



Fort Bend County Podcasts

Podcast Episode 70 – Nicotine, Caffeine, and Your Health

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Wendy: Welcome to this week's Benefit Detective Podcast. I am your host, Wendy, and joining me today is my cohost, Brenda.

Brenda: Hi there. Today, we're talking about two things that probably part of a lot of people's daily routine, which is nicotine and caffeine.

Wendy: Whether it's coffee getting you through the first morning meeting, an energy drink during a busy afternoon, or nicotine from cigarettes, vaping, or other tobacco product, these substances can have a real effect on the body.

Brenda: And because we're talking about health, we ask Dr. Lu to join us, help us separate fact from fiction, and explain what's happening actually inside the body. So everyone, please let's welcome Dr. Lu.

Dr. Lu: Hello, everyone. Thanks for having me back again.

Wendy: Let's start with nicotine. We hear a lot about how nicotine is addictive, but what other areas of the body can nicotine affect?

Dr. Lu: Well, so nicotine is a stimulant, and so because of that, it has very wide distribution of effects. Some of the big ones and the health concerns are on the blood pressure, the heart rate. Those are kind of the main ones. Of course, we kind of like some of the stimulant effects too, but those are the ones that are more concerning that may be harmful, medically.

Brenda: Okay. When someone uses nicotine, what kind of changes they may notice in their body or nervous system, such as maybe their heart rate, alertness, or even their ability to concentrate, Dr. Lu?

Dr. Lu: Well, so, again, because nicotine is a stimulant, that's why it has those effects. It can increase the heart rate. It can increase your alertness. It can improve your ability to concentrate, especially if you are kinda using it as a pick me up, but it can also raise the blood pressure as well. So, of course, we just don't want that to extreme levels. And, of course, if someone has a high heart rate or some heart problems to begin with or high blood pressure that's not well controlled, we don't want those numbers going any higher.



Fort Bend County Podcasts

Brenda: Can nicotine also affect your stress, anxiety, or mood? Some people say nicotine helps them relax. Why do they feel that way?

Dr. Lu: Well, I think it does sound counterintuitive at first. But, again, being a stimulant, it can affect the mood in terms of giving more energy. So maybe for people who are a little bit down, give a little bit more energy. But like all things, when in excess, then it can cause problems. It can cause more anxiety, especially if someone, again, is already predisposed to anxiety or maybe has uncontrolled anxiety, and then you give them even more stimulants. It's just like any other kind of stimulant or caffeine; you get too much. It just takes it too far.

Dr. Lu: And then also, in terms of the relaxation, I think that is not so much the nicotine through a stimulant effect, but probably more the addictive properties of the nicotine and the smoking, and just that as you become a more long term chronic user, you have more of that, dopamine effect, which is that reward center of the brain. And so you start to have that association. So every time you're smoking, it's like, this is this good thing, this relaxing thing. So then when you don't smoke for a while or use the nicotine for a while, then your body doesn't like it, and you start having the withdrawal. So you feel bad. You feel the opposite. And so then it's that rewards. Oh, I've gotten my cigarette again. I've got my dipper snuff again. So then that's why it's kinda relaxing because there's you've got your thing that you're addicted to because it is, you know, they are all addictions, and that's one of the reasons why we encourage patients to not use any of the nicotine or, tobacco chronically.

Wendy: We also hear a lot about vaping, especially among younger people. Are there health risks associated with the nicotine vaping that people may not realize?

Dr. Lu: Yes. Good question. There are definitely ongoing studies about vaping. It's still a relatively new product, I guess, in the world. And so as such, we're still gathering medical information and trying to interpret that data. Last I read on it, they at least dispelled the myth that vaping would be clearly healthier. They have at least determined that it definitely does have some harms to the lungs because you think about it, as I joke with my patients, what is vaping? You're inhaling some vaporized chemicals of questionable consistency. Right? And, I don't think any of us would usually voluntarily inhale chemicals, but that's essentially what you're doing. So how safe is that? Well, how much do you trust all the manufacturers? Right? Because that's the other factor. Right? It's not just one company that's regulated by the government. It's whoever's out there making it. Right? And I'm sure there are people who get creative and maybe make their own, concoctions or add things to the products. So you just never really know what you're getting. And so it can definitely have some harmful effects to the lungs. Again, the question of, like, direct comparison, is it you know, a lot of people wanna know, is it worse than smoking? That they haven't been able to answer yet, but it's definitely not good for the lungs either. And there have been cases of various, pulmonary diseases, caused by that.



Fort Bend County Podcasts

Dr. Lu: So and that's just the vaping. And, you know, similarly with the other products, like, you know, earlier we had talked about the effect of nicotine. So the nicotine effect itself is the stimulant, but it's also the other effects like with the cigarette smoking. It's the other products, byproducts of the smoking that damage the lungs and cause the lung cancer, right, like the tar and the smoke itself, that kills off the cilia, the little hairs in your, lung linings. And also, like, with, snuff or tobacco, orally, that it's not so much the nicotine itself, but also, again, the the direct contact of the tobacco on the mucosal membrane is the inner lining of the mouth that leads to, like, the oral cancer and stuff. So it's nicotine is just one component of all these products, but then there's other things that have other effects too.

Brenda: Okay. So now let's switch gears to something a little bit more familiar to most of us, caffeine, which is in coffee, tea, soda, energy drinks. And caffeine seems to be everywhere. Energy drinks now have become especially popular among the younger people. And we've heard stories about younger people stating that, the healthy people that are experiencing health problems now. How concerned should people be about this high caffeine consumption, particularly from energy drinks, Dr. Lu?

Dr. Lu: Ultimately, it's always about the total caffeine intake, I think. And so it's not so much necessarily that the energy used drinks in and of themselves are harmful. It's just about the, I think, the total caffeine. Now I say that, but there is a caveat too that some of these energy drinks they add, just like we're talking about with the vaping, they add other ingredients. It's not just caffeine. Like, coffee is pretty much just caffeine. I'll see all sorts of other vitamins and natural things, herbal things, organic things, substances that are added. So maybe the total effect. So now I can't speak for those, and each one has their own harms. But, generally, I think it's, just the total caffeine. I've spoken with several patients who might drink several energy drinks within a day or sometimes even within one morning and see me with an elevated blood pressure and heart rate. And so, again, it was just like, if you drink 10 or 20 cups of coffee, you could get the same effect. You just – it's a different beverage. But question is how much caffeine are they getting? And that's really the big effect. The big factor.

Wendy: What are some signs that someone may be consuming too much caffeine?

Dr. Lu: So caffeine is also a stimulant. So same thing, it can increase their heart rate and blood pressure. And they may not feel that initially, but, of course, you get it high enough, you might start to feel it. So, whether it's nicotine or caffeine, some people may start to feel palpitations, which just means that you can feel your heart beating harder and faster. Like, in some cases, like, it's gonna jump out of your chest. I'm sure if any of us have ever had too much caffeine, you know that feeling. And that's a direct, effect of the stimulant, effect of the caffeine. So, that's one sign. Some people, as we said earlier too, just you may actually become so stimulated that you're more anxious and, in some cases, jittery. Some people may experience this too where literally



Fort Bend County Podcasts

their hands start shaking, trembling because they've had too much, caffeine. So and in some cases, I think some people might even feel I know myself when I get too much caffeine, I start to feel a little chest discomfort, you know, again, because and, some of the similar effects, some of why it raises the blood pressure is the vasoconstriction. And so, I always know when I start feeling like, okay. I need to back off the caffeine a little bit there. So yeah. So those are some of the effects. And related to that too, of course, a lot of people also know that it may make it hard to sleep because you're taking the stimulant that wakes you up, which is really not good when it's late at night and people ask sometimes, why can't I sleep? And it turns out, well, you're drinking caffeine within a couple hours of bedtime. That would be why.

Destanie: Hold on. We're not done yet. Today's conversation raised some important questions. That's why we're continuing our interview with Dr. Lu in part two. We'll go deeper into nicotine, caffeine, energy drinks, and effects they can have on your health. And trust me, you won't want to miss the questions we have coming up next. So you'll have to tune in to find out. Until then, stay curious, stay informed, and remember, the Benefit Detectives are here to help.