## Introduction and Speaker Background

Hey, everyone. Welcome to this episode of the Reversing Type 2 Diabetes Summit. I am your host, Dr. Beverly Yates, ND Today is my distinct honor and privilege to interview a colleague, a good friend of mine, Dr. Betsy Greenleaf.

She is an amazing woman and in fact has a great bio, a wonderful background. I really want to thank Dr. Greenleaf for her leadership in the world of the intersection of gynecology and urology.

In fact, she's a pioneer in that. She's a premier women's health expert, a bestselling author, a spokesperson and entrepreneur and inventor who specializes in female pelvic medicine and reconstructive surgery for over 20 years.

As a trailblazer here in the U. S., she's the first woman to become board certified in urogynecology. She takes a holistic body, mind, spirit approach to helping hundreds of thousands of busy women to find pelvic peace.

Everyone wants more peace, right? Regain their inner power and regain their sexy as the professional speaker and sort of educator. Dr. Greenleaf brings entertainment and lightheartedness.

That's right. She's a lot of fun to embarrassing health topics that often really constrain women's lives and can be a source of misery. They help lighten the mood and help normalize very much, normalize the conversation of women's health and wellness.

Dr. Greenleaf, welcome to the summit. Oh, thank you so much, Dr. Beverly. I'm so excited to be here today. I'm delighted to be a part of this. And one of the things that I know is you bring both that medical savvy along with your sense of humor and your approach that makes it so that people feel more comfortable and more welcome.

Many times when we're talking about women's health and things to do with hormonal balance and in particular insulin and the pancreas and diabetes, blood sugar regulation, right? Cortisol, stress, all the things people often get a little intimidated because some of these words are long and big.

And meanwhile the impact is profound. So we're going to make this friendly so that the typical person attending the summit who is a member of the general public, feels welcome, as well as talking to our colleagues, other fellow health professionals.

That sounds great. I'm ready. Super. Okay. So let's take it right from the top. Can you explain the potential impact of diabetes on public health and how it manifests in individuals?

## Diabetes as a Hidden Cause of Pelvic Symptoms

Yeah, you know, the thing, as a urogynecologist, I see diabetes all the time and you'd go, but you're not a diabetes specialist. But the interesting thingis, as an osteopathicly trained physician, we were trained to look at the body as a whole system.

So when patients would come into my office complaining of leaking urine, maybe having a little itching, burning and odor down there, I automatically my brain would automatically go, Well, wait a minute, It's not just their pelvic health.

What else is causing that? And sometimes people didn't even know that they had diabetes at sometimes recurrent urinary tract infections, vaginal infections, sexual dysfunction, like leaking.

We have to run to get to the bathroom and have a hard time holding it in. These are all things that sometimes can

be presenting symptoms of diabetes in somebody who maybe hasn't gone to the doctor for their regular checkup and had their sugars, looked into.

So more often than not, I would end up finding it. And then the great thing was they had symptoms. Now we could find it and then get to the root cause of their symptoms, which was the diabetes.

And then a lot of these conditions can improve once we end up having some sugar control. So then I'm able to get them and direct them to a diabetes specialist so that they can get the help that they need.

That's great. Thank you for that. You know, it's always interesting, right, when a colleague has a specialty area like you do with urogynecology, you're seeing people for those kinds of concerns.

Sometimes you're the first person to diagnose the fact that they have type 2 diabetes or pre-diabetes. Yeah. Definitely. And it was interesting because I looked at some of the statistics, too.

And in fact, let's just talk about sexual dysfunction. Both men and women, diabetics have a 3 to 3.5% increased risk of having sexual dysfunction because of the diabetes.

And then this may present as erectile dysfunction in women. They get their present. And I specialize in women. So I get to go a little bit deeper into that. But 79% of diabetic women will have a sexual dysfunction at some point in their lives, and that's pretty high.

So 82% of men will have a sexual dysfunction who are diabetic. And so with women, we see that as diabetic, that 50% of those dysfunction is present in low desire, 47% present as arousal dysfunctions, 50% vaginal dryness, and 42% having difficulty with orgasm.

And these definitely are topics that people get very embarrassed about. They just think, oh, this is a normal part of aging, so I'm going to just ignore it.

And they're like, This is just the way things are, and I'm going to just deal with it when in fact there's tons of different therapies on the market that can be done for this.

And just the fact of getting sugar under control can help improve these symptoms. So now. Absolutely, all of these things are so important. And thank you for calling out that list explicitly.

I've always felt as someone who focuses on, you know, diabetes and heart issues and sleep, things like that, but particularly with blood sugar that we rarely, if ever, hear that some of these things that go on with sexual arousal and performance issues, pleasure and satisfaction, they're not talked about in terms of blood sugar regulation.

I think the general public needs a lot more information, factual information about what causes what, so to speak. So let's continue to connect these that because, you know, of course, is we're here together.

We want to be sure to just make sure that people understand. I hope folks are taking notes and kindly please anyone listening to these sessions, particularly this episode, share it with other people that you know, want to know more about their health.

We are uncovering some not obvious stuff here and trying to make it so it's more accessible to the general public. You know, and then with this, it comes kind of chicken and egg because like you mentioned, the cardiovascular disease being so closely related to diabetes.

But it's that cardiovascular effect that that a lot of times they have difficulty in the diabetes with their blood flow. Well, this is one of the areas that we start seeing sexual dysfunction.

So a man with erectile dysfunction, that's a blood flow problem. So if the blood vessels, especially the tiny little itty bitty blood vessels, are not functioning properly because sugar has known cause inflammation and the

inflammation has now caused small vessel disease.

## Sexual Dysfunction and Blood Flow

Now this can show up as erectile dysfunction in men and then women, we get the same problem where vaginal lubrication. A lot of people think it's like a mucus.

Well, it's actually a blood product. It's actually a fluid that is coming from high blood pressure. And I shouldn't say high blood pressure. I'll get it mixed up.

But pressure in the pelvis from blood flow and then it kind of is like almost a condensation. It kind of the seepage of the blood products through the vaginal was that makes that lubrication.

And so if the blood flow is not good because diabetes is affecting those small blood vessels, this is now where women will end up having problems with dryness and decreasing lubrication and we'll start seeing sexual dysfunction.

So a lot of times same thing with both men and women. Not always is an early sign of diabetes. Back in the early side, early sign of heart disease too.

So and then we can combine the two of them. We get them immediately off to a cardiovascular doctor and their diabetic specialist. So absolutely, though, the interplay of these problems, sometimes it's like this overlapping set of circles, you know, when Venn diagram kind of thing, people can feel overwhelmed when this happens.

So when I'm hearing you say, just to recap, is that if someone shows up who has repeated urinary tract infections, chronic vaginal infections, they feel itchy.

Let's say, in their pelvic floor, in their vaginal area, the pubic area in general, it's a possibility that they also might have pre-diabetes with type 2 diabetes and they need to be evaluated that.

Commonly, especially with with both, let's say, men and women. Then we talk about the jacket and women. We talk about Candida, our vaginal infections.

These are very incredibly common amongst diabetics because Candida, which is a yeast, loves sugar. So if somebody's sugar is really, really high now we're starting that's going to feed the yeast and we're going to get yeast overgrowth.

Now, normally we have yeast on our skin and we have it in the gut. But actually I will tell you that the normal population tends to have about a 14% colonization of yeast on their body that doesn't affect them, doesn't cause any kind of infections where diabetics have up to a 40% increased risk of colonization of Candida.

So that means their their yeast levels are much, much higher. And we see this in the gut. We see this now anything in the gut can then get to the vagina.

Then get to the groin. And so very commonly, I will say people who have had not just a yeast infection because that's come and gone antibiotics and we kill off the good bacteria that fights the yeast.

And next thing you know you've got itching, burning and a discharge. But the problem that we see with diabetics in particular is that they get a yeast infection.

They take all the medicines for it, they get better. And now within a week or two, the symptoms are back. And so we're now going like, okay, well, here's some more medicine and then where do you know they get better?

And then within a week or two it's back. So it's that pattern of it's getting better. But coming back any better. Coming back tells me that either we're not completely getting rid of the yeast or getting it down to a manageable

level or the sugar levels are now so high that we're constantly feeding that yeast and the yeast is just partying and going crazy and and just multiplying it.

Interesting enough, I see the same this is where we kind of connected even with diabetes. I see the same pattern in women around the holidays that are not diabetic around holidays like Halloween or Valentine's Day, where people tend to overeat sweets.

So even just the fact of overeating sweets, you could almost create this kind of transient diabetic situation where you may not be clinically diabetic, but if you're overeating sweets that you're maybe raising those blood sugar levels and in your body starting to react like it would is if your blood sugar wasn't raised over time, as in diabetes.

So exactly. Now explaining that, I'm sure that now people are connecting the dots going aha. Or I wondered or I never knew that. Right. Like wherever they might be on that spectrum of, you know, recognition.

So now as we're thinking about this, what are the specific challenges that are faced by individuals who have diabetes regarding bladder and bowel control in relation to pelvic health?

Yeah. So now we get into some more complicated things where, you know, think about your bladder, bowel control until you have a problem and then all of a sudden it's like, Oh no, what is going on?

Because you think, you know, a lot of people, this is, can be even more embarrassing cause people think like, Oh, now I'm starting to wear pads or diapers and B, not being able to hold in the urine or holding the stool can be socially very awkward, but it's very, very common.

## Bladder, Bowel, and Incontinence Issues

In fact, as we age, just naturally our risk of incontinence, it's like leakage, incontinence, leakage. So it's leakage of either urine or leakage of bowel contents increases as we age.

In fact, there are more people walking around at any given point in their seventies than that have it what's called an overactive bladder where they have to run to get to the bathroom because they can't hold it in.

There's more people at any given time walking around with that in their seventies than has a common cold. But then we throw yeah, then we throw diabetes at that and the statistics are anywhere from a 2013 to 20% increased risk for diabetics over the population.

Would you look at those numbers? Don't sound that bad. But then when we look at them specifically, 40% of diabetic women will have bladder control issues.

And there was a paper that actually looked at that and they looked at the patients that did have these bladder control issues, which could be like urgency, frequency, we kind of termed it the got to go, got to go.

It's like all of a sudden you're fine and next thing you know, you're like, where's the nearest bathroom? And you're going crazy trying to find it or, you know, like leaking when you cough laughs knees.

So those, those are kind of different types of urinary incontinence or, you know, urine leaking. But the study that looked at the number of cases that happened, especially in women, they looked at the ones women got their sugars under control.

They had up to a 50% improvement in their leakage episodes. So now there's tons of different medications and treatments and therapies for everybody across the board.

But just focusing on is the great work that you're doing is that if we can get sugar under control, we could be making this so much better to live with.

First of all, pads and diapers are very expensive and that, you know, and if you're wearing a pad or a diaper all day now, that's moisture and yeast likes moist environments.

Now we're increasing our yeast risk. So, you know, all together, if we can get all those risks down, that and this is going to be a better situation for everyone.

So well said. Thank you for pointing all those things out. Absolutely. So with this in mind, I know people are going to be on your head going, oh, wow, okay.

Right. Making all the connections you've touched on this. In fact, we have a few things more we're going to follow up on is you've opened up this wonderful area of discussion, right?

So when we're talking about sexual dysfunction, specifically for diabetes, how does it contribute and what strategies treatments are available to address these issues?

Because I'm sure people are like, okay, now that I see it's connected, what do we do about it? Yeah, So, I mean, the biggest thing is, once again, going back to the root cause is getting those sugars under control as much as possible.

Seeing a cardiologist to get like the cardiovascular disease and control, and then we start getting into some fun things. So sometimes it's just like, well, we need to increase blood flow to the pelvis.

And a lot of people heard of Viagra. We see the commercials with the little blue pill. The interesting thing is those medications can also be used in women.

Sometimes women get very upset because they're like, it's not fair. Men have their pill. We want our pill. But and I will just call it as it is, you know, women specifically say to me, it's not fair. We want a horny pal.

And I'm like, you know what? Viagra is not a horny pal. It's a blood flow pill that all it does is you take the medication and if you're mentally stimulated, because honestly, our brains are our most important sex organ.

If the brain is not stimulated, nothing else is going to follow. So the brain stimulation just triggers the blood flow in the pelvis to start flowing.

And with diabetics, you know, that flow may be a little bit sluggish. You're not getting where it's supposed to be. So doing something like a Viagra may help.

Using natural supplements like L-Arginine works very similar to Viagra, but with those we are both of those medications or supplements. You have to watch out if you make sure you check with your health practitioner to make sure they're safe for you to take because there are some medications that will interact with them.

And then we get into some of the other technologies, such as like sound wave therapy, which is really fascinating, is they use sound waves to actually they apply a little device.

It's almost like an ultrasound wand to the male genitalia or female genitalia. And it sends out these little bursts of sound and it's called acoustic wave therapy.

And those little bursts of sound will break up plaques in the blood vessels. So years ago, this therapy was used to break up kidney stones and people would have to get into those baths and they would shoot sound waves at them and it would break their kidney stones up.

But they figured out a way to use the same therapy on a much lesser strength to apply it to the genitalia, to break up the blood vessels in the penis, in the vagina and the vulva, to actually help improve blood flow.

So that is something that's been really interesting or even using something like PRP, which is platelet rich plasma.

So that's actually taking your own blood and using the growth factors in your own blood and kind of extracting those out.

The platelet rich plasma, not the whole blood, but like where the growth factors are and then actually injecting it into the genitalia and it will stimulate the growth of new blood vessels, vessels so it helps with healing and helps develop new blood vessels.

So this is actually really pretty fascinating when it comes to regenerative therapies. And then even for women, we have a bunch of other regenerative therapies when it comes to the thinning of the tissue.

That naturally happens with age, but tends to get even worse when you're diabetic is using lasers, which is just light energy.

## Treatment Options and Regenerative Therapies

And the light energy will penetrate the tissue and it actually will trigger the body to heal itself. And as the body's healing, it triggers, it's actually kind of tricking almost like biohacker, making the tissue into regrowing.

So using lasers. And then they realize, well, lasers work. Let's try some more sound waves. So they tried sound waves. Did that generate heat to do the same thing?

So, you know, the nice thing is this is kind of snowballing because we only started with one of these regenerative therapies in 2014 and as time is going on, it's just the technology is getting better and better.

So there are so many options. So some of these things are covered by insurance. Some of them are not. But the the great thing is that you don't have to just sit back and be like, all this is just a normal part of aging or this is just, you know, is the what it's like to have diabetes because there are answers and, you know, life is too short to be miserable, not live your life, you know, and you're full.

You know, you're full and, you know, power. So you might as well, you know, do whatever you can to deliver full and happy life. So absolutely, pleasure is part of life.

And so it really good and so encouraging to know that people with diabetes have options to improve and restore sexual function and pleasure because it is a part of life.

And I think that this is one of those things that's kind of on the cut. It's really quiet. You don't hear people talk about this a lot, but you know that this suffering is going on and it's not necessary.

So again, I have taken notes making lists. Right. You have options these days, safe, proven therapies that can make the difference and help to correct some of the local problems while you work on the bigger systemic whole person issues of, you know, poor blood sugar control and glycemic problems.

Okay. So with that in mind, Dr. Greenleaf, let's look at this next thing. You've also talked on the topic of circulation and circulatory flow, right? How the blood moves, how it's compromised with diabetes.

So can you elaborate on the role of circulation problems in diabetes, how they affect pelvic health, particularly in terms of wound healing and infections?

Yeah. So I mean, that's the thing is that our blood is bringing nutrients in to all of our tissue. And if our blood flow can't get to an area because now we have constricted blood vessels, wounds just are not going to heal the way they should.

So so any time that there is a wound and especially when the sugar is up and we know that when when sugars are high, this is now an inflammatory reaction that this will prevent not only the blood flow from getting and bringing these growth factors to where they need to be to stimulate healing.

But if the sugar is high, it's going to feed bad bacteria and yeast that can add to infection. You know, it's it's interesting cause I remember when I did one of my rotations as a medical student, and it was at ophthalmology, so was I was eyes.

And I remember we were like there were these little you know, when you go to the eye doctor, they look in your eye with a little machine and they can look and see the back of your eyes.

And which was really fascinating, is in diabetics will see something called the column skip lesions, where the really micro vessels of the eye you'll see like like a little red line, which is your blood vessel.

And then it'll be a space and then I'll be another like red line, a space, almost like a dash line, almost like, like Morse code almost, because they get these little areas of where the blood flow gets constricted.

And so I was trained. Well, that's one of the ways to diagnose diabetes in the back of the eye. And now fast forward as a Euro gynecologist, we look inside people's bladders all the time.

And I remember one of the times I'm looking into someone's bladder and they were diabetic and I'm going, wait a minute, this bladder looks exactly like what I remember seeing when we were looking in people's eyes and they can actually develop the same kind of skip lesions in the bladder that we see in the eye from poor blood flow.

And how that affects it is that maybe the bladder doesn't regenerate as well as it should. It doesn't heal as well as it should. So bladder infections take longer to overcome.

This is adding to areas of irritation because the bladder doesn't heal properly. It has a nice protective layer on it that keeps the irritation from the urine off that bladder.

But if now you're getting areas where maybe they're getting kind of like microscopic ulcers or microscopic cuts, it's almost along the theory of if you had a paper cut and I poured saltwater on it, you'd be like, Oh, I'm irritated where, you know.

So now this urine is now getting into almost these like paper cut like areas of the bladder. And we can see diabetics with bladder irritation and bladder pain syndromes.

And this can be one of the factors that may be adding to like overactive bladder or even spasm of the bladder. So, yeah. That's important to know because when people have these kinds of problems, often it's not clear in advance that there are good answers available or even a way to recognize it.

Right. And I would imagine internally what the person is feeling very uncomfortable, maybe some jarring stabbing, shooting kinds of pains coming from a person or exercises that someone can do that help people, right.

Who have diabetes to manage their pelvic floor muscle and avoid dysfunction or recuperate from dysfunction. If that's the case of the Met of the muscles of the pelvic floor and related issues such as something you talked about earlier, which was urinary incontinence or pelvic pain.

Yeah. And that's, you know, bringing up muscles. I mean, our general population, we start losing 8% of our muscle mass for every decade that we live. So we're naturally without exercise in becoming weak.

But then you add the complication of diabetes and blood flow issues onto that, and that's going to that number is going to go higher. So people often don't think about exercising their pelvic floor, but men and women, their pelvic floor is just basically muscles holding everything in place.

And so you don't think about it until all of a sudden now you're having control issues and now having problems holding in urine or holding in stool. But I like to remind people, like, start doing your kegel exercises right away.

Keep those muscles strong.

## Pelvic Floor Strength and Prolapse Prevention

And, you know, if if it's been a while and you already experienced those issues, you can always strengthen those muscles. You know, if it's not just goals, it might just be sitting in a sitting in a chair and taking a a ball and putting it between your knees and squeezing your knees together or rolling up a towel.

And that squeezing the knees together can actually trigger the pelvic floor. Or nowadays you can find pelvic physical therapist almost everywhere in it.

Sometimes that is a great place to start because they can get you to the point where the muscles are strong enough that you can do the exercises on your own.

And once we strengthen those muscles and helps us hold it urine and urine, gas and stool in easier because those are the muscles that we use to hold those those areas.

So building those muscles up and even especially women, if those muscles are weak, we can actually start getting a drooping of the organs. So in women you can get what's called a prolapse.

That's where the, you know, bladder starts to droop or the uterus starts to droop or the rectum starts to droop. And most women don't know what's happening.

All of a sudden, they might just one day like look or feel a bulge down there. And that often women's first thought is, what is this bulge? Do I have cancer?

And I will tell you, most likely it is a prolapse. Since 50 to 80% of the population can experience. Prolapse is at some point in their their life, depending on the studies that we're looking at.

So still me you don't just start doing your exercises, ignore it. Get to like a gynecologist, your urologist or your gynecologist and make sure that's exactly what it is.

But we can even wear strengthens muscles. We can actually reverse some of that support problem in the pelvis. And then, you know, and I know I get focused on the pelvis because that's my specialty.

But our pelvis can be our keystone to our body. And then if our pelvic muscles are weak, this can add to issues with balance because of our hips, our legs are coming into our hips and then our hips are in our pelvis are kind of supporting our spine and especially with diabetics not starting to lose.

You know, if you get to the point with diabetes where you start to lose nerve function and maybe, you know, feeling in the feet especially is not so good, that can affect balance.

And then if you add these weakened muscles on top, it can affect balance. So strengthening your pelvic floor is going to help you with your balance and and therefore be something else to help protect you from falls.

So it makes sense for pointing that out. Man, these things are all connected. You know, this is so far to interview, right? One thing leads to another, you improve this area and all these other things get better.

You know. It is really amazing how the body works. So now it is it is so many reasons for self care and making this the focus with clarity about what's going to make the difference that you can live long and live well and not suffer as you get older because, you know. Tell me, Dr. Greenleaf, what's your thoughts on this?

Do you feel like a lot of people are kind of set up to just think I'm getting older and just accept things? Do they don't have to just accept. You know, I think it's starting to change, but I still see for the most part, that's unfortunately what people think.

And, you know, and I fortunately think that's a little bit of the traditional Western medicine because we've either did

a study recently and it said the average doctor has 15 minutes to spend with their patient where the average patient comes to them with about seven concerns.

So you think about it like you, your main concern is going to be address, but all those other ones, you drive less and less time. So I think when it comes to education, unfortunately, because of the constraints that are placed on doctors in the traditional system, they're not able to get the education that they need.

But people like you doing amazing summits like this are now helping to spread more information. I think patients are now starting to go, wait a minute, I don't need to just go to my doctor and, you know, try to rush through and get the information.

There's other sources like the amazing Dr. Beverly Yates, and other summits and online sources and different programs and courses. And so I think that people are starting to take their health into their own hands, which is wonderful.

So thank you so much for your kind words.

## Advocacy, Hope, and Closing Advice

And I'm always an advocate of people being responsible for their own health and taking charge and getting great information and making sure whoever they working with is qualified to help them.

And then, you know, figuring out what really works for them, because one size fits all doesn't work for anything. It doesn't work for health. It doesn't work for clothes.

Exactly. Exactly. I hear you. I don't agree with that. Okay. So as we wrap up our session, Dr. Greenleaf, you know, you have uncovered so many gems here.

I just am thrilled this is a great interview. Is there any one thing you'd like people to remember before we wrap this episode? You know, I just like, I really want people to realize that that there are so many options.

And just because it's something that's common doesn't mean that you have to live with it. There are options, and if you're not getting the answers that you want from your doctor, guess what?

There's no reason that you don't. You can't just go and find another one. So find one that works with you that you feel like you can talk to. You know, unfortunately, especially I've seen this even amongst my parents, they're like, Well, I don't want to hurt the doctors feeling forget about the doctors feelings.

Feeling What about your feelings? Go find the person that's going to listen to you and you feel comfortable with the person you think you're getting the answers from.

So and sometimes it takes more than one set of eyes to come to, you know, a solution. So the more, the merrier. Make it a party. Exactly right. Exactly right.

Sometimes you do need more than one set of eyes. 111 more than one heart or brain on a problem. You can put the whole thing together. And also to his people.

He'll tell me what your thoughts are about this. Have you noticed that sometimes people are in different phases of their problem and so it presents a little differently, right?

Like everybody gets to see a little different part of the puzzle. Exactly. No, I totally agree with that. And also just, you know, I've also seen patients that have come to me and they're in their eighties and they're like, well, you know what?

I've been like this for how many years? There's nothing I can do now. There's always something you can do, you

know. You know, honestly, can we reverse you to the way you were before you had diabetes?

Probably not, but we can get you pretty darn close. So at any age, it doesn't mean you got to give up and throw in the towel. There's always something you can do to make the situation better.

So yeah. And especially with all the new technologies and things that are coming out, there's always something. So never stop searching for answers. That's a great no doubt, folks.

Always stay hopeful. Make sure you hold the people around. You are supposed to help you accountable. Dr. Greenleaf is making it really clear there's always something you can do to make the situation better.

All right, Great. Thank you so much. It's a fantastic episode. Friends, As I said before, please share this summit with other people that you know who are looking for to have better health, who want great information and who are looking for options and ideas.

They can find inspiration in all the wonderful episodes from all of our speakers. Thank you so much for this episode.