Introduction to ultra-processed foods and gut health

Welcome back, everyone to the Gut Health and Longevity Summit. I am so glad you're here. I want you to take a moment, because what you're about to hear is genuinely going to change the way you think about your health.

Not just what you eat, but what you're eating and doing. Living. To the ecosystem that lives inside you. We are living through an epidemic that most doctors are not naming correctly.

Ultra processed foods now make up the majority of the American diet, and the science is showing us that they just don't add empty calories. They're actively dismantling the gut microbiome that controls your immune system, your hormones, your mood, your risk of cancer and chronic disease.

And our expert is here to translate the science into action. Today's conversation is one I'm especially eager to have. Is what are ultra processed foods actually doing inside your gut, and what can you do about them?

My next guest has spent his career doing something most physicians have never attempted. Reading the entire body of published nutrition research. Every study, every trial, and translating it into plain language that can save lives.

He's not affiliated with industry, and he even publishes for free. That alone should tell you something. Doctor Michael Gregor is a physician and New York Times bestseller, an internationally recognized speaker on nutrition, a food safety, and public health.

He graduated from Cornell, also a Cornell graduate, and. And he is the founder of Nutrition Facts. Org, a science based public resource that has published over 2000 free videos and articles synthesizing peer reviewed nutrition research for the general public.

All right, so he's got a number of books How Not to Die, How Not to diet, How Not to Age. But really we are going to talk this episode about ultra processed food.

So let's start with the first question. Doctor Gregor. Welcome. What is something most people think they understand, but they actually don't when it comes to ultra processed food?

What counts as ultra-processed and why it matters

And how is that different from food that's simply unhealthy and high in calories? Yeah. So there are a lot. Yeah. So that's probably the kind of main misunderstanding.

There are foods that are absolutely horrible for us but are not ultra processed. And at the same time, there are older processors, actually healthier than most foods people eat.

So there's certainly some generalities. But something like, you know, lard, lard is not ultra processed. But and so, you know, eating spoonfuls of, Lord, you're like, I'm not ultra processed.

I like it back to nature. But, I mean, you'd be raising around their cholesterol, the primary driver of our primary killer of men and women. So that would be one of the stupidest possible things we could do.

But a similar hard fat, partially hydrogenated vegetable oil that is ultra processed and would have a very similar effect on your LDL cholesterol. So they're both bad.

Just because something is not ultra processed doesn't mean it's good. And just because something's ultra

processed doesn't necessarily mean it's bad, particularly compared to those foods that may be trying to.

The people might instead. Great. So can you tell us that? I believe there's a terminology called the Nova classification, where they are using industrialized ingredients not found in a home kitchen.

Right. So what are these ingredients that we can think of that our audience might need to become alert to, that are making our foods ultra processed? Are there some key words to think of?

Well, the problem is some of the contaminants of ultra processed foods are actually processing contaminants. They're in the foods but not actually listed on the label.

So for example, in products or some of these packaging chemicals that leach into the food, you're not going to see, you know, BPA or phthalates or, you know, on the actual package.

But because of the processing method that they use, they appear in these foods. But there are certainly are some ingredients that we can be wary of that are common in ultra processed foods.

And one with particular relevance to the gut microbiome is a multiplier. Dramatic increase in chronic inflammatory diseases over the last three quarter of a century.

The original studies, actually, that raised the alarm was on carboxy methyl cellulose, which causes the bacterial overgrowth intestinal inflammation in mice.

Emulsifiers, additives, and microbiome damage

And since then, road models have shown that other emulsifiers like polysaccharide can induce colitis, accelerate the development of type one diabetes, intestinal tumors, colon cancer, I mean, come on down the risk, promote metabolic disorders and even mental disorders that can affect subsequent generations.

So not just so when exposed to muscle fires in pregnancy and lactation, mice appear to be able to pass on to their offspring these metabolic impairments, cognitive deficits, anxiety like behaviors, even though the progeny themselves were never directly exposed.

Now, how exactly this is happening? The detrimental effects of fires may be due to alterations of the gut mucous lining that protects the gut from the bacteria in the colon, or direct pro-inflammatory targeting of the intestinal microbiome.

And the reason we know that the microbiome appears to be the critical role is that antibiotics can reverse the emulsifier induced effects, and the effects of a fire consumption can be eliminated under microbiome free condition.

So if you don't have a microbiome like take out a box or wipe out your microbiome, then the most fires don't seem to have an effect. And most convincingly, emulsifier induced problems can be spread through fecal transplants between animals, again demonstrating the role of the microbiome.

You can even take, you know, bugs in a in a petri dish, mix them with the most virus, implant those bugs and recapitulate many of the negative effects, even without directly even without exposing them to most of ours.

Just exposing the bacteria to the most fires, was enough to cause these effects. So all this led to the International Society for the Study of Inflammatory Bowel Disease to recommend that patients with IBD limit their intake of carboxy method and other such emulsifier additives, though they recognize that this is based on limited evidence.

Mostly animal models. But there. But there was a human study showing that, indeed detrimental impacts of those randomized to being covertly given carboxylate cellulose again through a microbiome mechanism.

There was another randomized controlled trial found human harm from carrageenan, another common binder that

you find. And then there was a the third trial that gave people kind of a mixture of different most of us.

So basically randomized people to a low or high emulsifier diet and found all sorts of interesting paradoxical gut function effects. So the bottom line is we can no longer really assume that these emulsifiers are necessarily safe.

And so that's that's why these are some of the things that we should look for on the labels to, particularly if we suffer from some kind of chronic intestinal disorder.

Oh, another something look for multiple dextran. Not in the most of our uses. Bulking agent can have a negative impact on the intestinal health as well. So.

Well all sorts of things then with artificial colors and flavors and yeah, I mean, we can go through the whole thing of them, but yeah, but those are easy to see.

Important. I don't I don't want people to gloss over something you said because you were explaining it quite scientifically. So individuals that have lost their microbiome aka unhealthy individuals, because you do not want and like to not have a microbiome, these emulsifiers actually don't affect them as much.

That's why somebody who eats processed food and has been on a lot of antibiotics and has been sick when they eat more processed food, they don't feel it the same because they don't have the microbiome as opposed to somebody who's in our community that is plant based and eats quite healthy.

And then once in a while might pick up something that has one of these emulsifiers and it they might feel it because they have a healthy gut microbiome and a mucus lining that's going to be more sensitive to this.

So that's why I've had patients who are like, well, my friend eats like crap. And, you know, obviously they're not healthy, but they they can eat whatever they want.

And even if they're eating processed food, yes, they might not be healthy, but they could eat it. Whereas if I go and try and eat that same ice cream I like, it just makes me feel sick.

And I want people to understand that, that changing that microbiome ecosystem that you have in you, you do not want to not have a microbiome, because that mucus layer is what is inflammatory and keeping inflammation down.

Now, you gave us a list of these possible additives.

Gut permeability, inflammation, and fiber

The emulsifier, the strain, the artificial colors, the Korean. What are some of the more common foods that people might find them in, even in the plant based community where they're like, oh, it's plant based, it's healthy.

Like, what are some common foods that they might be eating every day? So just to clarify, when I talk about people, when I talk about germ free conditions, these are not people who just have bad microbiomes.

These are experimental animals with no Marco Bom, no bacteria at all. That is very unlikely in a person unless they've gone through very heavy duty antibiotics specifically designed to wipe out the gut bug, gut flora.

But in terms of where most of ours are found, what almost fires do is they keep water and fat from separating. And so a muscle fibers are added to keep things mixed together.

And so they're found in fatty foods. So like whipped cream. So like vegan oat milk based whipped cream or something. Right. I'm sure it's just packed with them because otherwise it would just kind of separate out.

But you see that ice cream I mean, so ultra processed fatty foods a process fatty foods I mean, we should be looking at ingredients list for everything we eat, but particularly fatty foods is where the industries want to is going to

want to put muscle fibers to maintain shelf life.

Would that apply? So you mentioned ice cream. Would that apply to yogurts? Well, actually the yogurt, the of yogurt may have to do in part by some of the bacterial byproducts which can hold things together.

But so you'd have to look at the ingredients to this. I mean, you know, there's, you know, sometimes you open yogurt and there's like a layer of water and sometimes they're all nice, mixed up, creamy.

I wonder if that's most of our effect or just, you know, different bugs that are they form these kind of gel like compounds, which adds to the gelling of yogurt, which may have nothing to do with the added almost firestorm.

Okay, so I want to go a little bit deeper here. There is a concept about intestinal permeability that gets used a lot in wellness circles. What does the peer review science actually say about ultra processed foods and gut barrier integrity?

And I know you touched upon it with the mucus layer, but can we talk about it a little bit more from a inflammatory compound perspective and kind of like that downstream effect that's happening?

Yeah. So I mean, you hear this with people talking about a leaky gut. And so in the, in, in scientific circles that we call this kind of gut lining permeability, you can actually test this by giving people various compounds that are not supposed to be absorbed.

I mean, they should not be able to get through the gut lining. And then you look for that compound in people's bloodstream and you say, wait a second, this shouldn't even be here.

And because it is there, we know that the gut is leaky, meaning the gut is permeable to things it should not be permeable to. And the reason that it's important for our gut not to be permeable is because, you know, the inside of the bloodstream, you know.

Ideally should be sterile. You know, we don't want bacteria invading into our bloodstream. We don't want inflammatory components. We want to have them stay within the gut and get rid of them and flush them down rather than getting into our system.

You can imagine our immune system. I mean, we're so our immune system attacks foreign, you know, foreign components. So, you know, you know, if you're nibbling on the end of a chicken bone and nibbling on that cartilage, why.

And you have that animal cartilage in your system, why doesn't your body attack it? Well, because that the cartilage is broken down before it ever gets through the gut wall.

But if but if you have a leaky gut and any of those little, you know, cartilage bits get through into our system, our body season says, wait a second, that's foreign.

Unsafe additives and regulatory gaps

I mean, we know what cartilage looks like and that doesn't look like our cartilage. And so what attacks are thinking is, you know, some kind of invader, some kind of foreign body, and in doing so may create antibodies, may create an immune attack against cartilage in general.

So by attacking chicken, Carlos may all of a sudden their knees start aching because our own body has this kind of auto immune inflammatory response, which may be, you know, the underlying cause of cases of rheumatoid arthritis, for example, an autoimmune condition where your body attacks your own joints.

Why would your body attack your own joints? Maybe they're caught in this friendly flier fire, this kind of molecular mimicry. So we want to make sure our gut is not leaking.

How we do that is we feed our good gut bugs. How do we do that with prebiotics? That's dietary fiber. And resistant starch. Found only one place. And that's in plant foods and only in one place concentrated.

And that's an unprocessed whole plant foods, particularly the drier plant foods. When people think fiber, they think, oh, I tons of fruits and vegetables.

I eat lots of fiber. But, you know, fruits and fruit could be like, you know, 90% water. Vegetables can be 80% water. If you want really concentrated forms of fiber per serving, per cup per unit volume, you got to go for some of these drier foods, like the whole grains and the leg gums, which are only about 70% water.

And so, you know, so in one survey you can get, you know, large dose of fiber, which you just wouldn't get even, you know, evening. Some watermelon or something.

Yeah, absolutely. So don't be afraid of the carbohydrates from whole grains and legumes are body actually needs them to feed the microbiome. Now you talked about pretty much I know you wrote a book on ultra processed foods, and you talked about nearly every ingredient in the processed food supply.

You've mentioned a few of them. Which one does the industry claim is safe? But the research says otherwise. Claims they're all safe, obviously, right?

How could they put it that way? No one's like, oh, this is going to hurt your kids. But we put it in there because we hate kids. Like, know everyone's gonna say their stuff is sick.

But there are certainly things that we've known are toxic and are banned in many countries, but still continue to be used to this day. So, for example, you know, red dye number three, right?

It's been banned literally for decades from anything going on our skin because we because it causes cancer. So like you can't put cancer causing stuff on your skin, but because food ingredients are regulated differently, it continued to be allowed in food.

So like the maraschino cherry, you're eating like is illegal to rub on your skin. Like if you put it in a skin cream, you couldn't sell it in the United States because it's illegal. It's cancer.

Oh, but you could eat all you want in a fruit salad. I mean, so that's crazy. Now, thankfully, California was the first state to move forward and to ban red dye three.

The federal government has stepped in as well. I believe by 2027 we're going to get a national ban. But it's the kind of thing. Where are you saying we've known this has been a problem for decades, but there's just not been movement. Why?

Because we have a very weak consumer movement, and the power within the Beltway here in D. C. is more with the big food lobbyists than it is with the, you know, those standing up for families.

Yeah. I think that makes people very upset that and, you know, honestly, like, I'm somebody who travels, I travel a lot. So experiencing foods outside of the US and really seeing the difference.

Ultra-processed foods and chronic disease risk

But the majority of Americans actually don't even have a passport, so they don't even travel outside of the US to understand that our food supply is absolutely horrendous compared to the rest of the world.

So let's talk about the chronic disease connection, because ultra processed foods are definitely a key player in what is happening and what's at stake here.

The research linking ultra processed food consumption to cancer, cardiovascular disease, diabetes, dementia has

dramatically increased in the last five years.

So tell us about some of these findings and research that we have seen linking ultra processed foods to chronic diseases. Yeah, there are dozens of different diseases, these killer chronic diseases that have been linked to ultra processed foods.

But you know something we talk about a lot in science. Some is correlation doesn't mean causation. Meaning just because something is linked, just because something is associated with something else doesn't mean you know it necessarily causes one another.

So, for example, having a lot of ashtrays in your house is correlated with lung cancer, but that's traits aren't causing you, you know, the trace aren't the problem.

You know, getting more or less in your house is not going to matter. It's the smoking that really does it. And so same thing, processed foods. Is it the ultra processed foods itself, or is it something about the people who choose to eat ultra processed foods?

So for example, one of the conditions associated with higher rates of death with ultra processed foods is, is accidents like car accidents, he said. Well, wait a second, what possible rogue ultra processed foods be playing in car accidents?

So something like that. It's less about the food itself and more about the kind of people that eat the food. They have a, you know, higher risk tolerance, for example.

They don't care about them. Maybe they're not wearing their seatbelt, right. And for the same reason that they don't care about, you know, eating bacon and eggs for breakfast.

And so you have to be careful when you look at these observational studies. That's why it's so important to have these interventional studies where you can actually randomize people to eat ultra processed foods more or less, or, you know, take capsules filled with ultimate fires or capsules filled with, you know, sugar pills, you know, and so and actually show, oh my God, these are most of us actually do harm.

It's not just associated with harm, you know. So if you find that people who eat a lot of ice cream, you know, don't tend to do as well, okay, maybe it's the most advanced in the ice cream, but maybe it's all the other crab in the ice cream.

By separating it out and doing an intervention trial, you can actually show a causes B. Therefore, by removing A we can remove some of B. And so that's why it's important to go a little deeper.

And when you actually look at another thing I'd like to bring up about these large population studies, which have been very illuminating in many areas of medicine, is, ultra processed food is a really broad topic.

If you actually break it down to find out. Wait a second, which ultra processed foods are actually increasing the risk of cardiometabolic diseases and cancer and, you know, heart disease, etc.?

The two the only two classes of ultra processed foods associated with increased old cost mortality, meaning living a shorter life, are sweetened beverages both artificially and sugar sweetened beverages.

So not just soda with most of it, but also, you know, sports drinks and, you know, energy drinks, things like that, sweetened beverages and ultra processed animal products.

So this is like chicken nuggets, fish sticks, you know, fast food burgers, hot dogs, lunch meat, sausage, that kind of thing. So really it's only those two categories.

So for example, lots of breakfast cereals ultra processed. And I mean there's all sorts of ultra processed cooked

cakes and cookies and on down the list, but they have not been associated with an increased all cause mortality, just the animal products and the sweetened beverages.

So if you're just going to cut out any ultra processed foods, it would be those two categories first. Okay. And so what about like I've seen like some critics are saying that these studies are showing that poor people eat more processed food.

Is this a fair criticism of the data? Because like, I've had patients where they're like, I literally had to decide between buying my children Christmas gifts, and this is why I chose dinner to be not chose and ground beef.

Cost, access, and healthy eating on a budget

And the reasoning behind this conversation is, you know, like people are just like, I can pick one or the other when I don't, I have to make decisions.

So like, what can we advise people in the community when it comes to if you don't have enough money because they think you need more money to eat healthy, how can they do it?

Yeah. So they studies have control for socioeconomic factors. So it's true poor people have worse health outcomes and more likely to eat poor diets, but you can control them for that.

So to essentially compare poor people who eat more or less ultra processed foods, or compare rich people to moral to process foods and actually able to tease that out.

But in terms of this misunderstanding that, you know, you have to be you have to have a lot of money to eat healthy and that, you know, well, I have to eat these foods because those are the cheapest foods, you know, some of the health or or the same thing with convenience.

Well, you know, I don't have time to cook, right. But some of the cheapest, most convenient foods are also the healthiest foods. So, for example, you know, anyone who doesn't know how to eat, you know, choose convenience on a healthy diet has never met an apple.

I mean, look, you can even eat the packaging. It's just it's right there. It's ready for it. Right. Some of the healthiest foods purple cabbage, sweet potatoes, dried beans and peas. Right?

I mean, cheapest sources of protein. So, like, oh, I don't have I have to buy. No, I mean, you you just can't get cheaper than chickpeas and want those.

And I mean, come on. I mean, even if you don't cook them yourselves and buy it in a can, I mean, it's like $0.50 a can, right? I mean, so yeah, there's really no you have to have access.

I mean, there's these food deserts where, you know, there's just not a lot. I mean, you know. Yeah, you'd love to get some sweet potatoes. They don't sell sweet potato, right?

I mean, so that's certainly an issue. But you don't have to be rich details. In fact, there's a great book series and and in. Net resource I think it's called vegan a $4 a day, something like that.

And it's just like this is out for $4. You know, you can eat all you want and eat really healthy food. Okay. Is there anything we missed discussing when it comes to ultra processed foods?

Anything else you want to tell the audience that we haven't mentioned about what it's doing? Oh my God, well, I got a whole book. Welcome to check it out.

All proceeds from the sale, small on books donated directly to charity, but it's available on, you know, softcover, audiobook, e-book. And I just go through all 60 mechanisms exactly how I talk about the exceptions.

And so we really didn't talk about the exceptions. There are two classes of ultra processed foods. They're actually better than the foods that they were designed to replace.

And one are plant melts like soy milk. So swim actually better than dairy milk. So I'm technically ultra processed. But I mean, you know, there have been 17 randomized controlled trials of soymilk versus cows milk.

And when you randomize people to swim over cows, you get significant improvements in cholesterol, blood pressure, inflammation. You get a significant drop in secret active protein, a sign of systemic inflammation.

Exceptions: plant milks and meat alternatives

So you get all these benefits. Just doing that simple swap from Canada soy. And so there you're going from like an ultra processed, unprocessed food dairy milk to an ultra processed food.

And you're actually doing your body favor right now. That's a very rare exception. You don't see that a lot. And the one other category that I was able to find are these, plant based meat.

So, you know, there's a veggie burgers and veggie hot dogs and, you know, sausages and stuff like that. Now they have lots of salt and, you know, a lot less fiber than actual whole food sources. Whole foods are better. Absolutely.

But I mean, if you're choosing between, you know, a veggie burger and a regular burger, oh my God, veggie burger actually has some fiber to feed. Your microbiome doesn't have any cholesterol.

Doesn't that. It tends to have about a third of the saturated fat. And so you know, let's trans fat I mean you kind of go on down the list and oh nutrient profiles so much better.

And so again that's you know, it's not the ultimate destination, but it's kind of a great stepping stone food to move towards an even healthier diet centered around whole plant foods from fields, not factories.

Yes. So as a stepping stone, last question. And I want to be very concrete. Someone watching or listening right now, they're eating processed food regularly, probably more than they realize, and they want to start reversing the damage to their gut microbiome.

What are the three most important things they should start doing this week? I love it! Forget this week. Today, let's do it today. So if there was just three things I'd first removed from someone's died, it would be the it would be anything with trans fats, which is not so much a problem in the United States anymore, but some countries is still legal to partially hydrogenated vegetable oil.

Number two processed meat, bacon and hot dogs. Lunch meat significantly increasing risk of colorectal cancer. Number one cancer killer of nonsmokers. And number three liquid candy.

These sugar these sweetened beverages. We really need to get brown sugar water out of our diets. And if there were just three things to add to someone's diet, it would be berries.

The healthiest fruits greens, dark green leafy vegetables, particularly cruciferous vegetables like kale, Collins as the healthiest vegetable and number three, the healthiest source of protein.

Three steps to start healing the gut

Legumes, beans, peas, chickpeas and lentils. Get the hummus or the soup or the, you know, or or the you know me on down the list black beans. Those are that's I mean, it's just packed with fiber and it'll make your gut microbiome happy. Yes.

We're all about making the gut microbiome happy now, doctor Gregor, this is been a genuinely eye opening episode. The idea that the food system is not just feeding us, but actively remodeling our bacterial ecosystem that

runs our health.

And that’s one message I want everybody to carry with them. Doctor Gregor can be found at Nutrition Fat, a completely free nonprofit resource with over 2000 Evidence-Based Videos and articles, so I encourage you to check that out.

Look up his books and this science is freely accessible to everyone. So here is the key takeaway for the audience for this episode. Ultra processed food is not just empty nutrition, it is an active force reshaping the microbiome that protects you.

Every whole plant. Food you add back is a form of restoration, so stay tuned for our next episode. We can’t wait to continue this journey with you. Thank you.