again, there was no diverticulosis, no diverticulitis then. Because all that is, is when the little pockets pop, it goes from "osis" to "itis," which means inflamed. And the real danger of that is you can leak bowel movement into the abdominal cavity. And every one of these diverticuli, though, also has an artery going through it. So if you get a hard bowel movement pushing on the artery, you can bleed. You can have painless, massive bleeding and bleed to death from the diverticulum. But anyway, he found this out. He published it. And he was a great cause for, I think, increasing fiber in the diet. And even the U.S. Government's gone from saying 15 and now I think they're up to 30 grams. And I actually helped write a book called "The Fiber 35 Diet." And we said 35. And I'm not sure 50 isn't even better for most people. It's also the fiber that holds the toxins that are either made by the bacteria or that are in your diet. So you don't absorb as much toxin if you have more fiber coming through.

**Julie Tyler:** And yet, the American Medical Association, as it relates to colon hydrotherapy, they keep citing the fact that there aren't any, you know, major studies with thousands of patients, you know, peer reviewed, data collected...

**Dr. Leonard Smith:** Well, they're right about that.

**Julie Tyler:** This is true. And yet, we can look at just case studies. You know, we can certainly, as I'm doing, interview people and talk about their personal experiences overcoming symptoms, you know, various kinds of symptoms. But what will it take them to get these studies? Where does the money come from, first of all, to have the studies done...

**Dr. Leonard Smith:** Well, that's the problem with everything-- everything that's in the realm of non-pharmaceutical medicine has got a problem. Because to get anything through the FDA, takes millions of dollars and many years. And as a matter of fact, I don't know how it went. But there's a bill in congress right now that I think Dick Durbin or somebody sponsored that basically said anything after the DSHA Act of 1994 in the supplement industry would have to go under the same rigors as drugs do. Which would completely kill that. And I don't know what the true motivation behind all that is. I'd hazard

to even guess. But the truth is colon hydrotherapy is a very safe modality. It needs to be put in the right situation. I would like to just kind of give you my perspective over that.

**Julie Tyler:** Please do.

**Dr. Leonard Smith:** Enemas have been out there for thousands of years. The ancient Egyptians used reeds in a river. People...

**Julie Tyler:** Even birds.

**Dr. Leonard Smith:** Right. And even in my early childhood, grandmothers and mothers and people would give kids enemas if they didn't have a bowel movement for two or three days. I don't know if that still goes on or not. I kind of suspect maybe it doesn't very much. I do know, looking at the American Academy of Pediatrics Physicians Statement on Childhood Constipation, it's a major problem. And the reason being is kids don't eat enough fiber. They get too much sugar, too much meat, so they have hard bowel movements. And they have trouble...

**Julie Tyler:** Too much pizza.

**Dr. Leonard Smith:** ...passing them. Well, yes. And then, they're sensitive to wheat. They may be sensitive to dairy. And if they are, they get constipated. So rather than giving them an enema, they give them a cathartic, you know, like magnesium citrate or something. And then, when they do go, it hurts so badly, they don't want to go again. And they do end up getting-- I mean, you can see fissures in children. It's like a chapped lip. But it's a crack in the rectal lining from too much hard bowel movement going through too small of an opening. So the kid has really got to the place "I'm not going to go to the bathroom anymore." So the real answer to that really could be, you know, people that specialize in childhood colon hydrotherapy, you could actually do that very safely. And the kid would probably even come asking for it when they weren't going to the bathroom. Just like adults know if they've got a problem with that. And so many people do. I mean, if people are honest, stress alone literally—psychological and emotional stress from deadlines and running from "A" to "B" to "C" to "D" and this, that and the other and what not, causes you to put out too much cortisol. The cortisol actually affects the epithelial lining of the gut. And the bacteria change according in the gut. They've now shown the bacterial populations of your intestinal canal will change according to your stress levels. It's not a beneficial change, either. So it's what you eat and what you think...

**Julie Tyler:** Colitis...

**Dr. Leonard Smith:** ...and how you feel and what you do.

**Julie Tyler:** ...can be attributed to stress, as well, too much...

**Dr. Leonard Smith:** Yeah, all of it can, yeah. So anyway, enemas have been out there for a long time. So it makes perfect sense that a controlled enema would be the next step. And I actually propose that...and I've thought a lot about this. And I have, by the way, no financial tie to IACT. I don't own a colon hydrotherapy clinic. All I'm truly interested in is seeing the best technologies be available for the most people at a reasonable price. That's been my whole life, basically. And so basically...I can see maybe having three different levels of colon hydrotherapy. Like, level one, two and three. Where, like, level one would be, you know, for those that are detoxing periodically and then, just want to get cleaned out and see how it feels, as part of a detox program. And in that regard, there are doctors that do intravenous detoxification. We can't really say "chelation" much, because that's really an upsetting word. But the fact is, it does work. You can use EDTA, DMPS, DMSA. There are a lot of molecules like that, that do help take lead, arsenic, aluminum, and mercury out of the body. But how do they get out? You put it in the I.V. or you take it orally. In either case, all of it leads back to the liver. The liver is then going to do something with it. Conjugate it, put it in the bile. The bile goes into the intestinal tract and it goes out your bowel movement. So there are actually doctors...and I think a very good use of colon hydrotherapy is in conjunction with any kind of, whether it's DMPS, DMSA orally, or EDTA, colon hydrotherapy is a good idea. Because you want to make sure all those things that were bound up don't sit in your colon and have a chance to get reabsorbed. But they get out through the bowel movement. So that's one value.

**Julie Tyler:** The same reason why, after you go do yoga or get a massage, they tell you drink a lot of water so you can flush out...

**Dr. Leonard Smith:** Right. Absolutely.

**Julie Tyler:** ...the toxins.

**Dr. Leonard Smith:** So category One would be sort of outpatient healthy people using colon hydrotherapy. Category Two could get a little gray zone. You'd have to...those would be people that are sick. Maybe they've got heart disease, kidney disease, or arthritis. Maybe they're on a lot of medications. And it's really got to be up to the discretion and humility, frankly, of the colon practitioner, as to whether they ought to do that or send it to number Three, which I'll get to in a minute. So number two is you would

very gingerly treat them. But so much of what the colon hydro therapist does really isn't even colon hydrotherapy. It's education, education, education. They're really very well trained with IACT to do that. I've given lectures for IACT, so I know. They will talk to those patients about digestive enzymes...etc. So in group two, it's chronic moderate disease. And again, you look at the age of the patient. And they fill out questionnaires about all that. And I think that those with I-ACT do a pretty good history on that. And I'm sure some are better than others. But they're at least getting educated about diet and what to do to keep their bowels working better. And then, they've got a place to go. And if you go before you really have a problem, it works better. Just like anything else works better if you do it early.

**Julie Tyler:** Because people will often ask, "Well, is it painful? Is it uncomfortable?" All of these things, well, the fact is, yes is if you haven't gone for several days or weeks or if you've got chronic problems, at first, it's going to be a little bit uncomfortable. There is no room inside. It's not moving.

**Dr. Leonard Smith:** Well, actually, if you're too bound up, what they do is they'll put water in. But if you're uncomfortable, it takes a long time, because they'll put the water in. You go sit on the toilet and evacuate and you keep coming back and forth. So it's better not to get that bound up before you go. But for people that haven't done it, it's very...I did it. I mean, it's funny because I wasn't necessarily planning to. But I was lecturing for IACT. And the therapist came up and said, "Well, how can you lecture for us if you haven't done it?" I said, "Okay. I'm going to do it." So I went and got it done. And I was most amazed at-...and I now think people ought to do it, not only therapeutically, but diagnostically. The diagnostic part gives you an idea of how much more is in you that you're not releasing that you didn't know about.

**Julie Tyler:** And a lot of people don't realize...

**Dr. Leonard Smith:** Well, of course they don't.

**Julie Tyler:** They think they're regular, you know, and they have been for years. But they actually don't realize what's accumulated over time.

**Dr. Leonard Smith:** Well, the bottom line, no pun intended, is how much is coming out. And I used to, as a colon surgeon, I took care of a lot of people with colon cancer and with diverticulosis, diverticulitis, and polyps, and all kinds of afflictions of the colon. But I would actually ask them, "Do you have a bowel movement every day?" They say, "Oh, yeah, I'm good." "Twice a day? Once a day?" And it'd be once or twice. And I'd say,

"Okay. Well, now, we're going to do the length test. Show me how much." And I'd say, "Well, just put your fingers, what do you think the total amount comes out?" And I would say 8 out of 10 people that I saw said, "This much comes out." And I would tell them, "Well, it ought to be more like that much."

**Julie Tyler:** Wow.

**Dr. Leonard Smith:** If you're eating a high fiber diet, it will be that much. If you're not eating a high fiber diet, but you want to be healthy and not have heart disease and Alzheimer's and diabetes and everything other thing on the planet, you will go to a plant based diet. It doesn't mean you can't have animal products. But 80 to 90 percent of what you eat needs to be vegetables, fruits, seeds and nuts. And, of course, you can grind them. And so many people say, "Well, I have pockets in my colon and the doctor said I can't eat seeds." And I say, "Well, that's a shame. Ever hear of a coffee grinder? You can take flax seeds, pumpkin seeds, sesame seeds, put them in a coffee grinder. Turn it into a nice powder, then add it to some oatmeal with a little almond milk or soy milk or something. And that actually is a very nice meal that will literally help lower your cholesterol." That's a big thing. See, to me, high blood pressure and constipation and elevated cholesterol are basically fiber shortages. A bunch of other things, as well. But let's get back to the classification. Because see, this is where the change is coming. And it's got to happen. And as I've told people at IACT and my friends that are colon practitioners, I said, "All change is potentially painful." And I think people need to continue to stay well-educated. And if you could get affiliated with at least a family medicine doctor or ideally a gastroenterologist or a general surgeon or somebody that specializes in colon surgery, that would be ideal because then you would be able to be in what I would call category three. Category three, somebody comes in and they are a little tender in their abdomen, maybe they've got early diverticulitis, that's a definite contraindication for colon hydrotherapy. But it may not be in the office of a general surgeon who maybe they did a CAT scan and there's no perforation, there's a little edema and it shows the colon is totally packed with bowel movement and they know if they don't get that moving, this is going to get worse. And to give somebody a really strong cathartic from above and force peristalsis, you could probably do more damage I think than gently instilling water with a closed system where the therapist is putting it in and as soon as you get the slightest urge to go, you say, "Okay," and they let the pressure off. So it's pulsing. And I mean a lot of this is mechanics and people need to think mechanically. You got a colon that the lumen's about that thick and there's bowel movement up there, if it's totally jammed you pulse the water, you let it fill up, as soon as it fills all, you say, "Yes," they let the pressure out and a little comes out. And it can take an hour or more. But I really in my own mind believe that it could be the treatment for early diverticulitis that has fecal impaction. Not all does, but the way they actually diagnose it for the most part is with a CAT scan.

**Julie Tyler:** Do you think that people who suffer from constipation are at a higher risk of getting colon cancer?

**Dr. Leonard Smith:** Yes. They're at a higher risk of getting anything that has toxins in it because they will absorb toxins either one way or the other.

**Dr. Leonard Smith:** What I would tell women, and I actually tried to find the article because I can't remember the exact year. But it was sometime in the '90s in the New England Journal of Medicine and they actually had an article about it. But in the study, they took macrobiotic women who were basically on a plant-based diet except for fish. And they took women on the Standard American Diet. And what they did is very simple. They let them stay on their diet. And all they did was measure their urine and their bowel movement. And they were looking at estrogen levels. And the estrogen levels in the urine were higher in the women on the standard diet and lower in the macrobiotic women. Probably a better way to do it first to think of is the estrogen levels in the stool were higher in the macrobiotic women and lower in the women on the Standard American Diet which is fairly high in a lot of animal products. So what they figured out from that and they sort of knew, they had a hypothesis, is that the bacteria in your colon change according to what you eat. If you eat a high animal based diet, you're going to have more bacteroides, more clostridia, and a lot of other species. And some of those are okay. Some aren't. But if you eat a plant-based diet, you're definitely going to have more lactobacillus and bifidobacteria...

**Julie Tyler:** The positive...

**Dr. Leonard Smith:** The positive beneficial ecoli, streptromopholis. There's a whole group of commensal bacteria. So you will change your flora according to what you eat. And so what they found out was that the women who were on the plant based diet, their estrogen got conjugated in the liver. See, the liver takes estrogen and wraps a molecule, a glucuronide molecule and excretes it in the bile. And the bile goes in the bowel movement. And it comes out the bottom. And so when it comes out of the bottom, that's where it's supposed to come out. And that's why those women had more estrogen in the bowel movement. Now, the problem with the women that are on the standard animal diet, the bacteroides, they think, or one of the species, will actually in the colon rip off the glucurona. You know, the liver literally packages toxic you know, not just toxic estrogen, but any estrogen. And I'm sure testosterone and other hormones, too. But we're focusing on the estrogen. They would actually take the estrogen, the bacteria in the colon in the meat eaters, and rip the glucuronide off. And they reabsorb the estrogen. And so it keeps recirculating...

**Julie Tyler:** In high amounts.

**Dr. Leonard Smith:** Well, what happens is if you reabsorb it and I used to tell women, I'd be checking their breast lump as either cancer or fibrocystic disease and I'd say, "Well, your problem is you've got today's estrogen, yesterday's estrogen, and the day before yesterday's estrogen. Yesterday's estrogen and the day before yesterday's estrogen is getting re-circulated because you've got the wrong bacteria. And if we checked your urine level, which is a function of your blood level, they're going to be high. They're going to be higher than in people who are on a plant diet. And that extra estrogen is a major part of why you've either got fibrocystic disease...and then, if you don't metabolize estrogen the right way in the liver and you make the toxic metabolites and reabsorb those well, that probably has to do with why you have breast cancer or arthritis. They've actually found in both men and women inflammatory estrogen molecules in the synovial joint fluid. So it's just something that didn't get out of the body the way it was supposed to. So that's what would be a subclinical toxicity. It's not like something on the surface. Or if it is on the surface, it doesn't look like, you know, major toxicity. At the other end of the spectrum, I operated on a woman once who was so constipated she died in the operating room. We couldn't even get her through the operation because she'd perforated her colon. And she had chunks of bowel movement as big as my fist and that were hard as a rock.

**Julie Tyler:** Throughout the entire colon?

**Dr. Leonard Smith:** They weren't just in the colon. They were in her abdominal cavity. So when you perforate your colon into your abdominal cavity, you will get toxemia. And you will die very quickly. But, like I said, even breast cancer is related. I think breast cancer could very definitely be related to poor bowel hygiene because we know it's called Enterohepatic Recirculation. You're recirculating estrogen, both the normal estrogen metabolites, which would be the two series and then the four series and sixteen series estrogen metabolites which are inflammatory pro-cancer, pro-inflammation molecules. And if they were meant to go out and you're reabsorbing them and reabsorbing them and the level's elevated in the blood and the urine, it could cause cancer not only of the breast but the uterus, the cervix, certainly the ovaries, in the head and neck and lung cancer associated with toxic estrogen metabolites.

**Julie Tyler:** What about rheumatoid arthritis or multiple sclerosis?

**Dr. Leonard Smith:** Well, I think all the autoimmune diseases on some level are connected to the intestinal tract. If you've got the wrong bacteria staying there long enough and you've got them going through the intestinal wall, which they will, either the bacteria or bacterial toxins or metabolites or even food that's only partly digested, once

the lining of the gut is sort of locked open, you have to think of the gut lining as extremely intelligent and very flexible and moving. Normally it opens under the right guidance from what's coming up from what the lining is telling it to do and the lining is communicating with the bacteria. And if the communication's right, it'll open, let some through and close and open, close and open. But what happens then is if you've got too much toxicity going on in the gut, and you can actually see it when they put like an endoscopic capsule camera that go through the gut, you can see little areas of inflammation. The analogy I tell people is that it's like a sunburn. If you go out in the sun, you can get a first-degree or second-degree sunburn where you're red and it's tender. But you don't feel that on the inside but that's what the inside looks like when you've ingested too much alcohol, foods that you're really sensitive to, bacteria that are more pathogenic or disease-producing that create a problem, all of that causes this little sunburn of the intestinal lining which then translates into this system of opening and closing and it kind of gets in the locked open position a little more, not permanently, but it allows-leaky gut is the common name, the medical name is intestinal permeability. And they've got tests where they take two sugar molecules, a big one and a little one, and you drink it and if they get through the gut lining, the big one, it means you've got really big holes in it. And they actually measure the ratio of the big one to the little one in your urine. And they've even done it in children that they knew were sensitive to wheat or dairy, not major, terrible problems, but they would give them wheat and dairy and then collect the urine and actually show that their lactulose to mannitol, the lactulose is the big sugar, the mannitol is the little one, that ratio's supposed to be only like 0.03 which means a lot of mannitol and a tiny, tiny bit of lactose should end up in the urine. And there was 0.03? These kids eat a little bread, yeah a little glass of milk and a piece of bread, their urine shows that ratio's like 5 versus 0.03. So in the experiment, what they did is they pretreated the kids with something called sodium cromoglycate which is basically an antihistamine like cromolyn and the antihistamine would stop the release of histamine in the presence of these foods that were irritating. And if you stop that...see the histamine increases the circulation right there at the very gut lining. It's almost like we increase the circulation and pull that in. So when they did that the L over M ratio was still normal, or very close to normal. So I mean there's so much we're learning about it and it is the hidden organ is the intestinal tract because...well, you could say that about all the things on the inside I guess, but the true hidden organ and endocrine-producing genetic machine is our bacterial biomass. And like one of the greatest little factoids that most people aren't aware of is we have maybe...and I've heard as little as a trillion and as many as ten trillion cells in our body and we have a hundred trillion bacteria and archaea and preon, whatever that is, and viruses and fungi and yeast and parasites. There's an entire city of stuff going on down in there. Which brings up one of my theories, and I don't know that anybody's proven it yet, but one of the things I think you could do to help people that have got autoimmune problems is try them on colon hydrotherapy. Because ven with colonoscopy we now know if you've got somebody cleaned out, and that's probably one of the greatest uses now, medical uses of colon hydrotherapy is more and more doctors are finding out that you can prep people very well for colonoscopy doing that. And I tried that too. I'll try most

things once just to know what my patients are going through. But I drank a gallon of GoLYTELY and two quarts into it I would have rather gone out on the street and fought a car than to finish that, but I finished it. But I realized...one of the patients had said to me, "There's no way that little 78-year-old lady who weighs 90 pounds is drinking all that." And sure enough, they come in, they haven't drunk it all, they go in for the colonoscopy, they're not clean, they got to reschedule and they waste a ton of money, unless it's being done on an outpatient basis. I know that Dr. Roland Shepard in Tampa who is a board-certified gastroenterologist. I think you've interviewed him. And he's slowly moving more and more into the acceptance of this. They've got the equipment in the office, it's primarily there to prep people for colonoscopy because particularly the older and weaker ones, that's a much gentler, much safer way than to give them something that's going to just cause everything to go ripping through their body. And if they've got a stricture or scar tissue from previous surgery called adhesions, you could literally cause somebody to get obstructed or at the very least be very physically miserable just from drinking the stuff to get ready. This is gentle. There is no question about it. So he's using it for that.

**Julie Tyler:** He also believes that it has other applications too.

**Dr. Leonard Smith:** Well, one of the other big applications, and this isn't dinner talk and he probably talked to you about it too, but fecal bacteriotherapy is going to be the salvation of the hundreds of thousands if not millions of people worldwide that have Crohn's disease, ulcerative colitis and C. difficile diarrhea recurrent where they literally take healthy bowel movement from a healthy human, they do all the testing for hepatitis and HIV and syphilis and all that and they also look at the bowel movement itself, make sure there are no pathogenic bacteria or parasites in it, and after they do that then they can homogenize it in a blender and they can either re-instill it through the rectum or they actually will put a tube down the nose, then they take the material and run it through a coffee filter, literally a coffee filter so that the particulate matter's not coming through but the bacteria are getting through, put it down the nose, pull the tube out and there have been like total miracles. I was reading a case study recently at Harvard that's been out for a while. They had a two-year-old kid with C. difficile diarrhea who was having bloody diarrhea and was failing to thrive and he was just a mess. So they finally took part of dad's elimination, 30 grams, which is about a shot glass, put it in 3 ounces of water in a blender, blended it up, ran it through a coffee filter twice so now it's clear but it's loaded with these bacteria, drop a tube into their stomach, put an ounce or 2 of that in there, pull the tube out, 36 hours later, he's completely better.

**Julie Tyler:** Yeah. And again the whole point is that you're trying to reestablish homeostasis within the bowel or the gut and people don't understand, as you were saying, that this is an entire world. It's completely separate from the outside world.

**Dr. Leonard Smith:** I'm actually amazed that probiotics and prebiotic- well prebiotics are a little different. Prebiotics are food for everybody that's there. And if you've got a pretty healthy commensal bacteria which is the neutral and the beneficial, and I don't know, I mean I'm going to guess maybe at least 80 to 90 percent's either commensal or beneficial, we probably don't carry more than about 10, maybe 15, 20 percent of pathogenic ones there. And again, this is a spectrum of one to a million. This isn't like being pregnant where either you are or you aren't. A little bit of pathogenic bacteria is probably fine. A little bit more and you've got IBS. Now for the longest time, people thought well, there's no irritable bowel syndrome, thought there was nothing physical going on there. Well now they've proven yes, it has got a psychological component, but yes, there's no question there's a physical component. And if you take the history of IBS patients, it's anywhere from 20 up to 60 percent depending on the study you read of the people admit to having traveler's diarrhea whether they traveled or not. And of course I warn people now you don't need to go to Mexico to get it, go to some of your best restaurants here in Miami and you could get it called Montezuma's revenge or whatever, because there's enough bacteria around that that can happen. But once you get that and have rip-roaring diarrhea, you change the dynamic not only of the bacteria that are left behind but also the receptivity of your epithelial lining. It becomes hypersensitive. So you've got a couple things going on with IBS. You've already got a hypersensitive epithelial lining, but you still very well may have low-grade pathogenic bacteria in there. And for that reason there are studies in the American Journal of Gastroenterology again where they took people, they did the breath test, which is interesting. It's not 100 percent accurate but it's a good general indicator. And in the breath test, they give them the lactulose as sugar, which again isn't well absorbed but the bacteria eat it, and then the bacteria make gases. They can make hydrogen and they can make methane-those are the two big ones they look at, the two big gases they look at. And that gas literally gets absorbed through your gut lining where it goes to the bloodstream and then you breathe it out. So you can breathe right into a bag and measure the hydrogen and methane levels. And they found out that people with IBS, something like 80 to 90 percent of them had elevated levels of either methane or hydrogen or both and they put them on a non-absorbable antibiotic for a week and like 75, 80 percent of them got significantly better.

**Julie Tyler:** But the medical community as a general rule, they don't even believe that the lining of the gut can absorb gases or any kind of toxicity.

**Dr. Leonard Smith:** Well no, the ones that really...gastroenterologists get it. I think they do. And we've become so specialized. If you're a cardiologist or an orthopedic surgeon, you may not know any more about the intestinal tract than the average guy on the street except you remember it from medical school and anatomy lab and physiology. But people that are in the field totally get the fact. And it's the most exciting part of what I'm doing at the university which is called changing the way we think to a systems biology approach in that everything is interconnected, there's no part of us that's not interconnected. It's

obvious it's connected or we'd be floating all over the place. But the point is I mean like I'm going to be lecturing to some physical therapy people about integrative medicine later this month and I'm going to be pointing out to them that when you exercise with resistance weights and if you're reasonably healthy, and it doesn't matter if you're old or young, you can be old and do this, with a reasonable amount of weights you actually release something from the bone called osteocalcin, the osteoblasts that are trying to make bone, they're going to try to make bone if you're using your bones. It's like, "he's still using these things so we're going to make bone." So as part of those osteocalcin, there's a protein peptide molecule that gets in the blood and literally goes to the fat in your body and tells the fat to make another fat hormone that's beneficial called adiponectin. And that gets in the blood and goes to the pancreas and resensitizes the pancreas and helps the pancreas make more insulin because you need more insulin and you need more management of your blood sugar and your insulin. If you're exercising, you've got to keep all that under the management. So here we have the bone-fat-pancreas connection. Who would have ever thought of that?

**Julie Tyler:** Yeah. Well, as you say, specialization has caused in some ways this profession to be just somewhat myopic and it's great for acute emergency procedures and issues, but it's my opinion that in this country we're not really focused on holistic overall health.

**Dr. Leonard Smith:** Well, you're right, and actually what we're calling it...

**Julie Tyler:** We wait until we've got a major problem.

**Dr. Leonard Smith:** Yeah. What we're calling it now, and I think it's fair, is we have acute care medicine and we have chronic care medicine or chronic care health. Now the acute care, I don't think anybody would argue that if you got in a car wreck and were bleeding to death or let's say you waited long enough that you were vomiting fecal material from a bowel obstruction from a cancer, you need to get into a mainstream hospital and get surgery and maybe chemo, radiation, whatever else is part of that treatment. But if you've got a chronic- and we see so many people that have the combination, chronic arthritis, chronic problems with IBS, either constipation, we need to think holistically.

**Julie Tyler:** Talk about the immune system and you were saying before we started, antigen mimicry and how it basically becomes a vicious circle of symptoms where we now have diagnoses for these particular syndromes whether it's rheumatoid arthritis or fibromyalgia or irritable bowel, some of the ones that you mentioned.

**Dr. Leonard Smith:** Interstitial cystitis is another big one in men and women both and that's due to the fact that the toxins in the urine are bathing the lining of the bladder and if the bladder becomes sensitized to those toxins it causes the bladder to want to contract. And that's why a lot of people have to have the urgency to pee large amounts or even small amounts frequently and whatnot, a lot of which can be minimized by changing the diet and changing stress levels. And that's what's interesting about all...most all of this is fixable by lifestyle changes, diet changes, sleeping better, eliminating better. And again, back to colon hydrotherapy, I think that people could...most any adult I would suggest trying it just to see where they're at in terms of their ability to eliminate naturally because we don't think about it. When you all of a sudden see that way, way more came out than you ever thought could possibly be in there and that you maybe felt a little different after it, not everybody, but those with borderline toxicity. I've had people tell me, "My aches and muscle pains have gone, my joint pains have gone." Some people even claim they can see clearer and whatnot. It's all about being in this chronic low-grade inflammation. And we now know that chronic low-grade inflammation is really the cause of almost all of the disturbances that we deal with on a physical and emotional and mental level.

**Julie Tyler:** Yeah. Even they're proving as far as the neurotransmitters that are prevalent in the gut...truly your emotional state, it takes its toll on the digestive tract. Does that seem logical then as far as Dr. Kellogg treating patients with schizophrenia and certain mental disorders?

**Dr. Leonard Smith:** Yes, absolutely.

**Julie Tyler:** I don't know how Dr. Kellogg was portrayed by the medical community back then, but I interviewed a colon therapist who had a patient who was suffering from severe mental depression and she was using colon hydrotherapy to help that patient who made a major turnaround. I guess colon hydrotherapy just has many applications.

**Dr. Leonard Smith:** Yeah, there have definitely been cases where the psycho emotional state can be benefited by clearing out pathogenic bacteria. And we know this from autism. There are cases of autistic children that have actually been given cleansing enemas to get colonoscopy and just from the cleansing enema start waking up and making more sense and are more coherent, more present, more communicative. And along that same line, sometimes when autistic kids are at a certain state, they'll be put on oral Vancocin which is the oral form of Vancomycin which specifically kills clostridial bacteria and they'll mentally come right around, which means that the toxic burden that's coming through the gut lining affecting the vagus nerve, affecting a whole series of things in the brain can be changed by changing what's going on in the intestinal tract.

**Julie Tyler:** Yeah. And I think you mentioned that you treated an autistic child yourself?

**Dr. Leonard Smith:** I was working with some people who treated an autistic child with colon hydrotherapy and it does work. You can do it. It does require cooperation. It does require very sensitive and intelligent operators to do it. I'm not saying everybody could do it. But when they have a problem of just really terrible foul-smelling bowel movement and constipation and belly pains, if you can get that out of them, they do better. And then the other part of that is to put them on beneficial bacteria and prebiotics are the foods, they're the fructo-oligosaccharides, the inulin, Jerusalem artichoke, actually even garlic, onions, there's a lot of things act as prebiotic which is food for the bacteria. But giving some of the probiotic bacteria, the combination of lactobacillae and bifidobacteria, now we've gone...it's been fun to watch actually, because we'd go from a billion to maybe 20 billion and then 50 billion and now there are companies that make 200 billion doses and even 450 billion doses, now they're up to 900 billion, which is almost a trillion.

**Julie Tyler:** I haven't seen any of those. That's incredible.

**Dr. Leonard Smith:** Well, VSL3 is one company that makes...it's a prescription 900 billion, and if you took 4 packs a day, that'd be 36 hundred billion which would be 3.6 trillion. But they have done that in cases of severe diarrhea where I guess it's like you bring in enough soldiers, sooner or later it stops the virus, the bacteria, whatever is causing the problem. But again, that ought to be under medical supervision. That's why it's a prescription.

**Julie Tyler:** What type of training in med school, what emphasis do they place on the bowel? Is it an organ that commands as much attention as other organs?

**Dr. Leonard Smith:** Well, in all fairness, going through an anatomy course, you pretty much get every organ. You look at it histology, you're looking at the parts of it microscopically. Gross anatomy you're looking at it and you need to know all the names of the parts and how they all connect together. And then later on you go with the pathology of the different organs. So no, they're pretty thorough about going over it. It's all a matter of how you put it all together when you come out and what kind of doctor you want to be. And our blessing in a way is a curse in that so many doctors are so sub-specialized they really don't know or are even interested in anything but their little part of the body. I mean the classic of that would be an ophthalmologist or even otolaryngologist is more the head and neck, but they've even gotten into the thyroid because they can and it's there, which was usually the realm of the general surgeon. I mean they still both do it.

**Julie Tyler:** Well thankfully they now have neurogastroenterology.

**Dr. Leonard Smith:** Looking at the nerves, yeah, because there is a huge amount of nerves in the enteric nervous system of the intestinal tract and we're learning that it's very responsive to everything.

**Julie Tyler:** And need not actually take orders from the brain if necessary. It overrides messages from the brain and can completely act independently of the brain. That's pretty fascinating.

**Dr. Leonard Smith:** Right. My vision for the future though is that all doctors embrace a systems biology approach to all of it. And they don't need to know all the detail, but they at least think in terms of what's going on in the gut, how is it affecting the heart, how is it affecting the pancreas, how is it affecting the brain and the thyroid, the adrenals, how is it affecting the musculoskeletal function. The whole issue of food sensitivities is getting bigger and bigger. I mean one of the most potent examples I've seen in national news, and I am a bit of a sports buff and like tennis, but this guy from Serbia, Novak Djokovic, had been in third place for the last five years behind Federer and Nadal and the story was he always just kind of gave out and they thought he was faking and trying to get a medical break, but he would actually get tired. And I'd watch him and I said, "I think he's got exercise-induced asthma or something." Well, he found out that he was gluten-sensitive and he eliminated all gluten and this past year he beat everybody. He was like 52 and 2, number 1 in the world, and he seemed to be better as the matches got longer just by eliminating gluten from his diet. I'm sure he might have done some other dietary changes, but it's huge the effect of things that we have in our body that our body's fighting with and how that affects our ability to be productive.

**Julie Tyler:** Yeah. And I mean we place a lot of emphasis nowadays on what we put into our body and the nutrients that we're getting, the lack of vitamins, etcetera, hydration even, but there's not much attention being paid to what is exiting the body and just the final stage of that alimentary tract and the whole process.

**Dr. Leonard Smith:** Right. Well, I actually think we live in such a...I used to say 10 years from now, well it's here now. This is what people need to have in their house, particularly if they live here in Miami or even worse in L.A. because of the air out there, or Houston or Dallas or Chicago or New York, people need air filters in their house, air filters in their car. They need water filters. They really ought to have an infrared sauna because that's a great way to sweat even more than normal. Infrared is very safe. It's what we put premature babies in but it penetrates a little deeper and you don't need such a high temperature to break into a major sweat. Your skin is a big organ of detoxification. And I

actually would routinely ask my cancer patients if they sweat and most of them really didn't. And I've had people get into saunas and at first they don't sweat, but if they keep working on it, it's like you get your sweat glands in shape, now you sweat better. And if you measure the toxins coming out of people when they sweat, they're significant. And the other thing everybody needs at home is probably either a Colema board, which is a type of an enema or even a home colon hydrotherapy unit. There are companies that are making home colon hydrotherapy units. And people also need to be a part of an organic network in their community or online or both so that they are getting organic food. And we're going to have to fight like heck to not let them decide that the organic label no longer means not GMO. And I'm sure they're pushing to make everything be like...that it's all the same and it isn't and that's another thing we're playing Russian roulette with our genetic code on. And I'm sure there are some changes that could be beneficial to the food supply and may be harmless, but no research of any significance has been done long-term on animals, much less on humans.