

The 21-Day Immunity Plan: How to Rapidly Improve Your Metabolic Health and Resilience to Fight Infection

A Special Interview With Dr. Aseem Malhotra

By Dr. Joseph Mercola

Dr. Joseph Mercola:

Welcome everyone, this is Dr. Mercola helping you take control of your health. And today we're going to talk about the pandemic that never was but the one that really is. We don't have a pandemic of SARS-CoV-2, this infection running around rampant, but we have a pandemic of metabolic inflexibility, insulin resistance, that makes certain populations highly more susceptible to this.

Dr. Joseph Mercola:

And to discuss this in greater detail, we are honored to have Dr. Aseem Malhotra, who is a cardiologist from the U.K.. He's written a new book called "The 21-Day Immunity Plan" that's going to go into all the specifics. So welcome and thank you for joining us today.

Dr. Aseem Malhotra:

Nice to see you Joseph.

Dr. Joseph Mercola:

All right, so you had a few motivations to write this book. Obviously, you're in the U.K. so you've got Boris Johnson, your Prime Minister, over there who was metabolically inflexible because was overweight; it's one of the symptoms, and wound up having to go into the hospital as a result.

Dr. Joseph Mercola:

But then you also had a personal challenge with your mother developing a spinal infection, largely as a result of lifestyle habits that she pursued that caused her to pass away prematurely at the age of 68; so my sincere condolences to you for that. I know how painful that can be. My mother passed away a few years ago now, too. She was a little older at 82.

Dr. Joseph Mercola:

And it's interesting ... This is a slight little tangent I wanted to address it. She was a lifetime smoker, so she had COPD (chronic obstructive pulmonary disease). But she weighed pretty decent, I mean, she wasn't obsessive about it, but she avoided most of this. So she wasn't really that – and I know it's an [inaudible 00:01:41] of two, but it's interesting how really your lifestyle choices with respect to the foods you eat is far more important than even smoking, I think from my perspective. I think it is, and we're going to go into the details, especially as it relates to this pandemic.

Dr. Joseph Mercola:

So why don't you expand on those, and we'll go into more specifics of book because it really ... Let me finally comment on the book. It's a short read; I read it in one walk on the beach and I love that. But it was really brilliant in that it summarizes, condenses it, just highlights the important thing and reinforces things we've heard about, but maybe are a little bit confused on. So congratulations on writing a brilliant book.

Dr. Aseem Malhotra:

Joseph thank you for that, I appreciate it a lot. So, I mean, talk about the first point in terms of my motivation for writing. I think you've hit the nail on the head. The real pandemic is poor metabolic health, or as you say metabolic inflexibility; which we'll go into detail on.

Dr. Aseem Malhotra:

But just a bit of background in terms of the book. So I think the first thing to say is I had become aware as early on as sort of March when we were getting data from China, and from Italy that there was a clear link between conditions essentially related to excess body fat, in very simple terms, defined as poor metabolic health, had very strong associations with worse outcomes from COVID-19. So we're talking about conditions like Type 2 diabetes, high blood pressure, heart disease and, of course, obesity, and that data kept emerging.

Dr. Aseem Malhotra:

And it was very clear, that link was so clear, and it wasn't just out of the blue, Joseph. Because historically, certainly as a medic, as somebody who's been a practicing doctor for almost two decades now, it's very clear we know the people who have poor metabolic health certainly tend to have worse outcomes from really any infection. And that's kind of something we've been aware of, but COVID-19, I think, has highlighted it more and made us think about it more.

Dr. Aseem Malhotra:

And we're talking about chest infections, hospital admissions with pneumonia; for example, Type 2 diabetics tend to do a lot of worse. So I was looking at that data and then I thought, "Well listen there's something missing out of this mainstream conversation." It was getting a lot of immediate coverage across the world, in the U.K., in the United States, but no one was talking about lifestyle.

Dr. Aseem Malhotra:

And more to the point, the fact that these conditions, these lifestyle risk factors can be, as you know, rapidly ameliorated or modified just purely by changing diet. And I thought, well actually there's one message missing in addition to all the other things that have been going on through the government messaging around social distancing, and hand washing, and all of that kind of stuff, they should have been saying, "Listen this is the time now. There's no better time for you to really think about trying to improve your health and looking into what you eat, moderate exercise, sleep, all those things." But it wasn't happening.

Dr. Aseem Malhotra:

So I started writing, initially, a number of articles in some of the British newspapers, and then I got an opportunity to go on Sky News to speak about it there. And I made it very clear I said,

"Listen, there's a chance at some point we're all going to get this virus, and we want to make sure that we're in the best position to be able to deal with it, so that we don't get sick from it when it happens." And that was my first sort of public ... I think I was probably maybe the only doctor that had the opportunity to say that in a mainstream media probably in the world at that time; I think no one else had said it.

Dr. Aseem Malhotra:

So that's how things started but then what happened as that more and more data became available, and as the U.K. got hit quite hard, up to over 1,000 deaths a day at one stage. Then the Prime Minister got admitted, Boris Johnson. And looking at him, people know he's always had issues with his weight. And it's interesting that he seemed to be the only person who got particularly sick, whereas his colleagues of similar age who are slimmer seemed to be able to deal with it at home and weren't particularly unwell.

Dr. Aseem Malhotra:

So then I wrote another article in The Telegraph newspaper which was featured on the front page, and I was on Good Morning Britain over here. And I mentioned it again, I mentioned Boris, and that seemed to suddenly cause a huge media storm in terms of, "Cardiologist links Boris's weight with his sickness." He was already cured, he came out of the hospital, he recovered thankfully by then.

Dr. Aseem Malhotra:

And then my publisher contacted me said, "Aseem listen, you've been very vocal on this particular issue, can you get a-" I mean, I'd written also in European Scientist an article about this which went viral and broke their record [inaudible 00:06:20] years or whatever saying the elephant in the room is obesity and metabolic health, really this is what we should be discussing.

Dr. Aseem Malhotra:

And she said, "Listen, can you get this written in six weeks?" Because you know, Joseph, is not that easy as task to do, but I think because I had a lot of – I've been reading so much research on it and I thought, "This is such an important issue for public health."

Dr. Aseem Malhotra:

Interestingly, Joseph, at around the same time, the Secretary of State for Health in the U.K., Matt Hancock, actually contacted me and asked me to advise him on what they should be doing. And I said, "Listen, obesity is one component of a bigger issue. It's the, I would say, the tip of the diet-related disease iceberg. We need to be talking about metabolic health." And I sent him some data and information and he took it on board.

Dr. Aseem Malhotra:

And then it was about a couple of months later or six weeks later by the time I finished the book, Boris Johnson, our Prime Minister, came out saying that actually we need to do something. He linked it and so we need to do something about the obesity epidemic.

Dr. Aseem Malhotra:

And yes I got the book written, it was a lot of waking up early in the morning at 4:30 and doing a lot of writing. But I'm really glad you liked it, I really appreciate that. I tried to make something quite concise but with enough strong messages for everybody to kind of pay attention.

Dr. Aseem Malhotra:

Not just members of the public and people who are concerned themselves, but actually about what can we do on a policy level, Joseph? Because this problem of poor metabolic health, of obesity, excess body fat has been rampaging through the populations of the Western world now even in developing countries for the last two decades, and we've not really made any impact.

Dr. Aseem Malhotra:

And the reason we've not made any impact isn't just about the lack of knowledge or, how should I say, misinformation or poor education, but it's about policies at government level that are implemented to protect the public from what are, basically, the lies and misinformation that come from the food industry. And unless we deal with that, we're not really going to have the impact that we need to have across the whole population.

Dr. Joseph Mercola:

Yeah that's certainly a good strategy to employ. But the beautiful thing about this is that we don't need any governmental policies to personally implement these strategies for ourselves, our families and our loved ones. The information's there, it's well-documented, it's noncontroversial, simple and in most cases, it'll basically cost you nothing to implement other than your time.

Dr. Joseph Mercola:

So that's the good news is that we don't have to wait for governmental policy. But I couldn't agree more, would be nice if that aligned with establishing these initiatives within the general population, because that would go a long way towards reducing it. So I'm curious because your messaging is in direct conflict with the mainstream narrative of anything that conflicts with the World Health Organization (WHO) message needs to be battered down, suppressed and labeled as fake news. So I'm wondering what the response was to your message in England?

Dr. Aseem Malhotra:

Actually it was largely quite positive, Joseph, in the sense that other than the occasional bit of trolling. I mean, the book itself generally got good reviews, I had some eminent doctors who endorsed it. So I think the, in general, I think it's very difficult. I mean the only – If I was being the devil's advocate against what I'm advising, which is that you can, within 21 days, markedly improve markers of metabolic health.

Dr. Aseem Malhotra:

We know that is, itself, correlated with immune dysfunction. The only thing is do we have any definitive data to show that if you improve metabolic health, you're then going to show biomarkers related to the immune system or even improving outcomes? We don't have that, but I don't think we need it to be perfectly honest. It's a no-brainer from my perspective.

Dr. Aseem Malhotra:

But yeah, of course, it'd be great to have some hard data showing that you can significantly enhance, optimize your immune function. But I think it's one very difficult to argue against, so I think there hasn't been any backlash in that sense so far; and I think that's a good thing.

Dr. Aseem Malhotra:

I think the only thing is, as you know, even though the book has done very well here in the U.K., it's a best-seller and all that kind of stuff, the public is constantly having to combat this tidal wave, this tsunami of misinformation on a daily basis; whether it's through false advertising or whether it's through wrong dietary advice.

Dr. Aseem Malhotra:

And even if I had like one day on the news, even if I hit the front page of a newspaper, unless I had knock-on effect and was then reinforced again, and again, and again on a daily basis, if every day the government was putting out a message saying, "Metabolic health is the key." Then we would have a really big impact.

Dr. Aseem Malhotra:

Of course I, like yourself, I have feedback from so many people through social media, patients who I've helped, people who comment on my Facebook that have reversed metabolic syndrome, have come off medications. But on the larger scale this is what we're up against, Joseph, really. So it's great, it's good to get the ball rolling.

Dr. Aseem Malhotra:

And hopefully, for me, that's why influencing the Secretary for Health despite all the conflicts of interest or lobbying that he may have from the food industry, it still goes some ways and thinking, "Okay, well actually maybe there's something in this. How could we try and make sure that we get this message out to the public and keep reinforcing it again, and again, and again?"

Dr. Aseem Malhotra:

And you mentioned earlier Joseph yes, of course, we have got a role to play, we've got our channels, our social media channels for example, mainstream media at times to get information out there. But for certain groups, certain populations, Joseph, certainly in the U.K. and I suspect it's the same in the U.S., from the poorer backgrounds who've got job insecurity and low wages, and when you look at their affordability of healthy food, it becomes very challenging. Now it's not impossible, but it's very challenging.

Dr. Aseem Malhotra:

And that's where those are the people who are most vulnerable and that's why I say well, like with smoking, we got so far with educating the public about smoking and how bad it was for you, but really if you look, certainly, in the United States and then in the U.K., it was when you introduce like public smoking bans, and banned tobacco advertising, and even taxation increasing the price of cigarettes, when those things came in because of government having to intervene – because we can't survive without government.

Dr. Aseem Malhotra:

I mean, our laws are dictated by government, we can't have anarchy, we can't live in a lawless society. So who determines those laws? It's the government. But they also have a role and responsibility to protect, again, the public from misleading information which basically allows the food industry, and to some degree, the pharmaceutical industry to get away with stuff which is really unacceptable, which is unjust.

Dr. Aseem Malhotra:

And I think that's why, for me, linking that to smoking – of course, there are some differences with food and smoking of course. I think if we use those principles, then combine it with the education, of course; we have to educate people, absolutely. But with those policies that making it easier for people to make the healthier choice, then you're going to see huge impacts very, very quickly; and we're not there yet unfortunately.

Dr. Joseph Mercola:

Yeah.

Dr. Aseem Malhotra:

And that's certainly what my analysis, my research, really that's the conclusion I've drawn.

Dr. Joseph Mercola:

Okay so thank you for expanding on that and I'd like to go back to the central thesis of your book which is that we have a pandemic of metabolic inflexibility, insulin resistance or metabolic ill health and there are two subsets of that. One is the traditional one that you described, which is insulin resistance described as or defined as high blood pressure, high triglycerides, the need to be on cholesterol-lowering medications, obesity, and other variables that are connected with that.

Dr. Joseph Mercola:

And in the United States, I'm pretty sure it's similar for the U.K., we have the NHANES (National Health and Examination Survey) study that was published about four years ago and showed that 88% of the population in the U.S.; 88%. Literally 4 out of every 5 people met those criteria of not having good metabolic health.

Dr. Joseph Mercola:

But there's another one, which I think you – and you mention it in your book too; so I appreciate that is that you could be described as a subset of metabolic health which is vitamin D sufficiency. And similarly, we have about the same numbers of people in a population, probably more in the U.K. because we have many large segments of our population in the United States who are [at] far lower latitudes than the U.K. and, obviously, as a result we have higher vitamin D levels just by being outside.

Dr. Joseph Mercola:

So we have 90% of the population in the U.S., I suspect even higher in the U.K., who are deficient in vitamin D. And the beautiful thing about the vitamin D, though, is that it doesn't require a lot of willpower or discipline to implement and change your lifestyle; it's just a matter

of swallowing a crazy little, inexpensive pill in the right does to modify that. So I wonder if you can address those two and then we can go into some of the more specific details of [inaudible 00:15:55].

Dr. Aseem Malhotra:

Yeah and no, Joseph, you're right. I mean, that is a scary statistic about the metabolic health issue. Which I only discovered a few months earlier, which you're absolutely right. Only 1 in 8 adult Americans are metabolically healthy; and this isn't even just old age groups. If you look at people aged between 20 and 40, people you consider quite young, only 1 in 4 of those have optimal metabolic health.

Dr. Aseem Malhotra:

And to define that, which I do in the book, there are five variables, five risk factors, if you like, that you need to be aware of, which are not expensive tests to do, and two of them you can actually, basically, do at home. But it's increased waist circumference, being pre-diabetic or Type 2 diabetic, having pre-hypertension or hypertension, and having either high blood triglycerides or low so-called HDL, good cholesterol. And if you have all of those five in the normal range, great, you're optimal metabolic health.

Dr. Aseem Malhotra:

The worst form of it is metabolic syndrome which is, basically, having any three of those five being abnormal. Now the data from COVID, which is interesting, shows that the highest risk of death and hospitalization are in people with metabolic syndrome – not obesity; obesity probably doubles your risk of death.

Dr. Aseem Malhotra:

But with metabolic syndrome, it's around three and a half times increased risk of death, more than threefold, and about five times the risk of hospitalization if you get COVID-19; so that is the major problem. And the reason why that's important, Joseph, is it also affects many, many people. And this is why BMI (body mass index), to be honest, I think should be thrown out; I mean, it's useless, it's outdated.

Dr. Aseem Malhotra:

We should be looking at metabolic health because up to 40% of people with a so-called normal BMI, who may be told they've got a healthy weight, actually are metabolically unhealthy. And that's a huge proportion of people, and there are disparities depending on which ethnicity you're from. But the basic problem with BMI, which is a calculation based upon your weight in kilograms divided by your height in meters squared, is it doesn't take into consideration your body fat percentage, your muscle mass, your ethnicity.

Dr. Aseem Malhotra:

So this is the problem with it and then it misses a huge group of people who are probably vulnerable, and could institute lifestyle changes to help themselves if they were advised to do so. But a lot of them aren't being advised because they're being told they've got a healthy weight.

Dr. Aseem Malhotra:

So that's also something that I think people should be aware of. And if everybody knew their metabolic health markers and were then given that advice to do things about it then, again, as I point out in the book, within a few weeks you'd notice probably significant changes. And, of course, it's going to vary from person to person.

Dr. Aseem Malhotra:

As regards to vitamin D, I think you're right, Joseph, it is again something that we've ignored for a long time. Certainly in the U.K., a significant proportion of people are either deficient or severely deficient in vitamin D. And it has such an important role in immune function. Most cell receptors in our body have vitamin D receptors, and it is involved in enhancing both innate and adaptive immunity.

Dr. Aseem Malhotra:

So the bottom line is you need to have your levels, certainly, well within the normal range. And yes and these days because people don't spend enough time sort of exposing enough of their body to sunlight, which should be at least 10 minutes a day; at noon, probably up to 25 minutes. And it's interesting if you're darker-skinned, you need more sunlight to generate the same amount of vitamin D as someone who's lighter-skinned.

Dr. Aseem Malhotra:

And as you know, so many blacks in America and South Asians in the U.K., were disproportionately affected by COVID-19. And some of that would almost, certainly, be because of vitamin D deficiency. There was study in Indonesia that showed that people hospitalized with COVID-19, those who had severe deficiency versus those that had normal ranges of vitamin D in their blood, there was a tenfold difference in death rates, which is extraordinary. So it's certainly has a very important role to play.

Dr. Aseem Malhotra:

Now supplementation there's some mixed data, historically. But in general, it doesn't do you any harm. And the data does tend to suggest, certainly, for respiratory infections, with chest infections, and likely also with COVID-19 based upon one pilot randomized trial done in Spain, it will reduce your risk of severe illness from chest infections and likely COVID-19; so I'm with you on this.

Dr. Aseem Malhotra:

I think I changed my view a little bit. The ideal scenario is to get vitamin D from sunlight because it actually stays in your bloodstream longer. But, certainly, at least through the winter months you should be taking a supplement. And I think the good thing about that is it's cheap, as you say, it's very straightforward, it's very easy, and you don't need to go for an expensive blood test.

Dr. Aseem Malhotra:

Certainly in the U.K., it's quite expensive to get a test for vitamin D, and we're now thinking actually it's just better to advise. In fact, our Public Health England, our National Health Service, whatever guideline bodies have now come and said actually pretty much everybody during the winter months should be on a vitamin D supplement. So absolutely, it's really important.

Dr. Joseph Mercola:

Yeah, there's no question. The cost of the supplementation is actually far less expensive than the cost of the test. So-

Dr. Aseem Malhotra:

Exactly.

Dr. Joseph Mercola:

That's a no-brainer. But interesting that Southeast Asia study that you quoted is even more impressive, rather than a tenfold change in the death rate, 96% of the people who were infected with COVID, who had severe or critical illness, 96% had low vitamin D levels. And on the converse, 96% percent of those who had mild COVID-19 had normal vitamin D levels which makes it even more extraordinary and almost beyond rocket science to-

Dr. Aseem Malhotra:

And Joseph, Indonesia's not a country, it's not like ... It's not a northern latitude country. It's a country thing that they get plenty of exposure to.

Dr. Joseph Mercola:

Yeah, yeah, sure, so it's tropics.

Dr. Aseem Malhotra:

You know-

Dr. Joseph Mercola:

[crosstalk 00:21:59]

Dr. Aseem Malhotra:

Now some of it's cultural, of course. In Muslims as well, in particular. Females they cover their body, etc. for a long periods of time. But I think there're probably ways around it, but I think, yeah, we need to just think a little bit more about getting more exposure to sun, essentially.

Dr. Aseem Malhotra:

And I think what's interesting is when you look at this mixed data on supplementations for vitamin D with a lot of benefits, one thing which is I think hasn't been done. I was thinking about this today is what would be useful to do?

Dr. Aseem Malhotra:

And they've done this randomized trials in the short-term looking at children, or adults about vitamin D supplements, and how commonly they get in the flu virus, for example. They should try a randomized control trial on exposure to sunlight; they could do it. They could do an exposure to sunlight and people who don't get the sunlight exposure.

Dr. Aseem Malhotra:

My intuitive guess is that the results would be even much more remarkable; they'd probably be stronger for whatever reason. I don't think we will put on this earth – I know there are differences; the food has changed, and the nutrients have changed in the food, etc. But I don't think even from an evolutionary perspective, we didn't survive on supplements. We don't really need supplements from an evolution perspective.

Dr. Aseem Malhotra:

I suspect getting good health actually is going to come from just eating real food, and being out in nature, and doing moderate exercise, and reducing our stress, and social connection; all of those things, I think, are the key to longevity and good quality of life.

Dr. Joseph Mercola:

Yeah. Unfortunately, the evolution of man is such that we migrated from the tropical and subtropical zones up to the more northern or southern latitudes. And as a result, it's becomes physiologically impractical to get enough UVB exposure to generate vitamin D, so that becomes an issue. I think once you get above 22 degrees latitude, either north or south, or above those you have a challenge.

Dr. Joseph Mercola:

So I want to get into some of the specific details and giving people the information and how they can apply this knowledge now they're inspired and, hopefully, catalyzed to make a difference, not only for themselves but their family members [on] what to do, how to become metabolically healthy.

Dr. Joseph Mercola:

And you put a lot of attention to elimination or, limitation, of sugars in the book and kind of paint them as a villain and I think they, certainly, need to be appropriated. But I wanted you to talk about that because I think there's an even bigger villain that is not addressed well in the book. And I'm not quite certain that you're aware of it too, but I like to go into that, but let's discuss the sugar first.

Dr. Aseem Malhotra:

Yeah, sure. I think one basic way – so let's see, if we just start by defining metabolic health. I think in very simple terms, Joseph, it's a pointer which for you excess body fat starts to increase risk of you developing many health conditions. And metabolic health, certainly as a cardiologist because people may ask, "Hold on, why is a cardiologist talking about the immune system?"

Dr. Aseem Malhotra:

Well first and foremost, for me as a campaigner, as an activist, someone who trained initially as being an interventional cardiologist doing [inaudible 00:25:06] heart surgery, I started on this journey because I noticed over my, up to that point 10 years ago almost, 10-year career that there was more and more people coming in with chronic disease, more and more sickness.

Dr. Aseem Malhotra:

Heart disease, cardiovascular death rates have plateaued, they've now start to increase slightly. And, for me, it was trying to investigate what was going on in the wider – “What were the wider determinants that were going on that were leading to people getting into hospital in first place and what could we do about it?”

Dr. Aseem Malhotra:

And when I looked into all the research and data and I published – as you know, we did an interview seven years ago actually which I think was very popular on your website about saturated fat, which I wrote about in The BMJ. And I think that really started the ball rolling because it got a lot of coverage around me, as a cardiologist, saying, "Saturated fat is not the major issue in the development of heart disease."

Dr. Aseem Malhotra:

What else I wrote in that is that we should be focusing on, and this links to sugar of course, metabolic syndrome because two-thirds, 66% of people admitted to hospitals in the largest study on heart attack admissions in the United States, two-thirds of those patients have metabolic syndrome. 75% will have so called normal cholesterol levels and LDL, so-called bad cholesterol, which isn't really that bad, but we can come on to that in a little while.

Dr. Aseem Malhotra:

So metabolic syndrome was always a major issue from a heart disease perspective, but actually what else has emerged over the last few years is that poor metabolic health is at the root of many conditions including, obviously, we know it's Type 2 diabetes, it's a precursor for that. High blood pressure, probably 50% of high blood pressure is related to poor metabolic health, and likely also cancer and dementia as well.

Dr. Aseem Malhotra:

So these are really the big, chronic disease conditions that are the biggest contributors to health care costs and to misery. Not just health care cost, just to misery for millions and millions of people. So the roots of this, and I'm always open to new data/new science, but it's quite clear that is the elephant in the room that we should be focusing on.

Dr. Aseem Malhotra:

And the reason we've not focused on it is because there's no real market for the message of healthy lifestyle. And because the drug industry, as doctors, we treat individual conditions with individual drugs. So high blood pressure's got a pill, you've got a pill for Type 2 diabetes, you've got a pill for cholesterol; and that's kind of been our focus.

Dr. Aseem Malhotra:

Yet these pills, in most people, don't have much of an effect at all in preventing any adverse outcome and if you're unlucky to get side effects, then you're going to feel worse. So what should we be doing in terms of lifestyle? Well actually the only data we have to show metabolic syndrome can be reversed is through lifestyle and actually just through dietary changes from albeit small studies, but it's pretty compelling.

Dr. Aseem Malhotra:

And that's really, for me, where all of this starts. Now when you try and understand what are the interventions that can improve metabolic syndrome, it's basically cutting out foods that are going to increase – the biological root of this is what we call insulin resistance.

Dr. Aseem Malhotra:

So over time, our body becomes resistant to the hormone insulin which has many functions including being the fat-storing hormone. So what we're doing, the way we're implementing and the science behind it is really quite straightforward in the sense we want to minimize or reduce high glycemic index carbohydrates; so these are your refined carbs.

Dr. Aseem Malhotra:

These are your breads, your pastas, your white rice for example, and sugar, which even has an indirect effect on promoting insulin resistance through increasing liver fat. So sugar is probably one of the major dietary culprits. It's certainly also, beyond its calorie issue, it seems to have independent effects and adverse effects on metabolic health.

Dr. Aseem Malhotra:

And it's something that you find in probably more than 70% of the foods in the grocery store, or what we use in the U.K., we call the supermarket. And there is data to suggest that it in some ways works to affect hormones that control appetite.

Dr. Aseem Malhotra:

So what I would say, in very simple terms, I'll tell my patients is, “See, sugar really is an appetite stimulant. It has no nutritional value, it's not doing any good for you other than the instant pleasure that you get from it and, of course, the food industry have exploited that when it hits your palate, and the dopamine response, and the high that people get momentarily from these sorts of foods.”

Dr. Aseem Malhotra:

But other than that, it's going to cause you damage to your health. So sugar is one of the first things I always talk about that people need to eliminate if they can from their diet. And fine, have the occasional treat, but once you've readjusted your palate and you've broken that so-called addiction, you don't crave it anymore. And those addictions for a lot of foods, for a lot of people, most people you can break those addictions usually within three to six weeks.

Dr. Aseem Malhotra:

And then it's the low-quality or the high glycemic index carbohydrates, the carbohydrates are like fiber. So this isn't whole fruit and vegetables, this is the stuff we've already mentioned: the breads, the pastas, the rice for example.

Dr. Aseem Malhotra:

And in the United States, just to give you some perspective, Joseph, 42% of all the calories consumed amongst the average American comes from a low-quality carbs. So that's sugar and the carbohydrates are like fiber. That's a huge amount of calorie consumption just coming from foods that really have little to no nutritional value, and are going to basically send your glucose and your insulin through the roof.

Dr. Aseem Malhotra:

And chronic high insulin actually can precede the development of Type 2 diabetes by even 24 years. And again, chronically high insulin is linked to many, many chronic diseases. So I think our focus, with the data we have at the moment, should shift to everybody understanding insulin, and glucose, and trying to minimize the excesses of both those, both insulin and glucose, through diet. But also what else is interesting is being sedentary is a problem, so moderate activity can ameliorate or can reduce these risk markers, getting a good sleep and reducing stress.

Dr. Aseem Malhotra:

So I think combining all those together that synergy of the diet and all the other lifestyle factors, certainly, with my patients and that prescription has quite profound and rapid effects on health. So that's where we need to change the narrative.

Dr. Aseem Malhotra:

But we're up against Big Pharma, Bad Pharma, and we're up against the food industry. So this is really the challenge that we have, but I think once more and more people become aware of the truth, then I think things will change. Because people will find it unacceptable, they'll find the status quo unacceptable. And I think we all want our communities, our families, our friends to be as healthy and as happy for as long as possible.

Dr. Joseph Mercola:

All right, well thanks. The information you shared is certainly what's accepted by those of us who advocate stronger nutritional principles, and I don't think there's much disagreement with that. But I think there's another variable that's been overlooked. But not only you, but many of the people like Dr. Robert Lustig, who you quote in your book, who is, I think, guilty of this.

Dr. Joseph Mercola:

And let me give you some preface for this in that I interviewed an ophthalmologist, Dr. Chris Knobbe, K-N-O-B-B-E, and he did some really fascinating investigative work. He's an ophthalmologist and so he focused on age related macular degeneration which, essentially, did not exist, was not in the world population prior to 1900; didn't exist. Just as heart disease didn't exist, just as cancer, essentially, didn't exist. I mean there were rare reported cases but, they were truly rare indeed.

Dr. Joseph Mercola:

So what happened around 1900 it was the introduction of food processing. And that was seems to be the biggest variable inclusion he reached, and I would tend to agree with it, is that it was really the industrial processing of vegetable oils, or more accurately, seed oils, like canola, corn and soy. In many of those cases they're all genetically engineered.

Dr. Joseph Mercola:

But it's that when you take these out of the plant and put them in high concentrations, you get enormous levels of omega-6, specifically alpha linolenic acid. And the answer to that isn't taking more fish oil, it's actually to reduce it.

Dr. Joseph Mercola:

I mean, our concentration of this omega-6 fatty acids used to be well below 2% of the energy in our diet. And we do need some, it's an essential fat, but we're getting it at 10, 20 times higher levels, which actually increases insulin resistance by causing, interestingly, the adipocytes, the fat cells, to become insulin-sensitive, and not allowing them to perform their function and, literally, contributing radically to this whole panoply of metabolic ill health as you described.

Dr. Aseem Malhotra:

Yeah, Joseph, so you-

Dr. Joseph Mercola:

And it's not the saturated fat; I forgot to mention it.

Dr. Aseem Malhotra:

Yeah.

Dr. Joseph Mercola:

So it is fat, but it's not saturated as you rightly-

Dr. Aseem Malhotra:

Yeah.

Dr. Joseph Mercola:

-pointed out in your British Medical Journal editorial.

Dr. Aseem Malhotra:

Yeah. No, Joseph, I agree, to some extent. So, I mean interestingly, I wrote exactly what you said. I wrote about that in my first book, "The Pioppi Diet," which I published in 2017. And I did actually emphasize – there's quite a sort of significant section about the harms of the so-called seed oils. And what's very clear, absolutely, is the – And separate to the omega-6, which you're spot on about. Dr. Artemis Simopoulos-

Dr. Joseph Mercola:

Yeah.

Dr. Aseem Malhotra:

Geneticist and, I think, based in Washington. And she's done a lot of great work showing that you're right, if you go back pre-1900 or whatever else the ideal ratio of omega-6 to omega-3 in the blood should be, ideally, 3-to-1; it should certainly be less than 10-to-1. And then the average U.S. adult, I think this figure is a pretty extraordinary high, they're 25 ratio of 25 omega-6 fatty acids in the blood to 1 of omega-3. So cutting omega-6 fatty acids or reducing it, certainly, is very important.

Dr. Aseem Malhotra:

But before I talk about what you mentioned about all of the issues of interest is, of course, there are a lot of biological studies that are very plausible that are valid, that confirm what you said. Certainly heating these oils are very damaging.

Dr. Aseem Malhotra:

So these the oils become very toxic with common frying purposes, and they're producing aldehydes, which are these compounds that even the WHO say are carcinogenic. And even, for example, we have a popular dish in the U.K., fish and chips; as you probably know.

Dr. Aseem Malhotra:

And just one portion – they did a study, one portion of fish and chips, the oil that's being – this sort of vegetable seed oils, whatever they're being used, that the amount of aldehydes that are produced are like 200 times the limit recommended by the WHO. So there's a problem certainly there, 100%.

Dr. Aseem Malhotra:

The only thing that where my thinking has evolved a little bit, and I defer to an expert in this field is a nutrition scientist in America you may know called Dr. Dariush Mozaffarian. Now if you look at the observational data and some RCTs (randomized controlled trials), and it is a bit mixed, you do find some studies of harm and you, interestingly, overall in his perspective certainly when it comes to cardiovascular disease, there seems to be a slight potential benefit.

Dr. Aseem Malhotra:

So the question then is are they as harmful in smaller amounts and if you're not cooking in these oils, for example? So personally I avoid them, I tell my patients to avoid them. And I actually say that, "Based on the best data we have so far. my preference, or certainly the base fat, should ideally be good-quality extra virgin olive oil, which is relatively stable for cooking purposes."

Dr. Aseem Malhotra:

And we have lots of biological data and some randomized control trial data showing that it's beneficial. Certainly when it comes to heart disease, improves good cholesterol (HDL) function,

has anti-inflammatory benefits. So for me personally, what I do, I follow my own advice, my base fat is extra virgin olive oil.

Dr. Aseem Malhotra:

And then on top of that, I will use a bit of coconut oil if I'm frying my eggs for example. Or, certainly, some of my Indian dishes I cook, I use ghee or butter; so these are the main oils. But, yeah, absolutely I avoid those polyunsaturates. And we do need some omega-6, as you say, and you can get those from nuts and seeds actually, you get plenty of those from nuts and seeds, which themselves are very good. You'll get some omega-6s in almonds or whatever.

Dr. Aseem Malhotra:

So I think, yeah, you're right, it's the dose that's the problem. And if people – the huge, vast quantities around the world, these very cheap industrial seed oils, I think, are a major, major, major issue, and we should try and shift away from those absolutely.

Dr. Joseph Mercola:

Yeah, so I'm glad you're in agreement with that. And that you didn't really touch on it on this book right? Didn't read your last book, so I wasn't aware of that. So the issue that you can really summarize and avoid most of it, but not all of it, is avoid processed foods, which are loaded in sugar, and these industrially processed seed oils, but you would avoid most of them, not all of them.

Dr. Joseph Mercola:

And I certainly take olive oil myself; I had to limit it to about a tablespoon a day, because it's significantly high in omega-6 too. So if you're having 4 or 5 tablespoons a day of olive oil, you've got a pretty high level of omega-6, I mean, just put into a nutrient analyzer like Chronometer and you'll see real quickly.

Dr. Joseph Mercola:

Because I've made that mistake once. “Where is all this omega-6 coming?” It's coming from my olive oil. But the other extensively healthy sources of food that you and I, and most people would agree on, would be healthy-raised meat like poultry and pork.

Dr. Joseph Mercola:

Well these are not ruminant animals, and as a result, they're typically given lots of grains in their diet, and the grains caused the omega-6 in their tissue to go up quite high.

Dr. Aseem Malhotra:

Yeah.

Dr. Joseph Mercola:

Two to three times higher than a grass fed beef, bison or lamb. But not too different in many ways than conventionally raised beef, which is also potentially high in omega-6. But the key is finding that level of low omega-6. And it's basically healthy-raised fat.

Dr. Joseph Mercola:

So I think there's an incredible information out there on lowering obesity with high amounts of saturated fat called stearic acid, which is high in these foods like grass fed beef and butter. So that, to me, is like one of the healthiest fats you can get especially if you're interested in optimizing your weight.

Dr. Aseem Malhotra:

Yeah, and I'm sure. And I think I always – for a lot of people they need to walk before they can run, Joseph. And you mentioned the process food right? So I think the big issue on the population level, and even for many individuals, is ultra-processed food consumption. And people can look up, it's free online there's an international classification called NOVA, N-O-V-A, which came out of Brazil.

Dr. Aseem Malhotra:

And they actually categorize all the different types of food according to the degree of processing. Now what's interesting is they've actually simplified it in a way that is very helpful. Certainly when I discuss it with patients is, ultra-processed basically is usually something industrially produced. But in very basic, simple terms, I tell my patients, or people I speak to that, "If it's packaged food and has five or more ingredients, usually with additives and preservatives–"

Dr. Aseem Malhotra:

And these are exactly what you mentioned before. They're high these unhealthy oils, sugar and starch; “-avoid them.” But this is now 60% of the calories being consumed in the U.S. and over 50% of what's being consumed in the U.K. of these foods, Joseph; it's absolutely staggering.

Dr. Aseem Malhotra:

So one of the bits of advice to start with though is I tell people the two things is what they should cut out is ultra-processed food and low-quality carbs, and at least go cold turkey for a few weeks. You may reintroduce them or have them as occasional treats or whatever, but this should not be making the bulk of your calorie consumption.

Dr. Aseem Malhotra:

And that is really where we need to start. And I think if they cut that out, then they will also automatically be reducing their refined carbs, their sugar, the omega-6 oils; all of those things are going to be significantly reduced from their diet. And then, of course, yeah, then we're dealing with probably more marginal effects with all the other tweaks you can do, but that's a great place for people to start.

Dr. Joseph Mercola:

Good. And as part of your 21-day immunity plan, you also, I'm glad to see this, has integrated the intermittent fasting or time-restricted eating which is really technically the more accurate way to describe it, where you're limiting your eating window to about, ideally, six to eight hours a day. And I think that's – you nailed the target right on the head. I'm been studying this thing for many years and that's the conclusion I reached.

Dr. Joseph Mercola:

I thought initially a tighter eating window might have been healthier, but I think that becomes problematic the older you are. If you're young and really healthy, probably you can go to one meal a day; a nomad diet. But I think for most everyone, six to eight hours is probably the wisest strategy because it's achievable. And once you're there, there's absolutely no amount of willpower or discipline that's required because your hunger and your appetite just is normalized and there's-

Dr. Aseem Malhotra:

Yeah.

Dr. Joseph Mercola:

-not a desire to eat these foods.

Dr. Aseem Malhotra:

Yeah, yeah I think the key with this, Joseph, is people need to stick to it and it can take a few weeks; build up gradually. Maybe start with one day a week, two days, three days, etc., and then it becomes much easier to do.

Dr. Aseem Malhotra:

My cousin, who lives in California, I mean he struggled for most of his, certainly, childhood and early adulthood as being particularly overweight. And as it is in these big, extended families, people make fun of him a little, just in an endearing way as the fat kid. I know that sounds really whatever – it's not very politically correct to do that these days, and I'm not condoning it, but this is the kind of thing, you know these things go on historically.

Dr. Aseem Malhotra:

But on a positive note now, he's probably the slimmest and maybe the fittest member of the whole family because he changed his diet. But he is religious with his time-restricted eating, I mean, he does it every day, and now he's literally got a flat stomach, he's in optimal metabolic health and it's amazing.

Dr. Aseem Malhotra:

But he told me as well it took time for him to really see the massive benefits in doing it for him. Took about a year to get the real kind of the last bit of fat around his belly, etc., to get rid of that; so it depends what you want to get to.

Dr. Aseem Malhotra:

From my perspective, Joseph, and I think I always tell my patients again, "Walk before you can run." And in the book I say, "Do these things first." Because doing a lot of things at the same time might be more challenging. So maybe start with cutting the ultra-processed food and you build on the time-restricted eating.

Dr. Aseem Malhotra:

I think one caveat to that, and I'd love to hear your perspective on it Joseph is – and this applies to exercise as well. So I've been somebody who has always been very active, I do weight training, I do cardio, etc. But if you go low carb and, you're time-restricted eating, and you're quite active – and this is a crucial point, and you're suffering from high levels of stress at that particular time, you're having poor sleep and your stress levels are high, it can actually do the opposite.

Dr. Aseem Malhotra:

If you're fasting and you're very low carb, and you're exercising, and you're stressed, it can actually raise your cortisol enough to make the whole situation worse and you can crash. So if people out there have gone through this and thought, "Oh that sounds like me." Just I think ease off from the exercise a little bit or really focus on the stress first, and then you'll find the other things easier.

Dr. Aseem Malhotra:

One of the anecdotes I write about in the book on the stress, the chapter on stress, is one of the patients who came to see me who had a heart attack in his 50s, and this guy was a super successful executive in the tech industry, he was millionaire, but he was very high functional, traveling around the world, 200 flights a year. But he was smoking, he had a junk food diet, he had metabolic syndrome; boom, he has a heart attack at – actually it was in his 40s, not 50s.

Dr. Aseem Malhotra:

And for him the biggest impact for him to change life around was seeing a stress reduction expert, a specialist nurse who had expertise in stress reduction. And once he started meditating, for him everything changed. He then found it much easier to do all the lifestyle stuff, which he does too, but for him the root, the biggest issue, was reducing the stress level.

Dr. Aseem Malhotra:

So I think we should, obviously, not ignore that and I think for some people who do all these lifestyle things and come and see me, the one thing they seem to find the most difficult to get on top of is reducing the stress, and you have to be proactive on it.

Dr. Aseem Malhotra:

I mean, I know every day, every morning when I wake up, Joseph, I meditate for at least 10 to 20 minutes. If I go for a workout, when I finish my workout, I'll try and meditate for a little while because I know that probably my stress hormone's a bit ramped after working out. I think that is something that needs a lot more attention as well.

Dr. Joseph Mercola:

Yeah, there's no question. That's noncontroversial, in my view, is that stress has a very important role to play. And just wanted to comment on your – my impression of the value of carb limitations. So if you're sedentary and you're eating the normal American diet, you're clearly going to want to restrict your carbs under 50 grams a day for a pretty long while, at least until you optimize your metabolic health.

Dr. Joseph Mercola:

But if you are, in fact, active and healthy, and engage in regular activities like walking 5, 6, 7 miles a day, and getting the top of that doing resistance training, you're going to need about 100 to 150 grams of carbohydrates. And maybe once or twice a week you go down low, but you'd have to because you want to deplete your glycogen stores periodically. But you got to supply that fuel and if you don't, your body's going to make it so you add additional metabolic stressors.

Dr. Joseph Mercola:

So 100, 150 grams seems to be well for most people. But thankfully we've got the tools now and you mentioned earlier that actually figured this out for ourselves individually and customize it. Because for \$7 you can buy a glucose testing kit and the actual test strips are like 25 cents. So you can measure what your blood sugar is, which is really something convenient. Doesn't require a doctor's order, and you can get the immediate feedback to see if your level of carbohydrate restriction is optimizing your blood sugar levels.

Dr. Joseph Mercola:

And thankfully, well actually, I guess in the U.K. they use millimoles. In the U.S. we use milligrams per deciliter. But thankfully, we do not want triple digit blood sugar levels in milligrams per deciliter. And I don't know what the equivalent is and millimoles per liter, but I think it's probably about 5 or so, 5 or 6.

Dr. Aseem Malhotra:

Yeah.

Dr. Joseph Mercola:

So any, yeah so I think carbs are really important. And as you mentioned, they need to be healthy carbs. I'm -

Dr. Aseem Malhotra:

Yes.

Dr. Joseph Mercola:

One of my favorite is healthy fruit; not fruit juices; fruit, whole fruit. Even though it's fructose, even Lustig who is a vociferous opponent of fructose-

Dr. Aseem Malhotra:

Fructophobe.

Dr. Joseph Mercola:

Yeah, fructophone, [he] concedes that fruit is okay. And he-

Dr. Aseem Malhotra:

Yeah.

Dr. Joseph Mercola:

-contends that it's the fiber, but I know what it is, but it clearly is not harmful in the right amounts.

Dr. Aseem Malhotra:

Yes.

Dr. Joseph Mercola:

So it's a really healthy form of sugar.

Dr. Aseem Malhotra:

Absolutely.

Dr. Joseph Mercola:

Yeah.

Dr. Aseem Malhotra:

Joseph, and I probably get a combination most days, at least seven to 10 portions of the whole fruit vegetables in my diet plan, you know?

Dr. Joseph Mercola:

Yeah.

Dr. Aseem Malhotra:

And, yeah of course, ideally a bit more of the low sugar fruits like berries, for example. And but I will have an apple, or an orange, or pear. But yeah, the juice should be avoided, but yeah I think that people don't realize that it's small amounts of fructose in those fruits and your liver can deal with it. And you've got all the other nutrient antioxidants, you've got the fiber, all the other benefits you get from the whole foods, and the whole fruit and vegetables. Which basically means it's fine for the majority of people. And even people with metabolic syndrome, I think as long as they can stick to low-sugar fruits, they'll be absolutely fine.

Dr. Joseph Mercola:

Excellent. So we've went over a lot of the highlights of your book and some of the basic principles. And I'm wondering if there's any other areas that I missed that you'd like to emphasize?

Dr. Aseem Malhotra:

I think the only one thing, Joseph, it's again, and it kind of struck me a little bit when we're hearing these tales. And, of course, the absolute risk is still very small for a younger, healthy population. But there were certain stories coming out, for example, from New York of a young adult, so-called fit runner who was running, whatever, 10, 20 miles a day or something like that, and he got very sick and he died from COVID.

Dr. Aseem Malhotra:

There is quite compelling evidence that too much exercise actually has a negative effect on the immune system. And, certainly, if you look at people who do, certainly, more than an hour of cardio a day historically with influenza, they're four times more likely than people with moderate activity of getting chest infections, for example.

Dr. Aseem Malhotra:

So I think people should also think a little bit about that. Some of the patients I see, again, are overdoing on the exercise. When it comes to heart disease, moderation is key, it's best. There is no real extra dose response relationship in terms of developing heart disease and, certainly, none with longevity.

Dr. Aseem Malhotra:

So I think just people need to be a little bit aware of that doing too much actually can have a negative effect. You're more likely to pick up respiratory infections and it might affect you more severely. And I write a little anecdote about a couple of the worst illnesses I've ever had when it comes to flu in my life have happened when I've been overtraining.

Dr. Joseph Mercola:

Yeah or you're not sleeping well, so then another form of stress, and I couldn't agree more. The reason why exercise works because it definitely, actually pushes you back temporarily, you're digging yourself a hole in a ditch. The reason why exercise works is you actually get better in the recovery, and if you're not giving your body the opportunity to recover, you're not going to get better, you're only going to get worse.

Dr. Joseph Mercola:

So rather than engaging the exercise, and I've been exercising since the '60s; so that's a long time, over 50 years. And the primary strategy, though, especially the guy who passed away from COVID who was young and ostensibly healthy, would be instead of exercise in those days two or three times a week, you should have been meditating like you; that would have caused him to-

Dr. Aseem Malhotra:

Yeah.

Dr. Joseph Mercola:

-improve his health, not the additional exercise.

Dr. Aseem Malhotra:

Yes, absolutely. And again just to also emphasize that even that 10 minutes of exercise, or moderate activity over time, does seem to enhance T cell function, which is involved in the innate immune response. So there is an enhancement of immune system function from doing moderate activity as well. So I think that's, obviously, an incentive to not be – this isn't telling people to stay sedentary, but it's just do a little bit; goes a long way.

Dr. Joseph Mercola:

Oh yeah, absolutely. Just common sense stuff, as does vitamin D too. Definitely helps those T helper cells and optimize the cytokine production. So all right well the book is “The 21-Day Immunity Plan.” It's a great, quick read, it will help emphasize some of the basics that you need to understand and apply, and I think you'd get some benefit from it. So good book, pick it up.