# Diabetes & BP: Managing Dual Dangers Transcript

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## Introduction and diabetes-hypertension link

Well, welcome back. And today we have a conversation with a dear friend. And we are going to dove all in around diabetes and other metabolic diseases.

But how are you today, Dr. Sol Patel? Doing well. Doing well or tomorrow's. Thank you for having me on this summit and share my views. Absolutely. I just wanted to say to Homer, like, no, any doubt Patel should like or give back to this summit the way we should introduce.

So but anyway, because every time I've ever had a conversation with you, I feel I walk away with like a little bit of an encyclopedia of knowledge. So because you're just so easy for you to just pull things out and understand.

So I'd really like to get started with just the basic question of how do hypertension and diabetes, you know, relate to each other? Is there any underlying physiologic connection between the two?

Because it seems they seem to travel in pairs. There is actually so a very common pathophysiological link between the two. Is something called insulin resistance.

So if you think about it, insulin resistance is the initial process that can lead to high blood pressure. But if insulin resistance is not strategically identified and addressed as the root cause, the treatment for high blood pressure many times can also lead to higher sugars.

That's one aspect. But not addressing the insulin resistance eventually can also lead you to manifestation of pre-diabetes and then type two diabetes and so let me unpack that a little bit.

So let's start with insulin resistance. So in simple words, your body not responding to insulin like it normally should is insulin resistance. So what it is, is insulin is a hormone that is produced by an organ called the pancreas.

We have a very powerful level in the abdomen called the pancreas, which produces a bunch of different hormones and enzymes, which plays a role in our normal health and maintenance.

So insulin is many people may know insulin is something that deals with carbohydrate metabolism, but more importantly, insulin is a anabolic hormone, meaning we need insulin to be able to convert the food into the body composition.

## How insulin resistance develops

And so in that same aspect, insulin is required for metabolism of not only carbohydrates but also for fat and protein metabolism. So essentially, if your body doesn't produce insulin, which would happen in the case of someone with type one diabetes, and if you don't get insulin, you go into a state of acidosis called ketoacidosis, diabetic ketoacidosis.

Then if that is not addressed with insulin and other treatments, that has a very high rate of fatality and risk of dying because your body cannot maintain its normal functioning without insulin.

So insulin is that important. But when your body ends up in a state where it's producing more and more insulin, but it is not working, what it should be doing that leads to insulin resistance.

So let me bring it down further breakdown further. So imagine a deposition of fat in cells that are not designed to store fat. We have a special type of tissue in our body called adipose tissue that is designed to store fat.

But when you start seeing deposition of fat into cells and tissues that are not designed to store fat, the insulin receptor that sits on the surface of those cells starts not working properly.

So when there is a buildup of fat in your liver cells, which is a very important organ for metabolizing food and also detoxifying occasion insulin receptor that sits on the surface of the cell doesn't respond to insulin like it normally should.

So insulin binds to the surface of the receptor on the top of the cell. But all the chemical reactions that should happen inside this does not happen because essentially what the cells, the receptor is signaling is there is enough energy stored in form of the fat inside the cell.

So there is no need for the insulin to do what it's supposed to do. So one of the key functions of insulin is to allow glucose, the sugar, to enter into the cell and to be utilized for energy generation by a very powerful system called the mitochondria inside yourself.

So think of mitochondria as your powerhouse of the cell, and the fuel for that powerhouse is the glucose. But the glucose entry is regulated by insulin.

And so if the insulin receptor doesn't function because it is getting signals of increased energy stores in the cell because of that higher fat deposition, it doesn't allow the glucose to come in.

So glucose stays high outside in the bloodstream, which is recognized by your pancreas. The pancreas produces more insulin in response to that, initially with more insulin that receptor responds and it starts allowing the glucose to come in.

But again, the same process happens as we are having higher storage of fat in the cell and that glucose keeps getting converted into fat because the energy stores of the cell are higher.

So the cell machinery is perceiving lack of need for energy expenditure. So it just keeps converting the fat sorry, the glucose into the fat. So you keep worsening the fat deposition.

The insulin receptor keeps getting more and more resistant to the effect of insulin. And now you reach a stage where your body is producing the maximum amount of insulin that it can produce.

So we are we are at capacity, but we are still not getting the effect that should be happening inside the cell. And we are talking about the liver. Now, the liver is important because 50% of insulin that your body produces is taken up by the liver, 30% or so is taken up by the muscle cells throughout the body.

And then remaining tissues require the rest of insulin. But because of this increase fat build up in the liver cells, it reaches a point where the liver says, okay, I cannot keep things to myself anymore.

I need to share the misery, so to speak. So the liver starts releasing fat molecules into the bloodstream in form of something called triglycerides, and those triglycerides travel through the bloodstream and start depositing into other cell lines.

So now you have a fat buildup happening in your muscle cells and the muscle cells, which are the second most common place for the insulin to work bigger because of buildup of the fat and then don't respond to insulin like they normally should.

So now you go from liver insulin resistance to muscle insulin resistance. The third place where this Fed also starts ending up is inside the beta cells that produce insulin inside the pancreas.

So you have two sides, the liver and the muscle, various buildup of fat and they are not responding to insulin and the sugar stays out high in the bloodstream.

And on the second side, you have the beta cells of the pancreas that are the only cells that can produce insulin. Also start building fat inside them.

Really you need studies done by Dr. Roy Taylor in UK have shown that when there is build up of two grams of fat in the beta cells in the pancreas, the beta cells ability to produce insulin goes down.

And if you lose that two grams of fat in the beta cells of the pancreas, the ability of insulin production can come back up. So you have a double whammy going on.

It's called the double hypothesis of insulin resistance. So on one end, your liver muscle is not responding like it normally should. And on the other hand, your pancreas ability to produce insulin is also going down.

So and this is a process that I described, this process is not something that happens really in a short window. This is something that builds up over years and decades.

So identifying insulin resistance early on can help us prevent the buildup of diseases which can start from hypertension and then go into high cholesterol and then prediabetes and type two diabetes.

We can essentially avoid the whole gamut of those metabolic pathways. Well, again, I would we could have done an entire college lecture on just what you mentioned.

There's so much here. So with the Ensign resistance being kind of more of the root cause, are there other things that would be also we should look at that can cause hypertension that maybe is less looked at?

Yes. So uric acid, which is a metabolite of DNA break down in the body, high uric acid levels can also lead to hypertension. So when anybody is having issues with high blood pressure, their workup should also include checking their serum uric acid levels.

## Uric acid, fructose, and blood pressure

Now, many times you may not have uric acid levels that are high enough to cause something called gout, where you have these inflamed joints like your big two or your knee joint gets really big and inflamed and painful because of the uric acid getting crystallized inside the joints, because that happens when it's very high.

But when your uric acid levels are running borderline high but not high enough to cause gout attacks, if you don't check for that, you're not going to identify that.

Then that's another last opportunity of addressing the root cause. Something I mentioned briefly earlier in my explanation of insulin resistance is when you're diagnosed with high blood pressure, many times you're put on water pills as we commonly call it, or more specifically hydrochlorothiazide or your tablet on those type of medications.

They make you be watered out, helps you lower your blood pressure. But also a very strong side effect of those medications is that can raise your uric acid levels and it can also raise your blood sugar levels and cholesterol levels.

So if you, again, don't address the root cause of insulin resistance, which is why you may be having high blood pressure or high uric acid levels, which may be leading to that.

You may end up with more issues which may then be diagnosed as high cholesterol or pre-diabetes and need more medications. But you still keep getting worse and worse.

So going back to the Utica said high fructose corn sirup, which is so predominant in processed foods as a sugar alternative, but it is equally bad as refined sugar, high fructose corn sirup inside the body, very unfortunately gets broken down into high uric acid.

So if you're consuming a lot of processed foods which have high fructose corn sirup or you're consuming a lot of fruit juices, so those have fructose.

But again, refined form you're getting the fructose without the fiber from the fruit. So eating fruits is healthy in their natural form, in dead form.

But if you get it in there in a fruit juice form, even if you're freshly squeezed yourself, not the packaged stuff from the store, but it doesn't have any fiber left.

That fructose concentrated in the form of fructose, can turn into uric acid pathway and also lead to high blood pressure. So understanding and recognizing that uric acid also plays a very key role in know checking for that would be important.

I think that's a really amazing tidbit for people. I'll be adding that to my list of things to be looking for. Well, okay. So I guess the one thing since we kind of talked about the uric acid and the and the resistance and we're talking about, you know, the root cause, how do you counsel patients to begin, you know, fighting this and reversing it?

So what is your your message there? So the first step is to identify and for identifying that state of red of whether you're insulin resistant or not is to check a few labs.

And those are not they're very widely available now. They can be checked across the globe. There was a time where these labs were considered special labs, but now it's really accessible.

So checking a basic chemistry panel where you have your glucose, your sodium, potassium, your kidney function in form of creatine, and you have your panel of liver enzymes and liver function and then checking for fasting insulin level along with that.

So once you have your fasting glucose and your fasting and when I say fasting, it means at least 10 hours of fasting, preferably 12, but at least 10 hours of fasting overnight.

And so if you have your fasting glucose, then you have your fasting insulin. There is a calculator called Homa Iyer. So it's a calculator.

## How to detect insulin resistance early

It's a equation that, again, you can Google it, you can easily plug in the insulin and the glucose values in it, and it will give you a spot out the number.

And if the if that value is less than two, your not insulin resistance, but if the value is higher than two, then you're definitely insulin resistance.

That's number one. And number two also tracking this fasting insulin level. So even if you don't do the calculation of the whole Maya, you can gorge the level of insulin resistance just from the fasting insulin.

So ideal fasting insulin should be less than five and now I think I should specify what's the unit? I believe the unit is micro unit pyramidal. And Dr.

Ma, you can probably verify that, but because you know, different countries may have different unit systems, so in the unit system that we use in unit us, it should be less than five and the fasting glucose should be in the seven PS to eight.

This is your fasting glucose starts going into the nineties and low hundreds and your insulin level starts going into ten, 15, 20, 30, 40 range. You know, you're getting into the insulin resistant territory.

Let me give an example. Many times, you know, I check this routinely, so I'll see all the time where someone has a

fasting glucose of 95. So it's less than 100.

It's not technically it's, you know, normal, but it's getting closer to the 100 mark. And there fasting insulin would be 15 or 20 or 25. If you don't check the insulin and you only look at the glucose, oh, it's 95, it's less than 100 looks.

Okay. And you check that hemoglobin agency, which is a three month sugar average number and that agency is 5.4. So on face value, you would think, okay, that's normal, things are fine, but you're really missing out on the building insulin resistance because ideally the optimal agency should be closer to five.

So 5.4 means it's starting to creep up towards the high normal range. Your glucose is also creeping up in the midnight and if you did not check that insulin, which would be 15, 20, 25, you would completely miss the building insulin resistance and that would be a lost opportunity.

So the first and important step is to identify insulin resistance early on. So then you can start working on making corrective steps and prevent things from happening.

One of the other things so this is the lab aspect of early detection. Another thing that is a very tells science that anybody can see and pick up but is not fully recognized is I can ptosis second doses is where the skin tends to grow because again, like I said, insulin is anabolic hormone.

So when the insulin level runs high, it stimulates growth of many tissues in your body. And this gives your skin cells and it also stimulates something called the melanocytes, which are the cells that create the pigmentation in our skin, to also have more melanin.

So you have thicker skin patches and also darkening of the skin. So you will see elbows getting darker, you will see back of the neck getting darker. But something that's very specific for the Hispanic population and also the population from the Indian subcontinent is blackening of the side of the face.

The temple area, you will see blackening of that area or blackening on the forehead. And that is something that anybody can pick up just by looking. But I can tell you how many times no one has even recognize that until I'm seeing the person and I can say that they're insulin resistance.

And obviously when we check the lab that insulin level comes back to be 20, 30, 40, 50, very high. So these physical signs in the lab, those are two key things to pick up early on because it takes many years for things to progress.

And if we can identify this, we can really hope. Wow. Yeah, absolutely. So the units were MCU per mil AML. Yeah. So Micro Micro International unit. Yeah, yeah.

Absolutely. So now that you've discovered someone, let's say that has insulin resistance or you know, and they're like, okay doc, now what do I do? What do you recommend and how do they get started?

So for things that play a key role in our whole health, but specifically insulin resistance, nutrition, your sleep quality, stress management of day to day stressors, you know, the chronic maladaptive stress, not the, you know, the good type of stress.

And then we we need things to do in life. So that keeps us going. Good. Then when we feel that we are under the water all the time, that's the chronic, chronic stress I'm talking about.

And then activity and I'm seeing activity because you could do things for 5 minutes, 10 minutes that can still give you a big impact without having to spend half an hour, an hour in the gym.

So nutrition, sleep, stress management and activity of those four things can very quickly change your body's insulin resistance, make it worse or make it better, depending on what you're doing with those four things.

Perfect. And what type of diet do you recommend? So, you know, again, there is so much information out there, there is a lot of confusion. And in some experts is this other experts say this.

And that is it's quite challenging for people to pick up and tease out what's good and what's not good.

## Nutrition, meal timing, and sleep

But if you look at all the different types of evidence, so there are five different types of evidence is you have, you know, epidemiological studies. You have studies done in terms of, you know, bench reducers like lab research.

You have randomized controlled trials, you have meta analysis and systematic reviews of a bunch of different studies put together. And then you have population studies which looks at how much, you know, what's the impact of different behaviors in different populations over years and decades.

So when you look at all those five different types of evidence, it's the common theme that comes out is the plan predominant way of eating? And what I mean by that is focusing on whole intact plant foods is 90, 95% of your food.

You could go all the way 100%. If that's what works for you, it is completely sustainable. But if you feel now it's not fully sustainable for you to be 100% whole for plant based, you could still eat 90%, 95% whole plant foods And you could still get a huge impact because the key thing that we need to lower insulin resistance is to also the mechanisms.

Mechanism of how that works inside of the body is to eat foods high in fiber and nutrients, nutrients meaning vitamins, minerals, phytonutrients. And when you eat foods like vegetables, beans, lentils, whole grains and fresh fruits, fresh seasonal foods, not juices.

Like we mentioned earlier, you get the fiber, you get the minerals and vitamins and all the nutrients you need. And that allows your body to slowly break down the glucose and the sugars and get a steady supply of that into the bloodstream, which it requires very minimal amount of insulin for the body to break it down and metabolize and do what it needs to do.

So you you still produce insulin that you're, you know, in the body, but you're allowing the body to channel that insulin production in a very steady manner.

So the example that I give is imagine you're working at a at a bank, let's say, and the teller is addressing the clients. One by one, and they're standing in a line that's a there five people in the line and the teller is able to address them one by one.

But imagine if 50 people show up at the bank at the same time and they're trying to come at the teller from all sides. The teller is obviously going to be overwhelmed.

Right. So same thing. We if the glucose is being broken down and coming to the liver in a steady fashion, the liver can very easily handle it. But if it gets bombarded with all that in one go, so when you consume ultra processed foods or you eat foods which are very high in fat, and you combine that with something high sugar, you get a double whammy.

You get the high fat in the high sugar all at once, and your liver gets easy oil. And so when you eat foods high in fiber and nutrients, you're able to feel full.

You are able to get a very steady release of the nutrients breaking down that the liver can easily handle it without getting over. The second part to the food aspect, which is very important, is to not only eat the right foods, but also you did eat them at the right time.

So what I mean by that is if you eat even the right foods, but if you eat them later at night, foods consume after 7

p.m., especially once the sun is down, is going to be more likely to be deposited as fat rather than be expended as energy.

So people do intermittent fasting and again, it's a whole different conversation by itself. But the one liner is that intermittent fasting is great, but do you want to make sure your feeding window is in the middle of the day?

You don't want to do a 16 hour fasting, an eight hour feeding window, but that eight hour feeding windows starts from 2 p.m. and goes on till 10 p.m. Your feeding window should be starting maybe at ten for noon and stop at seven or eight.

Definitely nothing past eight. So that you have 2 hours to 3 hours of no food in your in your you know, in this time before you go to sleep. So when you go to sleep at ten, 1030 and your food is completely digested, the liver can very easily go in through the detoxification cycles that it needs to do and help your body detox.

Because if you eat something late at night and go to bed right away, your liver cannot do the detoxification and it builds up toxins. So that's the importance of eating at the right time.

The second important aspect is the sleep, and I've seen it many times with my patients where if they even if they eat the best and they are very active in their day to day life, but if their sleep quality is not optimized and the they won't see the benefit, their sugar still runs high and it creates more frustration because they're putting efforts to eat right and be active and they're not seeing the results.

But the reason is because sleep is where our body restores different functions. It also helps balance the hormones. So one of the key functions of sleep is to lower insulin levels and lower cortisol levels in the first half of the sleep.

When you don't get proper sleep, your insulin and cortisol levels stay high through the sleep and your sugars run high. So coming up and I'm sure, Dr.

Margulies, you heard that with from patients. I check my sugar at night before going to bed. It's 108 and not eating anything. And I wake up, my sugar is 140 or 160.

That's because their sleep is not optimized and you're having high insulin cortisol levels through the night. Another key thing to keep in mind with sleep is the quality of the sleep and the time of onset of the sleep is more important than the quantity of the sleep.

So what I mean is if you sleep 6 hours of solid, deep sleep starting at ten, 1030 or 11 p.m. is better than sleeping. 8 hours of sleep past midnight. So quality in the time of onset meaning you're going to bed before 11 is going to be better compared to sleeping more.

But going to bed after 11 or midnight. So that's really important because you could sleep longer hours, but if you don't get the right quality and the right time window of sleep, you will not see the metabolic benefit you're looking for.

Size, I think. Yeah. So exercise. I said activity rather than exercise because let's say you have a very busy schedule, you can spend 30 minutes to go to the gym, start with doing 5 minutes of brisk walking after your dinner.

That 5 minutes of brisk walking next week can become 10 minutes of brisk walking, and then next week, 15 minutes of brisk walking. Eventually by five, six weeks, you can get to maybe 25, 30 minutes of brisk walking after dinner.

What it will do is help your muscles more, so get more sensitized to insulin so you're able to metabolize the food better and to you will have better sleep at night.

And that could be an activity that you can sustain on a daily basis. Another thing that I would also suggest is, rather than some people tend to say, I go for a walk for an hour in the morning or 45 minutes in the morning.

That's great. You get fresh sunlight, which is good for your circadian rhythm. It's important to get sunlight exposure in the morning. But if you are scrunch for time and you're trying to maximize the impact of exercise activity, if you break that 45 minutes or an hour, 10 to 15, 20, 30 minute blocks of activity after lunch and after supper, you will get better effect in helping lower your sugars and improve your insulin resistance.

So if you have the ability to do a workout, whether it's some kind of sports you like to play or going to the gym and doing aerobic and weight combination, you know, not just doing aerobic or not just doing weights, but a combination.

Go for it. But if you don't have the capacity to do that, start with five, 10 minutes of brisk walking or biking.

## Activity and practical exercise habits

Another thing I always suggest is let's say the weather is bad or it's too hot outside or it's too cold or draining. Whatever the situation is, get a stationary bike and put it in your living room.

So your you finish your dinner and you sitting down watching some TV shows, get on your bike and watch TV and do 15, 20 minutes of stationary bike. So you get the entertainment and the exercise all in one, and you can do it all the years of your in all days of the year without any external weather factors hindering you from that.

And so simple steps, but things that can add to your health and lower insulin resistance. I know you like to you've had some stories that I recall about stress in patients and blood sugar and stress we know affects blood pressure.

What do you recommend for patients who are really struggling with stress that's affecting, you know, there is some resistance there, diabetes, hypertension.

What do you suggest? So the example that I would start off with a true patient, a person who had a very challenging home situation with a special needs child and was the primary caregiver for the child and was also diabetic and the patient telling me that, you know, my sugars go wild very easily.

Like if I'm stressing about something, my sugars can easily go up 100, 200 points. And this is of many years ago, actually, I had similar experiences after that because I was trying to pay attention now, but this was the first patient that I learned from.

And so we actually had checked blood sugars in the clinic. When the patient had checked in triaged, it was about one 110. And then the patient is talking about this.

And so we check the sugars again in like 10 minutes after the patient was talking about this. And the sugar had gone up 150 points, just as the person was talking about, you know, the child and all this stress and all of that.

So stress depending, again, on the person's situation, you know, if you're under very tremendous stressful situation, if your body's pumping all this stress hormones and those stress hormones are making your liver crank out more sugar.

So it's a very, you know, strong response that you can get. So how do we you know, again, depending on where we are on the spectrum of stress, maybe some more dread or very high, how do we work on step by step, you know, improving that.

So one of the simple steps that can help you is creating this routine of deep breathing pranayama, which is part of your yogic traditions. Yoga traditions is controlling your breathing.

There's again, a whole different conversation and and topic, but something very simple as deep breathing, which you do multiple times throughout the day, allows your body to break from that fight or flight cycle that you're in all the time because of whatever stressful situation you're going through and allows your parasympathetic nervous system to get stronger.

So we have this sympathetic nervous system, which is a flight or fight or flight, and then we have the parasympathetic nervous system, which is how just calm down and feel relaxed and at peace.

So when you do deep breathing multiple times throughout the day, just one minute to minute at a time. We do it as a routine. It breaks from that fight or flight response and brings in that calming response in the body.

So it helps your blood pressure, your blood sugars, everything, your heart rate to kind of stabilize. Again, there are many different ways to do deep breathing.

Something that I suggest that is very easy to do is a214 technique. So 2 seconds to breathe in, 1/2 to hold and 4 seconds to breathe out. The breathe out should be longer than the breathe.

And that's what will trigger your parasympathetic nervous system. So what I suggest is when you wake up in the morning before you get out of the bed, do a minute or two of deep breathing, middle of the morning, you're busy doing what are you doing?

## Stress management and breathing techniques

Do couple of minutes of deep breathing lunch hour do couple of minutes of deep breathing afternoon do a couple of minutes of pretty good dinner time couple of minutes of deep breathing bedtime a couple of minutes of deep breathing.

And again, there is no limit. I'm just giving a couple minutes because that's the minimum you would like to you'll have to do to see the effect. But you could do longer periods of deep breathing, if you like, or you can.

But then for repeated bouts of deep breathing is what will create that system through the day, which can help you, because when you do deep breathing, no matter what you may be thinking or doing, it will force you to get your attention back in the present moment.

So you will be you know, it's there is no choice that you when you do deep breathing, you will be forced to gather and focus on your breath and then allows you to kind of break from that cycle of whatever thoughts or situation you're going through.

And so something as simple as that can help to start something else can that can also help is keeping 528 Heard's music running in the background 528 528 heard that particular frequency again helps to go to your parasympathetic nervous system.

There's a lot of work that has been done in terms of music, special frequencies of music that can stimulate different tissues and have impact. And that's and has also been a lot of work on specific frequencies that can impact the body.

So far, two Indian herds is one such frequency that has shown to improve your parasympathetic tone. So having that in the background can also allow your body to feel more at peace, even if the world is going crazy around you, the music frequency will give a different input to the body and allow the body to feel more centered and not scattered.

Oh. Cool. And then obviously there are more advanced things like in or meditation practices, yoga, taiji, qigong, all those different systems. Again, they're all different, complete systems, but anything that appeals to you that you can do as, as a daily, weekly routine, starting off is great.

And then something else that I would suggest is, let's say you can or don't have time to do any of that just per one hour in your whole week and go for a walk in some wooded area.

Whether it's it could be as simple as your and just walk barefoot in the grass or go to a park or a state park that has trees and some water and just spend an hour there in Japan.

I think they talk about this as nature therapy. This is just 2 hours of nature therapy every week. So something as simple as that can also allow you to help address the stress.

If you do it consistently. Now, I think that all of that makes complete sense and such a simple investment in your health. But we also were speaking earlier before we started our conversation about visceral fat versus subcutaneous fat in particular ethnicities, some that are at higher risk.

So can we talk a little bit about that in what you had mentioned earlier? Because I think it's an important message that people may not be aware of. Sure.

So, you know, based on different ethnicities, the deposition of fat in the body is different. So what I mean by that is we have two types of fat. We have the fact that we find under the skin, which we call the subcutaneous fat, which is found throughout the body.

And then we have something called the visceral fat, which is the Fed that is deposited around the abdomen, around our organs, in the abdomen. The fact that is deposited around the abdomen, organs, the visceral fat is metabolically very bad and there are ethnic differences in different types of population on how much preference you have for that fat deposits.

So if you take Hispanic populations, if you take people from Indian subcontinent or even broadly Asian population, there is a preponderance to have visceral, fat deposition compared to, let's say, a Caucasian or African-American ethnicity.

You will see fat deposition throughout the body. So there will be subcutaneous fat and visceral fat deposition in a more similar manner versus the other Hispanic, Asian, Indian subcontinent populations.

You will see a preparedness for visceral fat. So you have same BMI, body mass index, a Caucasian person versus a person from Indian subcontinent. The person from Indian subcontinent has a higher risk of metabolic disease because the deposition is primarily happening around the abdomen.

And so the BMI cutoff for Asian population is actually 23 for a healthy BMI and non 25, which is a common for other populations.

## Visceral fat, ethnicity, and metabolic risk

So understanding the difference in the visceral fat deposition and being able to create a lifestyle routine where you can not that visceral fat to be deposited, because as soon as you start seeing that depositing your risk of metabolic disease like, you know, high blood pressure, high cholesterol, prediabetes, type two diabetes, heart disease, cancers, all those starts going up as that happens.

Mm. That's perfect. Right. So and then it goes back to the four things you were speaking about earlier and combating in some resistance. So. Well, this is fantastic.

Is there any final word you like to share with anyone? I think this has been very, very helpful. No, I would summarize. So the first thing, like I said, is identifying the root causes so we can address them directly and not let your health keep getting worse over time.

So identifying insulin resistance, one, the signs on the face and the skin and then lab work like we talked about. And secondly, also assessing for uric acid elevations, if you're dealing with high blood pressure and then focusing on the corrective steps of nutrition, sleep, stress management and activity.

Again, it's not about perfection.

## Final summary and key takeaways

I want everybody to understand and remember this. It's about progress over perfection. So don't get overwhelmed with perfection. It's about progress. Identify where you are.

Be very honest about what you are doing. And those four aspects of nutrition, sleep, stress management, good activity and then put your goals of where you want to go and then break down that goal maybe ten steps and then start focusing on just the first step in each of that.

And then as you achieve the first step, then go on to the second step, and that way it will be easier for you to start progressing and improving your health and not feel overwhelmed.

Because if you get overwhelmed or if you focus for perfection, you will you will not achieve the goal you're looking for. And you just keep going around in circles in your health gets affected in the process.

A perfect summary of basically you have to start your first thousand mile journey with the first first step. Small steps will make a huge impact. By the time you get to your 1000 mile destination, you're like, Wow, that was incredible. And it didn't happen overnight.

It was literally step by step. So that's fantastic. Thank you again, Dr. Patel, for spending time with us today. Thank you.