

In A Bite with Charlotte Mei

Season 2 Episode 9 - Andy De Santis

Full Transcript

Charlotte Mei

Hello, hello and thank you for tuning in to another episode of In a Bite. I hope you've been enjoying the season so far. You've been learning lots from our experts, and if you've been enjoying the show, please don't forget to rate it and let me know what you think about it.

I'm really excited for you to listen in to this episode today. Our guest is someone that I've been following on Instagram for a really long time now. You know, I would say he's one of the OG dietitians on the platform for me, and he puts a big focus on liver health.

But first, did you know that our liver is the largest solid organ in the human body? It performs over...listen to this 500 vital functions in the body. So things like detoxification that's huge, processing food into energy, assisting the immune system, helping with blood clotting, etc. And today we'll be speaking about what happens when we accumulate too much fat in our liver.

When it comes to liver health, a lot of us would immediately think about fatty liver disease. And a common understanding here is that alcohol consumption is the main driver for it. But that's not necessarily true, and there's a lot more to that story. So we'll be diving into that today.

Now, nonalcoholic fatty liver disease specifically, otherwise known as NAFLD, is a leading cause of liver disease worldwide. And it's estimated that 32% of adults globally face a condition. And for our listeners based here in Singapore, about 40% of adults are affected by the silent epidemic, and many people don't know the symptoms or the causes for it.

So our guest today is here to clear all of that up for us, Andy De Santis is a registered dietitian based in Toronto, and he focuses on crafting personalised nutrition solutions for people dealing with a diverse range of health conditions. Now on the side, he is also a blogger, a speaker, a 6x published author with one of his cookbooks specifically targeting fatty liver disease. So get ready because this episode will be filled with lots of great insights.

Andy and I chat about ways to navigate fatty liver disease through the food on your plate, through your lifestyle, and some of his client-proven tactics. So if this is a personal concern of yours or you're seeking answers for a friend or family member, this is a conversation that I'm sure you'll find useful. So remember to click the subscribe button. Share this episode around and I hope you enjoy it.

Charlotte Mei Andy De Santis

I'm really curious to hear how you got into this field of dietetics?

Andy De Santis

Yeah. For myself personally, I think it's it's very much like a cliché,, story that you hear often, I think in the health field or in my head. Anyway, I think it's cliché. Growing up and my teenage years, you know, I wasn't really someone who paid much mind to nutrition. And, you know, I think my, my health and my, let's say, my quality of life reflected that. And yeah, I wasn't great, you know, in all honesty. And I became interested in nutrition. But it was a long road to get to a place where I was really, you know, let's say I had a level of mastery over my personal nutrition.

I use that term a lot with my clients, like mastery over one's nutrition. And I was like, yeah, okay. So first of all, this totally changed my life, number one. But second of all, it took me way too long to figure it out. So I would love to fill this role for other people and condense their timelines. That was my that was my mindset. And it was pretty much the only thing I was ever going to do. You know, there was never anything else for me., so that's, you know, long story short, that's what brings me here.

Charlotte Mei

I love that. Actually, I share a very similar story as well. I think I saw it more as a way to help myself, and then when I saw the benefits of that, I realised, look, more people need such help., but would you say that back when you were studying nutrition and dietetics, that it was a big thing in Canada?

Andy De Santis

I don't think I had a single clue. I didn't in my head. I was like, yeah, you know, I'm gonna have an office and I'm gonna see clients and I'm just going to be it's going to be great. It's going to be straightforward. This and that. And it was really, you know, it was nothing like that at all., you know, you know, as I'm sure you're aware, there's a lot of nuance and hard work and, you know, divergence in one's path to get to a good place.

But I told myself in my head, I always visualise more or less what I was doing now. I didn't realise what it was going to require, you know, from, from every perspective. But yeah, I mean, I honestly, I don't I don't really know if it was big or not., I do know that I did an undergrad first that was not approved for dietetics. So I had to switch my to switch, so that was part of my part of my journey. But where I was located initially at the University of Toronto, some very smart professors and professors who have a lot of published research in nutrition topics that I refer to today that I referenced today in my posts. So I am happy that I had that prolonged path, I guess from that perspective.

Charlotte Mei

Yeah, for sure. And I'm also pretty certain that you did not envision yourself having a social media platform.

Andy De Santis

Oh yeah, I mean, I, I was someone who I don't even have pictures of myself for a ten year period in my life, you know what I mean? Like, so the idea of having photos and and all that stuff, I wasn't even on, I wasn't even on Facebook, you know, so the idea that I would be on social media. Yeah, that was nowhere on my radar at all. Just, just yeah. You know, it's it's been it's been it's been a while now. So

I have to like go really far back to see what my mindset was back then. But yeah, it's it's pretty funny to think it's, it's that's a big part of what I do. Yeah. It was nothing like that in the past.

Charlotte Mei

I know, absolutely. And I have to say, Andy, I can confidently say you were probably one of like the first 20 people in the industry that I started following. And back when I think I started Instagram in like 2015 and I, I wanted to use it more as an educational platform and followed a bunch of nutritionists and dietitians. And yeah, you've been one of the OGs on my platform, I think.

Andy De Santis

I think, yeah, that's mutual. Right. And it's, it's taken a while for us to, I guess, to communicate,, you know, in a more,, more robust way. But it's great that we're doing it now. And. Yeah, I think we've we've probably been following each other since close to, to day one, so it's very, very cool.

Charlotte Mei

Oh, amazing. All right. So speaking about your content,, you know, you speak about a myriad of health concerns, and one of them is fatty liver disease. That's been huge lately. You've even written a book about it. Why the focus on this topic specifically?

Andy De Santis

Yeah, it's it's a very, very good question. And it's a it's a it's a big question. I think for me, fatty liver brought together all these different nooks and crannies of nutrition science that I was interested in, you know, and I'm sure we'll get into it. But insulin resistance, the gut microbiome, inflammation, all these little areas that merit focusing on specific nutrients and specific foods, which are the aspects of nutrition I love the most. It just brought it together in a way that no other condition did.

And also, contextually speaking, it's highly relevant. I mean, it's it's a very prevalent condition. It's increasingly on people's radars. The technology required to assess it is increasingly available. So it's just a perfect storm. You know, when I agreed to write the book, it was not...I had no idea that I would become, you know, infatuated, whatever, whatever you want to call it with it. Right. So yeah, now I absolutely love all aspects of it.

Charlotte Mei

That's amazing. And we're going to dive into all of that today. And first, for our listeners, you know, there is a huge misconception, at least in my understanding, that people link fatty liver disease to high alcohol consumption, which is not necessarily the case, right? And we've got sort of 2 types of fatty liver disease —so non-alcoholic and I guess alcoholic. Could you just explain to our listeners the difference between those two types of fatty liver disease.

Andy De Santis

Yeah well, so I'll say one thing for the very savvy listeners, the terminology, the verbiage around fatty liver disease is in the process of changing. So, you know, you may hear terms like metabolic liver disease in the future. So I'll just throw that out there.

But inherent to the definition of let's say nonalcoholic fatty liver disease, NAFLD, which is the conventional inherits that definition, is that the fat accumulation in the liver is not caused by alcohol consumption, right? So that's ruled out. So that's the key. That is the key distinguishing factor essentially between you know what you might call alcoholic liver disease versus non-alcoholic liver disease, is that the explanation for liver fat accumulation is not excessive alcohol use. And that's that's pretty much that's pretty much that gets ruled out before an NAFLD diagnosis can be handed down I guess.

Charlotte Mei

Sure and fatty liver disease is essentially what the name suggests, which is fat accumulation in the liver. And there is a sort of developmental stage for that to happen, right?. It doesn't lead to cirrhosis immediately. Could you also walk us through that?

Andy De Santis

Yeah. So on the whole you have, you know, NAFLD, right. Which affects something like, you know, a third of the global population. And that is like the baseline diagnosis for what we kind of know is fatty liver disease. From that you have a fraction of people, approximately 1 in 4, who will end up adding a more advanced stage called NASH. Okay. That's essentially the inflammation. And the the damage to deliver has accumulated to the point where you get this new diagnosis.

And then from the individuals who have NASH, an even smaller fraction, something like 5 or 10%, if the, you know, the mitigating steps are not taken, you could end up with cirrhosis. And that's where your risk for liver cancer and other things increases. So it is a stepwise progression. But each step of the way you, you know, there is the ability to intervene with, you know, nutrition supplementation and lifestyle interventions.

Charlotte Mei

Yeah. And that's the part that I can't wait to jump into, which is the fact that, I mean, the liver is an incredible organ, the fact that it can actually repair itself, or rather, you can reverse the damage from fatty liver disease.

But before getting into that, can we chat a little bit more about the causes of fatty liver disease?

Andy De Santis

Yeah. You know, one of so first of all, people are very compelled by the liver, right. To your point, it does all these roles in the body. You know, I think the, the detoxification as like a theme, as like a conceptual thing I think is really compelling for people. And that is part I should I, you know, and I should have actually said that in my explanation earlier as to why I was so kind of captured by it, is that I'm captured by it, in part because it's something that gets people interested, right?

There's something about it that that diagnosis and everything around the liver excites. I don't know if that's the right word in this context, but, you know, it motivates people., and so your next question is a big one. And you know, what causes fatty liver disease? What causes liver fat accumulation? And scientists aren't 100% sure.

I mean, there are some universal features. So if you take an individual who has a fatty liver, they are more likely than the average person actually. Well, insulin resistance is pretty much a universal factor, right. So insulin resistance, higher triglyceride levels. These are very, very, very common features of fatty liver disease. So generally you're going to see someone have both of those things at play.

But more or less to your point, you know, liver fat accumulates in the liver cells beyond a certain threshold because those fatty acids, those triglycerides which are floating around, they don't get metabolised in the most optimal way, in the proper way, as a result of insulin resistance, potentially also as a result of the mitochondria not working in the right way because the mitochondria play a role in fat metabolism.

So that's really what comes down to it's very much a condition of, let's say you call impaired fat metabolism. So whether that's because there's too much fat floating around, whether that's because there's insulin resistance, meaning the fat does not get stored and metabolised properly, whether that's because there's, you know, less than optimal functioning of the mitochondria. And there's a few other potential explanations. Scientists aren't even 100% sure, you know.

But it's how I look at it. There's like, multiple metabolic failings happen that lead to it.

Charlotte Mei

Absolutely. And I mean, we know that diet and physical activity play a huge part here. What about medications?

Andy De Santis

Yeah, that's a good question as well. I mean, certain medications can increase one's risk for a fatty liver. And also keeping in mind that the gut microbiome and the liver are connected, right? So if you have an individual with a significant history of antibiotic use, and there is, let's say, imbalances in the gut bacteria as a result, that potentially can increase one's risk of fatty liver disease, because the gut bacteria, of course, plays a very important role in insulin resistance and and blood sugar metabolism, and that is directly related to liver health, you know, so that that definitely is in play,

But yes, to your point, I mean, and then even responding to your, to some of your earlier questions, why I'm so interested in fatty liver disease, it really does represent almost like, you know, one of the first things that can go wrong in the body when other things are out of alignment, you know, when the diet hasn't quite been right for a while, when physical activity hasn't quite been right for a while, when there are shortcomings, even nutritionally so.

And you'll find this interesting, I think the listeners will too, is that people with a fatty liver tend to have lower levels of omega three, in their liver cell membranes, which affects signalling and fat metabolism, right? So that's a very interesting thing as well. So it really does represent like something has there's just some things are just not right. And they haven't been right for a bit. And the liver kind of bears the consequences of that for some people.

Charlotte mei

Yeah, I love that. And you're like, you're already, you know, giving little teasers of the dietary strategies that we'll speak about later. But before going there, I wanted to speak about the, so to speak, symptoms of fatty liver disease. How would one know? Because this is something that in the early stages it could go unnoticed, right? So could we speak more about that?

Andy De Santis

Yeah. I mean, the symptoms are the signs and symptoms are few and far between for most people. Right. The diagnosis is, you know, the findings of fatty liver. It might go something like this. So first of all if someone has let's say type two diabetes or pre-diabetes, their medical team might dig a little deeper to see if there's any, you know, comorbidities. So fatty liver, for example.

But the diagnosis could come could stem from the fact that liver enzymes are elevated in blood work, right. And elevation of liver enzymes can occur for multiple reasons. But the most common reason is fatty liver disease. And elevated liver enzymes generally reflect inflammation or damage to the liver.

Now we'll talk about this. But inflammation is a big driver of fatty liver. I mean inflammation is what takes you from the first stage to the second stage, right? Uncontrolled excessive inflammation. That's what damage to the liver over time. So that is very very important.

But anyway I digress. You know you get these elevated liver enzymes and then you know that's going to encourage further exploration by your medical team. Very likely it could be an ultrasound. It could be a fibro scan, which are two of the technologies you could use to detect liver fat accumulation.

So the symptoms are few and far between. I mean, yeah, you might have pain in that area, but potentially. But, you're not really going to be detecting early stage fatty liver based on physical symptoms in the vast majority of cases in my understanding of the diagnostic process.

Charlotte Mei

Yeah. For sure. I mean, one of the things I always tell people to do bloodwork regularly, and that's one of the ways you'll find out. Yeah.

Andy De Santis

Yeah. Like elevated liver enzymes, elevated triglycerides, those are you know, there's something I can't resist throwing you all the details, but there's something called the fatty liver index, which is just a calculation that is used to determine certain aspects of liver health and predict, you know, future risk, liver health. And part of that equation is dependent on a liver and a single liver enzyme, GHT and then triglyceride levels. So, you know, there you go.

Charlotte Mei

Yeah, absolutely. And I believe waist circumference falls under that as well.

Andy De Santis

Yeah. Weight and waist becomes are part of that equation as well. Yeah..

Charlotte Mei

Cool, all right so I want to talk more about who's at risk. So we do know that globally more men are affected than women. Do we understand that? Is there a reason behind that?

Andy De Santis

Yeah. No that's that's another good question. I honestly in terms of explanations for that disparity, that's not something I've, I've looked into. But you are right. It's about 40% of men and then closer to 20% of women, leading to about a third of the population at large.

It could just be that on the whole, you know, the dietary and lifestyle decisions made by men are slightly inferior. There are links, you know, speaking of that connection, though, there are, you know, there's good evidence to show that, you know, fat, the fatty liver index, for example, that score that we talked about that actually could predict someone's future risk for having low testosterone levels. Having a fatty liver increases one's risk of prostate enlargement. So there's definitely a special tie in for men's health as well, right.

It could be you know again. So even if someone doesn't have let's say alcoholic fatty liver disease or alcoholic liver disease, if alcohol consumption is higher, that could also even though it's not necessarily considered the cause, that could also worsen liver health as well, and potentially, I actually don't know the data on that. If I had to guess in this moment, I might say that men drink more, so.

Charlotte Mei

Interesting. Any other information on who's most at risk? Are there any specific age groups?

Andy De Santis

Well, I mean, the age of diagnosis is coming down, right? So that's definitely the case. And in fact, I think I saw some recent data that showed that people who are who get diagnosed under the age of 45 actually have a higher risk of certain types of cancers like liver cancer or lung cancer, and I believe prostate cancer. So, I mean, you know, you know, diagnosis is more readily available, diagnostic equipment is more readily available. There's much greater awareness of the condition so that the age of diagnosis is coming down.

But again, generally, you know, if an individual has, you know, high triglycerides, if they have higher blood sugar levels, if they have prediabetes, type two diabetes, you know, those individuals will be at higher risk for ending up as well with fatty liver.

Charlotte Mei

Yeah for sure. Okay. So I mean we've got the lay of the land here. I would like to jump into solution modes and practical strategies that, you know our listeners can keep in mind. So again reiterating the

fact that the liver is an incredible organ. You know, damage can be reversed with a well managed treatment plan. So what are some dietary strategies you could recommend?

Andy De Santis

Yeah, absolutely. So let me start by saying that I think. This will be a good loop closer for the discussion up to this point, right? I consider there to be three pillars for fatty liver. Right. And this is important to answer the second part of the question. There's insulin resistance. There's inflammation. And then there's microbiome dysbiosis —a fancy way to say imbalances in the gut bacteria essentially, right? People with a fatty liver have those three things to contend with. Each of those three concentric circles, and there's overlap in what manages them, can then contribute to the arrival of a fatty liver and the worsening of a fatty liver over time.

And then in response, we have three ways that we can fight back, right? We have dietary optimization, strategic supplementation and then physical activity. And you want me to start with the nutrition side?

Charlotte Mei

Yes. Let's do it. Yeah.

Andy De Santis

Yeah so I mean I would say realistically based on current evidence and the best quality evidence, like a more Mediterranean style diet that emphasises —more legumes, more nuts and seeds, which I, which I was speaking about earlier today, more whole grains, more fish. And the individual components of these things explain a lot of these, these benefits. That style of eating is going to be conducive to reducing insulin resistance, reducing liver fat storage, and reducing inflammation. Fruits and vegetables of course, as well.

But on the whole, I mean, if I'm going to guess the dietary habits of a quote unquote average person, the biggest jump that they can make to fight back against fatty liver is to look at legumes. And legumes are lentils, chickpeas, kidney beans and black beans, I should say that. And then nuts and seeds and avocado, for ends and purposes are very similar.

My experience is and also I think a lot of the data bears are so people don't view these foods as things to be consumed most days. You know, if you ask someone, how many times do you consume like broccoli, vegetables? And they're like, yeah, broccoli once a week. Okay, inherently, even if you're not a judgmental person, you're just going to be like, yeah, you know, that's like not quite optimal. But if someone tells you that, you know, they have a lentil soup once a week and then they have a handful of almonds twice a week, you might, you know, you might be okay, cool. That sounds okay. But that gap, that difference in thinking to look at legumes and nuts and seeds as foods to be consumed regularly, that alone could change a lot when it comes to fatty liver.

Charlotte Mei

Yeah, 100%. What nutrient component of legumes would you say is at play here?

Andy De Santis

Yeah. So I mean, first and foremost, you know, legumes are very unique. They have a large amount of fibre and protein in the same place, which means they, you know, drive down the impact of any of, of any meal on your blood sugar levels, which is very, very relevant. Legumes also lower cholesterol. They lower, you know, so meaning they lower blood fat levels as well.

And if blood fat levels go down and blood sugar levels go down, well, some of the drivers of fatty liver are excessive, you know, improper fat metabolism, excessive blood fats, you know, improper way. Those fats are stored in part due to insulin resistance. So you can be able to fight back against those using legumes.

Legumes are also high in nutrients that people tend to under consume. Magnesium is like the 'IT' mineral right now. So I'll bring it up because I know that really gets people excited. Magnesium plays an important role in,, you know, in insulin resistance and blood sugar metabolism and a lot of studies that show that people who consume more magnesium have a lower risk of fatty liver, lower risk of prediabetes. That's not by coincidence, you know.

So in addition to being extremely unique, having almost no effect on blood sugar levels, having both protein and fibre and in good amounts in the same place and being high in key nutrients and then not. And that not even to say the fact that they also have a very big benefit on the gut microbiome, right. As part of their fibre, some of that fibrous prebiotic, which is just a fancy way to say it helps bolster your gut microbiome. So and again, you know, you see studies people eat more legumes. Inflammation goes down. Microbiome goes up. Insulin resistance goes down. You know, a lot of studies that demonstrate that a lot of people don't eat legumes regularly.

So you just put it all together and it's a clear path forward and a highly effective path forward, to kind of start to chip away at some of the issues with fatty liver.

Charlotte Mei

Yeah, absolutely. And it's and it's clearly no coincidence that the Mediterranean diet comes up for so many reasons, I mean, to help many health concerns. So if I can just distil it for our listeners, it's things like fibre, also a function of that is prebiotics, omega three fatty acids, hence the consumption of fish. Yep., phytonutrients from fruits and vegetables. As many colours. Have I missed out on anything?

Andy De Santis

No, no, I mean ample fruits and vegetables. It's really like how I look at the Mediterranean and then more whole grains. Right?

So perhaps moving away or look like let's just take let's use rice as an example because in my practice, like white rice is the one thing that people are least inclined to part with. But if you combine white rice 50 over 50 with legumes, you know you probably get a superior version to brown rice and all honesty. So you know there are. I used to work around that., but yeah. So whole grains, legumes, nuts and seeds and then fruits and vegetables in ample and diverse quantities because, you know,

we can get into the specifics, but, you know, certain families of fruits and vegetables have a significant potential to positively benefit liver health.

Charlotte Mei

Awesome. Actually, you caught me there. I didn't know that white rice was a big thing, in Canada.

Andy De Santis

Yeah. I mean, it's like, whether or not statistically it is, I can say in my practice, in the accumulation of people, you know, Canada, of course, diverse country. We have people from all over the world here, so diverse cultural cuisines. But just in my practice observation alone, speaking with thousands of people over the years, I feel very confident saying that white rice, in terms of, you know, if we want to use the term refined carbohydrates, is the one thing that people are least likely to part with.

Switch the whole grain bread, no problem. You know what I mean? Like steel cut oatmeal? No problem. Rice to brown rice is like doesn't speak to people. Fair enough.

Charlotte Mei

That's really interesting. I see a very similar thing here in Singapore, but I mean, you know, I totally agree with you. I don't think it's useful to demonise white rice. There are so many things you can do with it. And how often is someone actually just eating a bowl of white rice alone? I think if you eat it alone, then, you know, we can speak more about that. But most of the time we're pairing it with vegetables and with protein, etc.

Anyway, I digress., but that was an interesting point. I just learned there. So I want to talk a bit about supplements. How do you view them when it comes to fatty liver management?

Andy De Santis

Yeah so I, I like to throw around the term strategic supplementation, which is pretty much a, you know, a fancy way to say that there are certain supplements that have a, you know, very likely a really good return on investment for fatty liver.

The two that stand above the rest in terms of, you know, my understanding of the evidence, my personal recommendations. The first is probiotics. You know, multi strain probiotics from the two most common families Bifidobacteria, Lactobacillus. These are the ones that get studied the most.

And you know, when we have an understanding that people with fatty liver are much more likely to have imbalances in their gut microbiome, obviously probiotic use has a role to play. It's not the only thing of course, but has a role to play and let's say rebalancing, you know, quote unquote, the gut bacteria, the quality and quantity of evidence regarding, probiotic use and fatty livers is pretty solid, right.

You improve the diversity and the balance and the gut microbiome, the gut and the liver are connected to the portal system. So when the microbiome is strong, you know, it sends

anti-inflammatory compounds to the liver when the opposite is true and may be more likely to send inflammatory compounds to the liver. Of course, reducing inflammation is a key target for, you know, for fatty liver management. And so that's part of the reason why probiotic supplements are so, so, so valuable.

And I mean, I've seen evidence as well, even for people with pre and type two diabetes that taking a probiotic can have a very a modest but observable benefit to even A1C. And that just speaks to the role of the gut microbiome, right, in, you know, in blood sugar metabolism and liver health and so on. So that's one.

And the other one is omega three, particularly EPA and DHA. Again, a large body of evidence here. Studies show you eat more fish, which are you know, fish is the only source of EPA and DHA, which are the longer chain omega threes for, you know, for people listening and plant based foods like flax, chia, walnuts, soy. These are extremely important foods, for overall health or liver health. But there's a little bit of uncertainty as to whether they're as effective as EPA and DHA for improving liver health per se, right. Or to get the most benefit.

So you're looking at, for those who aren't consuming large amounts of fish, which statistically very few people do, you're looking at probably EPA and DHA supplement. And again, we go back to some of the topics of interest. Well, omega threes are very well known for the anti-inflammatory capability. Right. So you have that benefit right. We also know from what I said earlier that people with fatty liver have lower levels of omega three in their liver. And that plays a role in fat metabolism. So if omega threes increase in the liver cell membranes, the way the cells communicate is enhanced and they might be more likely to shoot fat off, to metabolise and the way it should be rather than in the liver, right.

And the cherry on the cake., I think that's the right expression, the icing on the cake, the cherry on top, whatever the case may be, is the fact that actually there's more and more evidence showing that bodily levels of EPA and DHA are related to your microbiome diversity and the strength of your... microbiome diversity is just a way to to to more or less say, your microbiome is in a good place because there's lots of different healthy bacteria. So then you just you see that finding as well. And it just is just like, wow, you know, you don't want to be on the wrong side of this. It's just too, too important. There's too many roles being played.

I mean, omega three is also associated with insulin sensitivity,, as well. Right? So it's just, you know, host of benefits and it's not easy to get EPA and DHA in the absence of fish consumption. That's just the way it is..

Charlotte Mei

Yeah. Absolutely. So if we're speaking about someone who has a diverse diet, they eat everything. They eat enough fish enough. You know a wide variety of plant foods. Would they still require supplementation in this case?

Andy De Santis

Yeah. So I would say you know based on what I've seen. So again we have we understand that fish is the only source of EPA and DHA. Right. And what I've seen scientifically is that to optimise one's bodily levels of EPA and DHA, you need between 1 to 1.4 five grams of those compounds per day, which is about what's found in 150g of fish, let's say a can of fish, a can of sardines, a can of salmon.

So on average, you have to be having around that per day or in total like 750g of fish per week. Now in Canada and in my client base. That is a very infrequent occurrence. Right? So if someone's a pescatarian and they're and their nutrition orientation is fish heavy okay. Fair enough.

But on the whole, the likelihood someone's going to optimise their bodily EPA and DHA without a supplement, which, by the way, we can use algae based supplements as well for for vegans, vegetarians, you know, in my opinion it's the chances are not very high.

And then also you have to hold yourself to that standard for 52 weeks of the year, right? To say, okay, no supplement for me. And again, I mean, look, this is from the purist perspective. Like, do you want to check every box, you know, because arguably you could do everything else well and have half that amount of fish and still improve your fatty liver? Don't get me wrong, but we're talking purist perspective. Someone wants to check all the boxes, that's what you'd be looking at.

Charlotte Mei

Absolutely. Well, thanks. Thanks for expanding on that. And I really appreciate that. You mentioned,, canned fish because I feel that that is something that a lot of people are afraid of. I speak about this a lot on my platform as well. That canned fish are totally okay. I mean, read the ingredients list, check where it's from, I'm a big fan of it.

Andy De Santis

I am as well. I mean, I can go on. Let's explore this for a moment. So what I, what I will say is this. And so so the fish highest in EPA are salmon, sardines, trout, mackerel, herring like mackerel, sardines and salmon are pretty readily, readily available canned. You know, in in my part of the world.

So you know and then we think, okay, legumes are also important. Those are also available. Okay. And so one of my most recommended things for people to do, in all honesty, get a can of beans, get a can of fish, drain them, put them in a frying pan. If you're feeling, you know, feeling real good, throw some like leafy greens in there which will wilt down. Season that up. And then you have, you know, you have a very high level liver friendly meal using, you know, relatively economical, relatively easy to procure and use canned goods.

And that's something I, I do personally, but I also recommend heavily to clients who are looking for quick convenience meals, but, to call that a convenience meals, it's not doing it justice. So that's a very high level, very, very high level meal in my opinion.

Charlotte Mei

Yeah, 100%. I feel like you just described a lunch that I have at least twice a week. I mean, half the time I don't even throw it on a pan. I just throw it into a bowl, a bunch of salad. Easiest.

Andy De Santis

Yeah, yeah, yeah. No, 100%. And I think what some people don't realise is actually pan fried or cooked canned fish is more akin to like a restaurant if you don't like sardines, if you don't like the idea of having a sardine of the canned, if you pan fry that, it might as well be an appetiser or at a restaurant. You know, that's how I see it. So it does change its profile for those who aren't, like, inclined to have canned fish straight out of the can. And I'm actually not too just to admit that I'd rather cook, I'd much rather cook it. So that's why that's probably where that recommendation stems from.

Charlotte Mei

Yeah, totally. Look, we're getting recipes out of this episode as well, I love it. Yeah., so now if we just move past nutrition for a little bit, what other lifestyle changes can people with fatty liver look into? I mean, we've spoken about physical activity. Can we expand on that one?

Andy De Santis

Yeah so I mean physical activity you know, is important. It's very, very useful. Ample evidence shows. And this actually ties in with another very important subject. But ample evidence shows that physical activity, even if there's no change in body weight and that's very important for me to mention because, look, the reality is that someone makes changes to their diet, they move their body more. Okay?

There's a certain percentage of people who do that. Their body weight will change you. You know, it could go down. But what I see in practice is, is far too many people who largely because of limited engagements with their doctor, you know, through no fault necessarily of the doctor. It's the nature, you know, of health care here. The amount of time with the doctors is very little. So the doctor will say, yeah, you need to lose weight right? To remedy this.

Which in translation means you need to, you know, opt dietary optimization, strategic supplementation, physical activity. That's what I really hear. But because they don't have the ability to transmit that information robustly. So what I encounter is clients who, they, weight is the metric of success for reducing liver fat accumulation. And that's not really borne out by the evidence.

So anyway, physical activity, weather resistance or cardiovascular training, you know, three times a week, four times a week, 60 minute sessions, ample evidence shows that will reduce liver fat accumulation even in the absence of any changes to body weight.

Same with the Mediterranean diet, by the way. Embracing those principles will improve liver health even if your body weight doesn't go down. And I think that's important for people to know so they don't become discouraged or wrongly attribute body weight to as the sole marker of improvements in liver health, when really it comes down to those three things.

Charlotte Mei

I really appreciate that. You mentioned that, Andy. And, you know, for health professionals listening in. There's a very fine line between telling someone to lose weight and telling someone to move more. And like you said, it doesn't. It's not necessarily about losing weight, but it's just the physical activity that is the most important thing here. And it can be disempowering to, you know, constantly be told that one has to lose weight. So upping the activity level, I much prefer that.

Andy De Santis

Yeah. I mean, again, if we see evidence that taking a probiotic can improve your liver health, let's say parameters, clearly taking a probiotic is not going to drastically change some. You know, for all intents and purposes, it's not really going to be changing the vast majority of people's body weight. That example alone is a great reinforcement of that.

But, the only one of the thing I'll say lifestyle wise is probably, you know, and I'm not great with this is probably sleep. And actually, this leads me to one other thing.

Charlotte Mei

I know I put my hand up as well

Andy De Santis

It's tough. It's tough. And actually, I, you know, ironically, it'll be connected to what I'll say next, but, you know, sleep, you know, again, I have good fortune of having some volunteers who have written for me. And, you know, one of my volunteers wrote a very exceptional piece —looking at sleep and its effect on insulin resistance in the microbiome. And even 45 minutes more sleep at night can reduce inflammation, improve the microbiome profile, and improve insulin resistance. Right?

So that's so if you sleep six hours and you're like in your head, you're like, yeah, you know, I'm sleeping six anyway, so why don't I just sleep five? Well actually if you have a low, you know, and I'm guilty of that myself, right. It resonates that statement resonates. I mean, we all go through we all do that. But an extra 45 minutes of sleep when you don't sleep enough can make a difference. And that's important for people to know.

The other thing I would say is that coffee, you know, I you know, I love my coffee. Great evidence that shows that coffee drinkers have a slower fatty liver disease progression, you know, probably due to the most likely due to the significant polyphenol content of coffee, which helps the gut microbiome may directly interact with the liver as well. And all that fun stuff. Green tea —decent evidence there as well. Green tea and coffee, definitely favourable for liver health. Although I don't necessarily think someone's going to pick up coffee drinking if they don't already upon diagnosis, but hey, they might.

Charlotte Mei

Oh, there you go. You know, what you're mentioning here throughout this entire chat, is really reminding me of this philosophy that I, that I often talk about, which is to think about what you can add more to your life rather than what to take away.

And we're talking here about more fish, more legumes, more sleep. Maybe for some people, more coffee, but not too much. Yeah. So I like that idea of, you know, seeing what you can add rather than feeling like you got to take away things from your body. Oh, and more movement as well. I forgot to add that in.

Andy De Santis

100%. I mean, the, you know, everything I do and and you and you'll know this and I know this resonates with you and it speaks to your work as well. I mean, everything I do is about exploring the unique aspects of food and to understand that certain foods have something. This is what I love the most. And this is why part of the reason why I love fatty liver so much is that, well, I love it. I love to resolve it. I should say I don't love the condition itself. Of course I love to help resolve it. Is that fatty liver is one of those things where it justifies those little nooks and crannies.

Like for example, there is, you know, I'll throw this out there and we can explore further if you want. But there's, you know, a group of compounds called flavonoids and flavonoids are just it's just a fancy word, but really just means specific types of antioxidant compounds. And among that group there are subfamilies. And like one of the subfamilies is called flavonoids or sorry, flavonoids in this case. And those are really only found in like artichoke and parsley and oregano. And a lot of evidence or decent evidence shows that people who consume more of those compounds have better liver health. So that's a great example, right? And that's just one of many where these unique compounds, it just gives us a reason to look at foods in a constructive way and be excited about trying different things and trying new things. And, you know, for me, that's my favourite thing about nutrition. And it's yours as well obviously. So that's great.

Charlotte Mei

Absolutely. I remember you speaking about artichokes a couple weeks ago, and I was like, darn it, you know, because in Singapore we don't get a lot of fresh artichokes.

Andy De Santis

Yes

Charlotte Mei

And I mean, even if we do, I think I don't really see myself going through, you know, all the work. We do get canned artichokes.

Andy De Santis

Hey. That's fine. I had many, many people ask me about that, actually, after making that content. And, you know, look, whether or not there's a small difference in the net nutrient value between jarred and fresh, I mean, really, and I'm sure you'll resonate with this. I mean, one of the things I do is to help people just realise that certain things are just not worth your mental energy to worry about. That would be one of them.

You know, there's severe diminishing returns being concerned, like if there's a small nutrient difference between fresh and frozen fruit or fresh, you know, that's not worth really your mental energy. I think it can be better spent elsewhere., so yeah.

Charlotte Mei

For sure. And you still get the prebiotic benefits from canned artichokes.

Andy De Santis

Yes. That's why, you know, artichokes, I think are, you know, I, I've softened up to the term superfood,, later in my, in my career...

Charlotte Mei

Oh, I'm not there yet!

Andy De Santis

Yeah. You know, we, you know, we can still discuss that. I mean, you know, but for me, a superfood is something that has, you know, that has something that is not readily found elsewhere. And that's something has a unique benefit that's desirable. So under that criteria, artichoke is a superfood for fatty liver because it has the flavonoids, it has the prebiotic fiber. And those two things are, you know, inevitably very important for liver health.

But, I don't blame you for your stance, I understand. But when you used responsibly, you know, when used responsibly.

Charlotte Mei

Yes, when you used responsibly. Not for marketing purposes.

Andy De Santis

Yes

Charlotte Mei

All right. I just want to talk really quickly on intermittent fasting. So you've also spoken about this. What is the relationship between that and fatty liver?

Andy De Santis

Yeah. You know there's a decent amount of studies out there on intermittent fasting and fatty liver and different types of intermittent fasting being used. You know, everything between 16/8 versus like, you know, alternate day fast and so on.

And my views on this and in the totality of the evidence are the following. I think the reality is that the potential benefits of fasting are not enough to justify doing it. If it is just like not a fit for you. If you're bending over backwards to try and do some sort of, you know, convoluted fasting regime and you don't like it. It does not...I don't see the evidence there to tell me it's valuable. There's way more

important things to do. Like, you know, as far as I'm concerned and what I tell my clients and, you know, the beliefs I operate under, you know, what you eat, and arguably, I guess, the totality of what you eat and other things are way more important than whether you start at 9 a.m. or 12 p.m. when you start your first meal. Right?

So for people listening, going into fasting, if you know if intermittent fasting has a net benefit to those other things like what you eat, how you think about food, the quality of your life, then maybe you'll also get a little bit of a metabolic bonus for doing it. Let's just say for the sake of argument, right? But whatever that bonus is, is not worth any sort of, you know, suffering, you know, for those who don't like it. Right?

So you have to be able to evaluate what the net benefit is. So anyone who says that intermittent fasting is the one key for fatty liver, yeah, they probably have an interest in selling fasting. You know, that. I don't see any other justification to say something like that.

Charlotte Mei

Yeah for sure. I mean, when it comes to nutrition, I always tell people, focus on the big rocks first. Make sure that you're having a balanced diet, you know, your legumes, your whole grains, your seeds. Then we can talk about things like supplementation or intermittent fasting, but I feel like these are tiny little rocks are what people focus on because it's like the shiny ball syndrome.

Andy De Santis

Yeah, yeah, yeah. No, intermittent fasting, it's a compelling concept. That's something I spent like, you know, I wrote a book on that. I spent a lot of time thinking about it. It's cool. I mean, for the right person, it's like a cool vibe, I guess. But, you know, again, it's like, you know, you take two people. The best thing I could say, you take two people, they both, you know, they operate the same way. Physical activity. Nutrition wise, one person starts eating at 12, one person starting at 9. I mean, beyond the one person maybe being able to sleep in and like, not have to cook breakfast. I mean, are we really going to see a difference in their health? It just seems very unlikely to me, you know, so.

Charlotte Mei

And it's more of an overall picture as well of what your lifestyle looks like. Yeah. So we also received some questions from our audience on IG.

This one was pretty interesting, so I picked it out. This person says that they've got a healthy lifestyle. Their BMI is in the healthy range, LDL is low, and I hear this very often, but they've got fatty liver. Could you help to explain this phenomenon to our listeners?

Andy De Santis

Well, I mean, I would be curious about, I suppose, like, you know, I mean, I'm gonna, you know, blood sugar levels potentially are okay. Not sure. I don't know what triglyceride levels, again. Theoretically, they could be okay. And you know, also it's a question of how was the fatty liver diagnosed? Was it via like a scan or was it just based on something else. So there's a few variables that we let's say we

don't know. So fair enough. That's fine. Sure. But you know fatty...look they're always going to be some exceptions.

So first of all, I mean I don't know the let's say the balance in this individual's diet over their life course. So if there are significant gaps like, for example, a great example is people with fatty liver tend to have lower levels of omega three in their liver because they don't eat enough omega three, right? Omega three...even the plant based form is only found in very few foods. So perhaps there's no omega three, and that alone could explain it, right? That's likely a stretch, but it's potentially the case physical activity and so on.

Obviously like genetics play a role as well. And some people do end up with something, even though all the other boxes are checked. Right? So there I think for that individual, you know, thinking about some of the things we talked about today from the dietary perspective, from the physical activity perspective, you know, have they been embodying those characteristics in their nutrition up until this point in their life? If not, there are gaps that can be filled, you know, proactively going forward. So that's what I would be...my inclination to say to that.

But it's a great example, you know, to show and again, the reason why I think I like fatty liver so much is that it really is this thing where the liver is so...liver is a very sensitive organ, and that if something's not, if your ducks aren't in a row for too long, even if on the surface things are okay, there's potential for something to go wrong there. But again, yeah, that's my speculation based on that.

Charlotte Mei

100%. You know, I also know a couple of people on the outside. They look great. You know, they look rather lean. Probably, you know, due to very good genes, they may not be particularly active. Their diets, okay. And then they realise they've got fatty liver, they pick up exercise and their, you know, their health jumps back to a more positive state. So a lot of the time we don't think about the importance of physical activity when it can really help a great deal.

Andy De Santis

Yeah. No 100%. I mean, again, gut microbiome imbalances, you know, frequent history of antibiotic use, all these other little bits and bobs that flow around. And we, you know, they all play a role, right? And you know, most of the blood in the body passes to the liver. So it's again, it's a very...that's what makes it so compelling. It's just very susceptible to any one little thing going wrong. Not to say if you have one thing out of balance that you end up with this condition. Right?

It's not that's not to say it is. It is a third of the population, approximately. It's not two thirds of the population, but still, that would be... totally...

Charlotte Mei

...Hopefully never

Andy De Santis

Yeah, yes of course

Charlotte Mei

Yeah, now a last one that also came in. I don't know about, you know, what this space looks like in Canada. But here in Singapore, liver supplements are becoming pretty popular, especially for, you know, people going on a night out and they want to avoid a hangover the next day, they pop in a liver supplement.

And most of the time it contains things like milk thistle, dandelion root powder, artichoke leaf powder, sometimes vitamin E, vitamin B, or the B vitamins. What do you think about these sort of supplements? Will they help things like fatty liver?

Andy De Santis

Yeah. So that, that's another good question. So there's a few layers there... I think that, okay... Well, first of all, I mean, when you have, like, you know, the dandelion root and the artichoke root, those are essentially just like as prebiotics, right? So, you know, microbiome friendly compounds. So, you know, technically speaking that is functionally useful because you're the state of your gut bacteria is relevant for liver health. So those are technically evidence based useful things. I mean they can be acquired in a much larger amounts. It depends on the supplement that we're talking about. But those are reasonable. Any prebiotic, you know, fibre, things like that —reasonable, okay?

Milk thistle is historically a popular liver health supplement. On the science side, all I've really seen there is that it can maybe reduce liver enzyme levels, maybe can reduce liver inflammation a little bit. But if you have a choice between milk thistle, a probiotic or Mega three, though, the omega three and the probiotic I think are going to be more effective because they affect multiple bodily systems and the liver is affected by multiple bodily systems. So if it's a matter of choice and economic limitations, probiotic and omega three are more effective also based on the totality of evidence, more effective.

But there are other things. Okay. Yes, there's milk thistles but there's L-carnitine and L-carnitine plays a role in fat metabolism. And there's a little bit of research that shows that people with fatty liver have lower L-carnitine levels, which makes sense. L-carnitine carries fats to be broken down. So if that's low, I mean, this is a massive oversimplification, but if that's low, okay, you could see how that affects fat metabolism.

A little bit of interest around L-carnitine supplementation improving certain aspects of liver health. But I think when you talk about stuff like that, you're talking about really small margins. So it's one of those things where if you just take a theoretical person and they're like, you know what Andy, I'm not going to change anything about my life, but I gotta take five supplements and that's all I'm going to do. Okay. Maybe then you get to those, you know?

Charlotte Mei

Sure

Andy De Santis

But bigger picture when you're when you're checking all your boxes in other areas, I don't think milk thistle is going to be the thing that changed everything. Vitamin E supplementation usually is recommended for NASH, which is the more advanced stage in people who don't have diabetes. It's a very specific recommendation, and if you're in the care of like a competent medical team, they'll probably tell you that. So I'll just leave that for that. Yeah.

Charlotte Mei

Yeah, yeah, I remember you touching on vitamin E as well. So just two fun questions before we end.

The first one is more out of curiosity, and I really want you to share more about this with our listeners. So yes you love, you know, the topic of fatty liver disease, but there's something else that you love and that you're obsessed with. And for people who are, you know, watching this via video, you're wearing a t-shirt that says, *Kaleigraphy*. Yeah. And you've got, you know, a picture of a bunch of kale behind you. Where did this obsession with kale come from?

Andy De Santis

Yeah, yeah, it's a great question again. So it ties in with, my dietician journey, so that's fun. Let's, let's, let's go down that road for a moment. So, you know, when I decided all those years ago that I was going to do things differently with my nutrition, you know, I had a problem which was like, I need an easy way to eat more vegetables.

So I started just buying boxes of like leafy greens and spring mix and spinach primarily. And then I got a bunch of bell peppers I like. I like things that are, I like crunchy. I'm a very texture oriented person. Not to say I like a lot of cooked vegetables, don't get me wrong, but I like raw leafy greens and bell pepper. So I created this thing where I would just have every day with my dinner, leafy greens and a bell pepper, and that was like my entry point, right? That was my entry point, my path of least resistance. One of the aspects I embraced to improve the quality of my diet. And basically somewhere along the way, the spinach.

Well, my friend, my friend Mike, I think he claims credit for this. He introduced me to kale and the texture wise kale is a little bit superior. It's got a bit more going on than spinach does, so I just merely swap the kale and spinach and just kept doing my thing. And then we got into like, I was doing social media, right. And then, you know, I and then I was genuinely a kale and still am, I'm genuinely a kale lover. I mean, I eat kale most days of the week, so it's all authentic. And I was, this was completely separate to the whole trend with kale being this or that. Like I had no like no interest in that. I was just doing it for functionality and practicality. So that's where that came from and just went from there. Right?

I guess, you know, you get positive reinforcement on social media. So you go down that you kind of go down that path. But it's always been 100% authentic. I mean, I will happily, if there was raw kale in front of me, I would just eat it right now and I would enjoy it thoroughly. It's not any sort of act. Some people think that, and I thoroughly enjoy it. It's just, you know, we'll call it an idiosyncrasy.

Charlotte Mei

Yeah, oh I love it. I mean, so much that you made a t-shirt, you know, with that on it, I love it. I actually, I was blocking it the entire time, but I grow kale at home as well, so I've got that. So yes, I can literally pick that off. So, there you go. That's something we share in common.

Andy De Santis

Yeah.

Charlotte Mei

Another last question. I love food, as you know, I share a ton of recipes as well. Cooking is, you know, a love language for me. And I want to hear from you about a dish that you haven't had for a while. Maybe something from your childhood, something nostalgic. If you could have that right now, what would that dish be?

Andy De Santis

Well, I would have to say so. So another...so I'm Italian, so this is going to sound really weird. This is weird even if I wasn't Italian, but I actually don't...I had when I was in high school, I got very sick from eating a whole pizza. And since around then, I have not had cheese because I'm so scarred from that moment.

But I used to like cheese, right? Which, you know, which is cheese is generally a widely consumed thing, which I appreciate. So people find it weird that I don't eat it now. But my grandmother, who, so I, you know, for grandparents. But I was particularly close with one which my grandmother and she would make lasagna, which, you know, I've yet to have anything equivalent to that. You know, my grandmother was a good cook, you know, probably a little bit better than than my mom.

My mom's not gonna listen to this, so it's okay. She did ask me what the podcast was on, though, and I told her I was doing a podcast on fatty liver. So anyway, it would be that dish also because it would then be, you know, obviously my...not obviously my grandmother's past. I was quite close with her. So the convergence of all those factors, emotional and otherwise, would mean it would have to be that selection.

I had to analyse that in the same way I analyse everything else, you know, thoroughly.

Charlotte Mei

No, I appreciate that. So in short, TLDR is nonna's lasagna.

Andy De Santis

Yes. Perfect.

Charlotte Mei

Awww

Andy De Santis

That was amazing

Charlotte Mei

I love that. Awesome. Well, cool. Thank you for sharing so much, Andy. You know, I'm sure our listeners learned a lot. I learned a fair bit as well. Really appreciate your time. Where can people get your books if they're interested?

Andy De Santis

They can get my books on Amazon. So they can just type in Andy and then a topic, and if I have that topic, it will come up. And if I don't then they might find someone else's. And then yeah, they can get anything else they need from me, on Instagram @andytherd.

Charlotte Mei

I love that and I love your newsletters, you know, all your blog posts as well, the illustrations. Keep that up and we'll keep in touch online!

Charlotte Mei

Thanks so much for having me. This was,, very lovely, very lovely engagement and your exceptional host. So. Yeah. Thanks again.

Charlotte Mei

Absolutely. Thank you so much, Andy. Take care. Bye

Andy De Santis

Bye.

Charlotte Mei

I really hope you enjoyed that chat with Andy, I sure did. It was so nice to finally speak to someone that I've only chatted through the screen via IG DMs. And I learned a couple of things from Andy as well. I mean, look, as usual, I'm scribbling on the sheet of paper next to my microphone throughout the episode, and I've got lots of stuff there. I just probably have to decipher some for my shorthand.

And you know, I just want to summarise this episode with two things, right? First of all, is a reminder to think about what you can add to your life, rather than what to take away. So we spoke about things like adding more sleep, adding certain foods to your plates, right? Whole grains, legumes, fruit and vegetables, fish of course. Physical activity.

And when we think about what to add rather than what to subtract, we don't feel that sense of deprivation. In fact, we feel more fullness, we feel more satisfaction. So instead of thinking, I shouldn't be eating this, I shouldn't be doing that. Think of what can you add to your lifestyle? What can you add to your plate? To your everyday activities?

And the second is to focus on the big rocks. So the big rocks like your overall nutrition lifestyle, what are you eating on a general basis? We don't have to focus so much on things like am I practising intermittent fasting or am I taking these supplements? Try not to focus so much on that. Try to focus on big rocks so your food, your movement, your sleep patterns. You know, are you surrounding yourself with people who positively influence you? Are you getting sunlight during the day? Let's focus on those big things, and then we can talk about the smaller rocks.

Before we end as well, I just want to highlight, you know, in so many of our episodes thus far, we've spoken about the Mediterranean diet. I would say in about probably three other episodes, you know, it has come up with Claire when talking about fertility. It has come up when speaking with Farzanah about gut health. And there is I mean, there's no mystery behind this, right? A lot of the foods that fall within the Mediterranean style diet are beneficial for many, many different aspects of health.

And for our listeners in Asia. I wish there was another way I could describe the Mediterranean style diet, because when we say the Mediterranean diet, it sounds so foreign, it sounds like we don't have those foods in our region. When that's untrue. We actually have so many of these foods here. So my goal is to actually rename the Mediterranean style diet, and, you know, find a way to also encourage people in this region of the world to eat more of these foods that we can find locally and include them in our diet for better health.

So I will keep my goodbye short, but I really hope you've enjoyed this episode. If you haven't listened to our other ones, go check them out. Share them with friends and family that you think will benefit from them as well. And please, if you could rate the show, I would really appreciate that so that we can keep bringing in content that you can all enjoy.

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