

The Science of Cancer and Sleep: How to Reduce Cancer Risk
Guest: Nathan Crane

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Misty: Hey, everybody. Misty Williams here, founder of Healing Rosie and your host for *Your Best Sleep Ever*. And I am so excited about this interview that I'm doing with my friend Nathan Crane today. Sleep, obviously, is one of my favorite topics in the world.

And one of the things that really makes me passionate about this topic is that good sleep is what really promotes optimal healing in the body. And I have a friend right now who's 39 years old and dying of throat cancer. And it's one of those doctors tried everything, and there doesn't seem to be much hope.

And I'm not in the kind of relationship with him where I could come alongside and be like, dude, I've got a bunch of hacks for you to try, but this topic of sleep and cancer, I think, is really hugely important.

One of the things that I've observed in walking this journey out with friends who've had cancer, I had an aunt that had breast cancer, for example. And obviously, my friend Matt now, who's dealing with cancer, is that once people get cancer and they start taking all the drugs and the different treatments for cancer, it seems like sleep just goes down the toilet.

We all suffer. And what do we know? We know that if you're going to heal from cancer, you need to be getting amazing sleep. So this is going to be a really powerful interview.

I expect that not only are we going to talk about sleep and cancer, but this is going to affect a lot of other metabolic issues that we're having in the body, and the hacks and tips we're going to learn here is really universal.

Like I don't only want great sleep if I have cancer. I want great sleep all the time, so I don't get cancer. And we're going to dive into this together today. So in 2005, at only 18 years old, Nathan began his health healing and spiritual journey, eventually overcoming a decade of brutal teenage addiction, house arrest, jail, and challenging times of homelessness to become an international author, filmmaker, and speaker dedicated to health, healing, and conscious awakening.

He has received numerous awards for his contribution to health, healing, and personal development, including the Outstanding Community Service Award from the California Senate for his work in education and empowerment with natural methods for healing cancer.

He's an award-winning author, inspirational speaker, plant-based athlete, event producer, and 18-time award-winning documentary filmmaker. Nathan is the founder of The Panacea Community, creator of the Global Cancer Symposium, and director and producer of the documentary film *Cancer; The Integrative Perspective*. Welcome, Nathan.

Nathan: Thank you, Misty. Thanks for having me. Thanks for putting this amazing event on. You're talking about your friend with cancer and also people who start down the traditional-- well, actually not really traditional. Let's call it the more modern conventional therapeutic approach, chemotherapy drugs, radiation.

When they're dealing with cancer and their sleep goes out of the window, the immune system gets completely destroyed, and quality of life often goes down significantly.

And I'm not saying chemotherapy, radiation people absolutely shouldn't do it, but that's what got me into becoming so passionate about cancer was when my own grandfather when I saw him whittle away from the conventional treatments from the chemotherapy and radiation and then die pretty quickly after the treatments, it just set me down this journey, which we can talk a little bit more about.

But you just kind of inspired me with your introduction to share that a little bit because I see so many people suffering and struggling with treatment protocols that are destroying their health, destroying their sleep, destroying their immune system.

And that's when I committed myself to doing everything I possibly could to learn everything I could about cancer. And that was in 2013. So now we're going almost eight years now, just really fully dedicated to learning everything I could about cancer and helping people.

So I'm excited about this topic because sleep is so important, as you said. I used to not really pay much attention to sleep, and now I realized the value and the benefit of it over the years, so it's like a huge priority for me.

And I'm excited to share some really interesting things, some really interesting studies people probably have never heard of, and some really practical tools to help people to deepen their sleep, to improve their sleep, and to help their bodies heal as we are designed to do. Yeah. Thank you again for inviting me to do this. I'm happy to be here.

Misty: Yeah. Well, I'm really excited to dive into everything that you have to share because this is a topic that we hope never affects us in our lifetime. For some watching, they're in a situation where they're dealing with the cancer diagnosis personally. Certainly, we probably all have a friend or a loved one who's dealing with this at some point in our life.

I want, like I can feel the mama bear in me rise up when I think about my own family, my parents, my siblings, all my nieces and nephews. I have this part in me that just wants my family to enjoy great health. And I know that the cancer topic especially is really polarizing. Some people are going to feel more comfortable going the conventional path.

When you're in a life and death situation, and you're up against I need a sure thing, you're going to try conventional methods. And then there's others that are equally passionate about only alternative methods.

For the purpose of this interview, I'm not taking a stand. And I would suspect that you wouldn't either. It's really beyond the scope of this conversation to dig into how are you going to treat cancer?

But I think this topic of sleep and how do you use sleep to help you treat cancer is a really important one. So I'd love for you just to start off maybe with some background on what's the relationship between cancer and sleep?

Maybe pre-diagnosis even and post-diagnosis. Obviously, there's a path that you go down when you start trying different protocols, and you start running into even more challenges with sleep. Let's kind of start the conversation there.

Nathan: Yeah, absolutely. So it's important for people to have an understanding of where cancer was just 100 years ago and where it is today and how we've gotten here, why we get cancer, what actually causes cancer. And then, we can understand more deeply how sleep actually helps our bodies to help reverse cancer.

And obviously, sleep is one of the natural things that we can do that's free to help our bodies heal. And so the quality of sleep, the depth of sleep, the length of sleep, all those things are super important. And we'll get into that and also tips and tools and real strategies, proven strategies to help you improve sleep, help you improve healing.

But if we look back at 1905, for example, we only had about 0.05% of people being diagnosed with cancer, less than a percent. You fast forward 50 years to 1950. You have about 10% of people being diagnosed with cancer. Partly we're testing more, and tests are improving, but really cancer was just not prevalent in our society until the last 50 years.

Well, now last 70 years, where now we're close to 50% of people. We have one in two men being diagnosed with cancer. One in three women being diagnosed with cancer.

They're expecting that to go up another 57% over the next two decades. In 2020 alone, we had 1.8 million new cancer diagnoses. Compare that to the year 2000, just 20 years ago. We had 1.2 million, and this is annually.

So in just 20 years alone, we've started increasing over 600,000 new cancer diagnosis every single year. The numbers just keep going up. And it's a little bit frightening, one, for people wanting to prevent cancer, but two, it's also when we really pay attention to what's going on, we can understand not only is it preventable, over 97% of cancer is preventable, but there are lots and lots of people who reverse cancer every single day.

And that's been a big mission of mine is I've interviewed hundreds of world-leading experts. I've produced summits and conferences and documentaries and magazines and so on interviewing not only the leading world-leading doctors who work with cancer patients and integrative medicine, natural medicine, holistic medicine, conventional medicine, but people who have reversed cancer even stage four cancer.

And I can tell you sleep is one of the critical components to every single person I've interviewed over the years who have reversed cancer. The challenge, obviously, with cancer is that it's really the leading cause of death worldwide.

I mean, just in 2018, almost 10 million people died of cancer. If we're talking about a pandemic, this is the largest pandemic really that we have today. I mean, if you're talking about a disease facing humanity as a global pandemic, more people being diagnosed, and more people dying every single year, cancer is the largest pandemic.

So it is something that's very important. Something, obviously, you can tell I'm super passionate about. And it's also very misunderstood. And so when you understand what it is, you can be a lot less afraid and a lot more empowered to actually do something about it. So a lot of people think cancer is this thing that you get, something you catch. It's something from outside of you.

[10:00]

It's subconscious. What happens is we think like, oh my God, I got cancer. Why did this happen to me? God, why did you give this to me? Why is this happening to me?

And that's a very often, a very common thing that those questions people go into when they first get diagnosed, or even years after diagnosis. It's this subconscious feeling of like, I got this, but what we have to change is our understanding of what cancer is. And what cancer is, is it's not something you catch.

It's not a cold or flu or a virus. It's not something you get from outside of yourself. It's something from within. Your body makes cancer cells every single day. We all have cancer cells inside of us right now. I have millions of cancer cells. We all have millions of cancer cells inside of us every single day. There's actually absolutely nothing wrong with that.

That's a natural part of our physiological functions of cells becoming abnormal and then mutating and the DNA changing and dying off. And if your immune system is functioning well, your lymphatic system is functioning well, you're getting all of the nutrition you need, you're getting all the sleep you need, you're doing all the things that are designed to make your body function at its higher potential, then your body gets rid of those cancer cells. It removes them.

Your immune system, your lymphatic system, gets rid of those cancer cells. It's also one of the functions of autophagy. Autophagy we'll talk about in deep sleep. Why the importance of deep sleep is so important is because of autophagy.

Autophagy is one of those things that-- it's one of the processes in your body that happens during deep sleep. It also happens during stages of fasting that allows your body to remove these cells that need to be removed.

So basically, cancer it's cell fermentation through acidity, DNA damage, and really an anaerobic environment. And so it's a natural thing. It's happening all the time. If your body's functioning the way, it's supposed to, well, then your body gets rid of it.

So we all make cancer. If you have cancer right now, you have to come to this place of understanding that you made cancer. You made it through lifestyle, diet, toxic exposure, too much stress, a lot of fear and anxiety going on, toxins could be mercury in the teeth. It could be exposure to mold consistently. It could be a parasitic infection that's happening for years. So it's all these things.

Less than 3%, if identified, of cancer is truly genetic. And even through epigenetics, we know that we can change the destiny of our genes. So really once we understand that cancer is not a destiny, but it's an opportunity to awaken to a larger lifestyle calling to change the things in our life that improve our quality of sleep, that improve our healing, that improve our longevity, but not only longevity, but the health and quality of our life in the years that we live, then cancers don't have to be so scary.

And so that fundamental shift is so important. You're making it in your body every single day. And we can stop making cancer. Dr. Thomas Lodi, a world-renowned integrative medical doctor, a holistic medical doctor treats thousands of cancer patients every single day.

Well, not thousands every day, but has treated thousands. And he's clinically treating patients daily, both in Thailand and his clinic in Arizona.

He's a good friend and colleague of mine. He's in my documentary. He's in our Global Cancer Symposium. One of the things he says is people come to me, and they say how do I get rid of this cancer?

That's usually their question. If you're tuning in, you might say, how do I get rid of cancer? How do I take this out of me? How do I remove it? How do I kill it?

But what he says, he says people aren't really asking me how to get rid of cancer. They're asking me how to stop making cancer. If you learn how to stop making cancer in your body and understanding sleep is one of those really

important components that helps your body stop making cancer, then you're so much more empowered to move forward.

Misty: The question that's bopping around in my head is like, do you see in your work and your research a causative relationship between sleep or lack thereof and cancer?

Nathan: Well, absolutely. And there's a lot of evidence actually that suggests that. And so let's talk about that. What are the causes of cancer? Well, technically, there could be thousands and thousands, but really Dr. Sunil Pai, another integrative medical doctor, a good colleague, and friend of mine, he really summed it up into six core causes of cancer.

And if you look at all the causes of cancer, they all can fit under these six core causes. So what are they? They're inflammation, chronic inflammation, elevated blood glucose, excessive exposure to sugar, to glucose, environmental toxins, stress, which under stress, chronic fear, anxiety, depression, unhealthy diet, and lifestyle behaviors.

So let me repeat them again—inflammation, elevated blood glucose, environmental toxins, stress, unhealthy diet, lifestyle behaviors. So the question is, how many of these can be mitigated by sleep? Well, the answer is just about every single one of them.

Every single one of these core causes of cancer can be mitigated and reduced by sleep. And how so? Well, sleep reduces inflammation. Sleep helps to when you go into a fasted state when you're sleeping, as long as you're not waking up every few hours and eating something, then your insulin levels are going down, and your blood glucose levels are going down. Your body's going into a healing state.

Stress, well, if you're sleeping well and you're getting enough REM sleep, it's balancing your mood. It's helping reduce your stress. Unhealthy diet, even if you have an unhealthy diet, sleep helps your body to heal from that because you're in a fasted state.

Now, obviously, if you want to optimize your life, you want to optimize your healing journey, then you want to optimize every one of these areas.

You don't want to go, well, I'm just going to improve my sleep, but I'm going to keep eating a crappy diet. I'm going to keep eating cheeseburgers and smoking cigarettes, and drinking alcohol when we know these things are proven to cause cancer. If you reduce those and replace it with a clean, healthy anti-inflammatory cancer-fighting diet--

I just put out an eBook actually called *The Anti-Cancer Diet*, which is the most scientifically validated diet as purported by three world-leading integrative medical doctors to help reduce cancer risk. You improve the diet, well, guess what?

It's going to improve not only your sleep because you have less digestive problems that are waking you up and heartburn and these kinds of things, but really you're allowing your body to heal faster.

So my point is even if you are on an unhealthy diet and you don't change diet at all, but you improve sleep, it's going to help mitigate the damages from that unhealthy diet because when you're in a fasting state, your body's resting, repairing, healing, rejuvenating. And then the last one is lifestyle behaviors. Well, lifestyle behaviors fits in a lot of things.

We can also put in there we have toxins, environmental toxins, but lifestyle is how we interact with the world, where we go, do we travel on airplanes all the time?

Are we constantly exposed to toxins outside of our homes? Are we staying up all night long and sleeping all day long when we know that totally screws up our circadian rhythm and definitely scientifically has proven impacts our body's ability to heal when we sleep.

Are we only sleeping three or four hours a night? Are we doing lots of caffeine before we go to bed, so we don't get into sleep and get the benefits of a deep sleep and autophagy and human growth hormone and all the things that come from that?

So lifestyle behaviors fits everything in your life that you choose to do. So sleep is one of those really important components of lifestyle behaviors. And as we'll share here in a little bit, I'll share my own pre-bedtime protocols, my own sleep protocols because I've been really optimizing it as much as possible over the years, as well as my morning routine because your morning routine is just as important as your nighttime routine to help you optimize sleep.

But if you get these things dialed in, well, sleep to answer your question, the long-form to answer your question is yes, sleep actually helps to reduce the impact of every single one of these six core causes of cancer.

Misty: One of the things that I came across early in my own journey because my journey started with hormonal issues, female hormonal issues. I came across some studies on the connection between circadian rhythms and breast

cancer in women. And through the years, I've actually come across this quite a bit, the circadian rhythm when you're out of alignment with circadian.

We're getting bombarded with a lot of blue light after dark. It creates basically a disruption at the cellular level and messes up timing in the entire body, and actually leads to a greater cancer risk.

So this is a very fascinating area. It's why I'm such a huge fan of the Amber glasses. I've been wearing them since 2012. Every night, as soon as the sun goes down, those bad boys are on my face.

I have my friends wearing them, my family wearing them because it's really compelling when you actually look at the science, and you see the studies that are being done. I mean, it's hard to argue with it. So maybe you could take us in a little bit.

I know you've got a lot of research there that could really help inform the way that we take this conversation, but I'd love to just hear a little bit more from you on what you've seen in the literature and how this can be applied practically because ultimately, it's like these are nice ideas and we know we need more sleep, but let's get to the how-to. How do we create this?

[20:10]

Nathan: Absolutely. So there are dozens and dozens of sleep studies specifically related not only to cancer but every major metabolic disease that we experience.

And I've gathered four of them, and I'll just go through them really briefly for everyone, so you understand that there is some hard data on this that is in the literature, specifically in dealing with cancer.

And you can go in, if you're someone who likes looking at the literature, you can go in and find these pretty easy. These four studies are actually straight from PubMed.

And this was a study on sleep duration. I found a few studies specifically on sleep duration because this is really important because the question always is, well, how many hours a night should I sleep?

So I've seen a lot of data on that. We've seen a lot of people saying different times and different hours for different ages and things like that. Well, I wanted to look at the research and the data and say, okay, how many hours actually

for cancer have they found per night should we be sleeping? And what's the effect of that?

So sleep duration in all-cause mortality. Okay. So this is dying from just about any disease. So when they were looking at the duration of sleep and if it related to an increased risk of death from all causes, including cancer, so this was a meta-analysis of 16 major studies. They included over 1.3 million men and women of different ages.

They found that people who slept less than six hours each night, so six hours or less, the common was even five hours, so less than six hours, they had a much greater risk of death from all diseases than people who slept seven to nine hours.

All right. So that was duration of sleep. Not necessarily quality of sleep, just duration. Less than six, their words, significantly greater risk of death from all diseases. Okay.

So something interesting in that, though, was multiple studies that I found actually showed that people who sleep more than nine hours on average, they actually had a slightly increased higher chance of all-cause morbidity.

So I thought that was fascinating, especially if you are like, okay, if sleep's really good, then we should just do as much of it as possible, but there's actually some data out there, actually a few studies I've found that show people who sleep more than nine hours, so this is nine and half, 10 hours plus a night, your risk of disease can actually, or all-cause morbidity can actually go up.

Now, I'm not standing behind that 100% saying that's 100% accurate because these studies were kind of smaller studies that were done, but I just thought that was fascinating.

The second study says, 23,000 middle-aged participants. These were people in Europe from '94 to '98. They found same thing. People who slept less than six hours had a two-times increased risk of stroke, a 50% chance increased risk of cancer, and a 30% chance of overall chronic diseases.

So this was a major study, 23,000 people. Again, if you slept less than six hours, your chances of cancer and other diseases went up exponentially. And they were looking at the others.

Seven to nine hours was the range that they were comparing against. Third study, they had over 1200 participants and after-- so this was an interesting

study because they adjusted for race, age, if people were smoking, family history, all different details.

And again, they found totally different states, totally different groups of people, totally different years. This was in 2011. They also found people who slept less than six hours per night had a 50% higher chance of colon cancer. They state that the short duration of sleep significantly increases risk of colon cancer. Okay.

And then this was another study that I found that was-- this was sleep duration from National Institute of Health study cohort. They found an increased risk in stomach cancer in males—so they were studying males—who slept less than six hours versus those who slept seven to eight.

So again, sleep duration, sleeping less than six hours, they also found increased risk in stomach cancer. So the list goes on and on, and there's dozens and dozens of studies.

I didn't need to gather them all and pull them all in here. I just wanted to show you here that there's a major commonality among the scientific literature, specifically for cancer, that six hours or less per night can increase your risk of cancer as well as multiple other chronic diseases.

And the studies, again and again, showed they were comparing six hours or less to people who were sleeping seven to nine hours.

So if you want to pick an hour to aim for right in the middle there, eight hours a night, like that's my magic number. That's what I aim for every single night because every single study that I have found really points to that no matter your age. Now, I have seen some studies that show, obviously, as you're younger, you do need to sleep more. Children need to sleep more.

I mean, they're totally in growing phase. And as you get older, I don't agree with these. These aren't even studies. These are kind of sleep experts that are putting this information out there and saying, well, yeah, as you get 50 and 60 and 70, you can sleep five hours, six hours a night. I totally do not agree with that at all because the scientific literature does not support that. It supports seven to nine hours is that sweet spot.

Misty: Yeah. So one of the things that is coming up for me as I'm listening to you talk about this, I'm remembering times in my own journey where I've always been someone who got a lot of sleep, meaning at least eight hours a night, but I have not always been someone who would get eight hours a night and wake up feeling refreshed in the morning.

Between 18 and 35, my story was I went to sleep around 2:00 a.m., and I would get up around 10:00 a.m. I mean, pretty much get up and start my day, but I felt like I'd been hit by a Mack truck. So obviously, I talk about this in some other interviews. I was really out of whack, not aligned with my own biology at all, and just felt exhausted when I woke up in the morning.

And so I thought it might be useful to kind of draw a correlation here. If you're getting really great sleep, if those eight hours are truly restorative, then you're going to wake up in the morning feeling refreshed and ready for the day. And that was totally not my experience as a young adult.

Fortunately, is my experience now. I am a Rockstar sleeper, and I love it so much. My natural melatonin is very high because of all of the things that I've done. I get lots of deep sleep. And in fact, I've been doing intermittent fasting the last six weeks or so.

And my deep sleep has almost doubled, maybe more than doubled. I've gone from about an hour and a half a night to four hours a night, three and a half to four hours a night. And that's really the only major change in my lifestyle.

Nathan: Are you doing 16-8 intermittent fasting or what kind of--

Misty: My eating window is probably more like six hours.

Nathan: So 18-6. Are you doing every day?

Misty: Yeah, every day. And I'm stopping around between 3 and 4 every day, stopping eating. I feel really great. Like I'm surprised at the effect on my sleep. I have a garment, and so my sleep gets tracked. I'm surprised at the effect on my sleep, but I also feel a lot better, and I was feeling good before. So it's like another layer of feeling fantastic.

But I want to talk a little bit about this idea of needing to get the eight hours, but there's people that are getting the sleep and still feeling really trashed in the morning. I think it would be helpful to put some qualifiers around that and talk about some ways that you can really induce truly restorative sleep.

Nathan: Well, let's first talk about intermittent fasting in that context because I've also recently started doing intermittent fasting. And I've been doing cleansing and detoxing and fasting and stuff for almost 15 years now, but never really like just water intermittent fasting every single day, 16 hours without food, the time-restricted eating format.

But the reason I want to bring this up is because one, it is incredibly helpful for people with cancer or any chronic disease. But two, the less food you have in your body when you're sleeping means, the more energy your body can put into cellular repair.

I will say that again for people because this is super important to get. The less food you have in your body when you're sleeping, the more energy your body can put into cellular repair, into autophagy, into getting rid of dead cells, malignant cells, cancer cells, into restoration and rejuvenation.

Now, I've had this problem because I'm a CrossFit athlete for the past few years. So like I'm now focused on adding more strength and things like that, which means eating more than most people need to. But part of that bad habit that's happened is I started eating late at night, and late at night for me is like 10:00 p.m. When I go to bed, it's like 10:30.

So I will eat a big bowl of what we call healthy cereal, but I still eat like a big bowl of cereal, berries, and nuts and seeds and stuff in there at 10 o'clock and then go to bed at 10:30. Well, guess what? My body is in that state of, okay, we've got to digest this food for the next few hours before can even go into cellular repair.

[30:00]

Well, I might be getting eight hours of sleep every night, which is my goal and I typically do, but there's a good five hours there, four hours maybe that actually is focused on cellular repair because there's three hours or more that are focused on digesting the food.

So that's something really important. If you are snacking late, if you're eating late, if you're waking up and eating, that is something that needs to go right away.

That's got to be a habit that's got to be thrown out. So my last meal is at 8:00 p.m. now because I'm doing the 16-8 intermittent fasting. So last meal, I try to be done by 8:00 p.m.

And then don't eat again until 12:00 p.m. the next day. The reason for that is once you start passing that 12-hour mark of no food in your body, then your body starts to go into all right, let's start burning fat.

Let's start producing ketones for energy. Ketones are anti-inflammatory. Great for cancer. But also goes into once you get to that 16-hour phase without food, your body goes into producing more human growth hormone.

Human growth hormone is super important, whether you have cancer or any metabolic disease, because it is a hormone that helps repair, rejuvenate, replenish your body.

You get human growth hormone in three major times in our lives. One, after high-intensity exercise. So I encourage people with cancer to safely learn how to start doing high-intensity exercise, HIIT training. I have friends in their 70s that have no problem doing HIIT training.

Now, if you're really depleted energetically, that's why I said safely and also slowly build uptime, but there's so much evidence. It's a talk for another day. High-intensity interval training, getting your heart rate up, resting, getting your heart rate up, resting, you'll produce human growth hormone. The other place you produce HGH is in deep sleep.

So when you get to that deep sleep, that's when your body is producing HGH. And the third place is when you're fasting. At the 16-hour mark is typically when people start producing HGH. They will also start going into autophagy. They're burning ketones as energy.

So again, a talk for another day, but I just want to point that out there that intermittent fasting along time-restricted eating is going to improve your quality of sleep because the less food you have, the deeper you can get into sleep.

And so let's talk a little bit more about why that happens and then some more things that people can do. One, obviously, we know two major hormones that affect our sleep.

You have melatonin, and you have cortisol. The melatonin should start going up at night when the sun goes down, and that starts shutting your metabolic processes down and says, hey, it's time to sleep.

And the cortisol should spike up in the morning when you wake up the first half-hour of the sunrise, and that starts telling your body, okay, it's time to wake up. Let's get some energy going. Let's get a little bit epinephrin, some adrenaline going, that sort of stuff.

Well, what's the significance of these two? One is melatonin's a natural antioxidant, and it detoxes free radicals. It helps with bone formation and protection, and it helps your immune system and your cardiovascular function—so important to understand with cancer with the immune system. Dr. Lodi, again, in my film, he says there is a cure for cancer. It's called your immune system.

Every integrative medical doctor I've talked to have all agreed with this statement because I all ask them this question. They say absolutely. If your immune system is functioning at its normal potential, that's higher potential, at the potential it should be functioning, you won't have a cancer diagnosis.

It's when our systems get bogged down from the food, from the stress, from the lack of sleep from on and on and on and toxins and chemicals and all these different things, then the immune system doesn't function well, and we end up with a cancer diagnosis.

Well, it takes at least 7 to 10 years for cancer to even be identified in your body. So when you get a cancer diagnosis, you've been forming cancer for years before it even was identified. In most cases, there's some new tests you can find it earlier now, but anyway, that's an important thing to understand is that when your immune system is functioning at its potential, you won't even have cancer.

Okay. So you have cancer. Well, so your immune system is even more important. More important to enhance your immune system. Well, melatonin does this, and it's not just about taking melatonin as a supplement.

You can do that. It's about naturally secreting melatonin through your lifestyle behaviors at night. The reason the body starts producing melatonin is because there's no more light coming in.

Well, we screw that whole system up just like you were talking about because we've got so much blue light and red light and all these lights coming in from computers and phones and televisions and light bulbs.

So it totally messes up melatonin production. It reduces melatonin production, so you're not going to sleep as deep and have that deep quality sleep that you're talking about where you wake up feeling refreshed.

So getting these things dialed in, and I'll share with you my entire sleep routine of how to do that here in a moment, but really important to understand the natural sleep cycle, the natural circadian rhythm that your body wants is start winding down less and less light. Candlelight is fine because there's no blue light coming off of it.

If you had candlelight coming off of like a beeswax candle, for example, but there's things you can mitigate that with because we live in modern society where we're surrounded by lights. Moonlight is fine. Moonlight has also been found to actually be healthy for your sleep. It doesn't affect your circadian rhythm in a negative way.

Actually, it affects your circadian rhythm in a positive way, but streetlights do affect you in a negative way. Melatonin, super important for the immune system.

Cortisol, on the other hand, in the morning, we should go out in the morning. We should bring in that natural sunlight first 30 minutes of being awake. I do yoga. I do some meditation. I do some reading. I'll sit there and read and drink some tea and watch the sun come in, just pour it in through the windows.

Hopefully, it's a sunny day. But still, even if it's behind the clouds, you're still getting sunshine coming in. And what does that do? Well, that tells your body okay. It's time to go into active mode.

It increases glucose in your bloodstream. It enhances the brain's use of glucose so you can start thinking. But also, cortisol makes the availability of certain substances in your body to repair tissues.

So cortisol is not all bad. It also helps reduce inflammation and regulate your metabolism. People think, oh, cortisol. It's a stress hormone. It's bad. No, it's not all bad. It's actually a really important hormone.

We need to get it balanced. When it becomes bad is when we have chronic cortisol production throughout the day because we're stressed out. We're worried. We're anxious. We're fearful. Here's the significance of this.

When cortisol is elevated over longer periods of time, it downregulates your immune system. Cortisol up, you just got stressed out because you watched the news. You're driving to work. Someone cuts you off. You get stressed out again.

Now you're thinking about that stupid person. Then you're at work, and you're mad at your boss, and then you go home, and you're watching the news again, and you're angry again.

And it's just cortisol is elevated all day long. Well, guess what's happening to your immune system? Instead of being upregulated to get rid of cancer cells, it's downregulated. Cortisol stress hormone actually turns your immune system off. Literally turns it down.

So that's where cortisol, as a stress hormone, starts to become chronic, starts to become a problem. So getting our circadian rhythm in balance is super important that we get that natural melatonin production at night. We get that cortisol release in the morning.

And then throughout the day, we're doing stress reduction, practicing meditation, practicing yoga, Tai Chi, qigong, going for a walkout in nature, sitting outside.

I love to stay outside between interviews or between work and get away from the computer for 20 minutes. I'll sit outside in the sunshine. Even if it's cold, I'll put warm clothes on, but I'll sit out and get that sun just coming into my face.

I'll read. I'll relax a little bit, different relaxation techniques to keep your cortisol levels down during the day. And at night, it's super important that they go down as well.

So that's getting rid of the blue lights. It's getting rid of, as you said, you wear the glasses. I actually changed all the light bulbs in our house to blue-light-blocking light bulbs and changed--

I've got some apps and stuff I'll share with people that you can change the computer screens, change the lights. Your phone changes the lights automatically, so all those things start to happen more naturally.

So I don't know if I answered your question, but I wanted to give that framework for people to understand the importance of the immune system function, the importance of your circadian rhythm because cancer is all about your immune system. So you get these things dialed in appropriately and get them in balance, and your body's natural ability to heal itself starts to increase.

Misty: So why don't you just kind of go into your morning routine and evening routine. I know you shared a lot and what you just described for really helping with balancing cortisol and the immune system, but why don't you talk to us about the routines that really help to induce great sleep?

And I'm extra curious, as I told you before, we even started recording, about your deep sleep hacks and the things that you do to induce deep sleep. So your tips, and then let's talk about how to get deeper sleep when you are sleeping.

[40:00]

Nathan: Absolutely. So deep sleep, why is it super important for people with cancer? Autophagy, anti-inflammatory. It helps your body to restore, repair, regenerate new cells, importance of deep sleep—so critical. A lot of people

don't recognize the difference between-- they think REM sleep is deep sleep. It's not.

Deep sleep is a totally different cycle. REM is super important for your brain, for your mind, for your emotions, but you got to get beyond REM into the deep, and everybody does. We cycle through these things. So the more deep sleep in your sleep, the better.

And generally speaking, there's a number of studies on this that I've found. There's a number of various percentages, but generally speaking, if you can aim for 20% of your sleep in deep sleep, 20% or more in deep sleep, then you're hitting a very healthy number by all standards of sleep experts, sleep, scientists. So 20%.

So if I'm sleeping eight hours a night, that's an hour and a half of deep sleep. And speaking of you said you have a garment. I use a WHOOP to track sleep. And I'm not endorsing them by any means. The only way people can know-- I'm pulling up my app right now so I can share with people.

The only way you can know that you're getting how much REM sleep, how much deep sleep is if you track it. And so for these kinds of devices, I highly encourage people to get them to track your sleep to really see because I used to be in bed for eight hours. So I thought, oh, I'm getting eight hours of sleep, but I started tracking it, and I'm like, I'm in bed in for eight hours.

I'm only sleeping six hours. What the heck is going on? Just that knowledge helped me to start optimizing even more. So I went from six hours to six and a half and six and a half to seven and seven. And now I'm even in bed more.

Like last night I was in bed for almost nine hours, which is more common for me now because I know if I'm in bed for nine hours, like I got eight hours and 14 minutes of sleep last night for being in bed for eight hours and 49 minutes. I know that because there's times when you're awake, even though you're not consciously awake.

You have your light sleep REM. So last night, I got an hour and 46 minutes of deep sleep. And then two hours and 10 minutes of REM sleep. And the night before which I came up with a 97% recovery, same thing, an hour and a half of deep sleep, three hours of REM sleep. So even more than normal. But my point being is that tracking this is super important.

I also have a disclaimer there. These devices are Bluetooth, and Bluetooth is an EMF. We know EMFs are inflammatory and can lead to cancer. Well, it's a

low-grade Bluetooth. They have it like-- I forget what's called. It's like a really low second-grade Bluetooth.

But what I do is about once a month, I take it off for an entire week. Okay. Because I'm tracking mostly for performance, human optimization, health, and healing for being an athlete, so I wear it more often than maybe somebody else needs to. I take it off a full week and let my body totally detox every single month.

I think it's super important because some of these sleep hacks I'm going to share with you are about that. So here's my personal sleep routine at night. This is for increasing melatonin, is for upregulating cortisol, downregulating cortisol, upregulating your immune system. So imagine camping or living sustainably in nature. That's like the most optimum way.

Your phone's off. You have no internet. You have no outside artificial lights. The sun goes down, and you might sit by the fire for a couple of hours, and you go to bed. Now, how can we kind of emulate that here in our modern world?

Well, one, technology off at least an hour-- We've been doing an hour and a half to two hours at night before bed. So we turn the TV off. And we might read, talk, do some different things in the evening, but turning that off to one, turn all the lights off, technology coming from your television or phone and things like that.

But also, those things stimulate your brain and keep your brain awake. So you need to start getting your brain ready for sleep an hour and a half at night. There's something, at least on the iPhone.

Again, I'm not endorsing Apple, but that's the phone I use. There's something called night shift. So if you go to settings, you go to display and brightness, and you go to night shift.

I have mine set for 8:00 p.m. to 7:00 a.m., and so the screen gets darker and darker and darker in the evening to where it's like you can't even barely see it like after 8 p.m. So it's an automatic way for your kind of a phone hack. And that's called night shift in your settings.

I have an app on my computer. If I'm working at night, which I rarely do anymore. I try to be done by 5:00 p.m. every day now, even though I used to work like I'd go like an entire 48 hours without sleeping, working. I don't do that to myself anymore. I value sleep way too much, but there's an app on the computer that's called F.lux, flux.

F.lux, so I think it was free when I got it a long time ago. It turns down the blue light. The computer screen starts getting darker in the afternoon. Caffeine, like caffeine, has a half-life of six hours. I stop caffeine eight hours before bed. So if I want to be asleep by 10 o'clock, I don't have caffeine after 2.

If you're sensitive to caffeine, you even want to go longer than that, 10 to 12 hours. So I just don't have any caffeine after 2 anymore. You can be one of those people that go, yeah, I can have a cup of coffee at night and still go to bed.

Fine. Yes, you can. But I would challenge you to go 8 hours to 10 hours before bed for at least a couple of weeks, track your sleep and see how much your deep sleep and your REM sleep improves.

It has been proven. Caffeine is in the system when you're sleeping it absolutely puts a negative impact, a negative effect on your REM sleep and your deep sleep.

So quitting caffeine at least eight hours. As I mentioned earlier, we changed all the light bulbs in our entire house in every room to blue-light-blocking light bulbs. I got those on Amazon. I'm not proud of that, but I did.

We read to the kids at night as part of the routine. So I have two kids, 10-year-old, 5-year-old, so my wife and I will either read to them together, or we'll take turns reading. It's just part of our nightly routine.

As everyone here probably knows, darkroom, all lights off, not a single light in the room, all technology off right before bed. So Wi-Fi, I have it plugged into a surge strip. Come down here, click the button, all the Wi-Fi is off. All the phones are on airplane mode, all these things.

And then your routine is you're getting into bed. All these things I'm sharing with you are proven lifestyle changes that not only help your length of sleep, as we know seven to nine hours is ideal, but your quality of sleep and getting into that deep sleep.

So all the technology off and then a gratitude practice. So whatever your practice. It could be a spiritual practice. It could be prayer. Mine is a gratitude practice.

I'll lay there in bed, my eyes closed, and I'll just think about all the things I'm grateful for the day. And I ask for guidance and kind of a little prayer for guidance for the next day and the things I'll be grateful for for the next day as well.

And then from there, I'll either immediately fall asleep because that gratitude practice is like a meditation, and you just fall asleep or 90% of the time I read, so I'll read 10 to 20 minutes, and then boom, I'm out. 10 o'clock, 10:30 at the latest, I'm out. And so when you add them all together, now you have the stacked huge nightly routine that is easy to do.

They all just fall on top of one another pretty easily, but they deeply improve the quality and the length, and the depth of your sleep. And then in the morning, same thing, super important.

I already shared that. Get up in the morning, get that cortisol from the sunlight, do something active, get the body moving. So all of these things impact your circadian rhythm.

When you go to sleep, it should be the same time every night. When you wake up, it should be the same time every morning. And then your routine should be very similar, and your circadian clock gets dialed in, and your sleep improves and your chronic disease as well.

Your body's ability to help get rid of the cancer cells improves significantly because of, like we talked about, anti-inflammatory effects, autophagy, immune system is upregulated, getting rid of cancer cells, lymphatic system.

So I get up in the morning, jump on a little-- we have a little bounce trampoline. Do some yoga, get moving, read, have some tea, boom, ready to go for my day.

Misty: Yeah. As we're wrapping up here, why don't you finish us off by talking a little bit about deep sleep because that's really what I think we all want to aim for is outside of just being in bed and getting sleep is we really want to foster lots of deep sleep.

I know we've talked about a few things already during this interview. Do you have any other interesting hacks or strategies for helping to induce more deep sleep in the body?

Nathan: There is so much to be said for exercise, and I only mentioned it briefly, but actually it is proven that especially if you have cancer-- so I have a nine-module masterclass I'm teaching in July called Becoming Cancer Free.

I have an entire module on this topic alone and all the science behind exercise and how it affects your sleep and your deep sleep, but I'll just put it super simple

If you exercise at least five days a week, really six days a week, and you do a combination of balance training, high-intensity interval training, weight training—and yes, this is for people 60 and 70, it doesn't matter your age—weight training, and cardiovascular training, so you don't have to do all four every day, but all four are super important to spread out throughout the week.

[50:00]

You should be getting close to an hour per day. I know it's going to scare most people, but the science shows us if you want to improve your quality of deep sleep, if you want to improve longevity in your life, if you want to improve the quality of your body's ability to heal itself, you want to get all four of these things spread throughout the week at least an hour per day. An example might be like I go and jog or fast walk or cycle for a half hour.

And then I do a little bit of weight training. It doesn't have to be crazy heavy. It doesn't have to be CrossFit, even though I do CrossFit. I love it. It doesn't have to be CrossFit.

For you, you can get a personal trainer, help you with some weight training. All of these different things help your body's natural ability to do what it was designed to do, which is at night, be tired, melatonin turning on, immune system turning on saying, it's time for sleep.

You go to sleep. You get into deep sleep. Again, I talked about caffeine a lot, just the importance of getting that out of your system eight hours before. It's going to help your deep sleep a lot.

But again, I just can't speak enough about the importance and value of exercise. People don't necessarily associate exercise, fitness, what I call medicinal movement with sleep, but it absolutely improves the quality and the depth of your sleep.

Misty: Awesome. Well, this has been a fantastic conversation. Thank you so much, Nathan, for coming on and sharing with us and giving us so many great insights, not only into the science, which I personally find that understanding the science and why things work like they do gives me leverage to actually implement all of the hacks and strategies.

So it was really great to get a nice overview of why sleep is so important and how it's connected in the literature, but then also so many great strategies for what we can do to improve our sleep. So if someone is interested in finding out more about you, where can they find you online?

Nathan: Yeah, the easiest place is probably just Nathancrane.com, and then you can get to the various projects and documentaries and different things there. Thanks for having me, Misty. I appreciate it. I appreciate everybody here for tuning in. So I wish you all health and happiness.

Misty: Awesome. Yes. Well, thank you so much, Nathan. And thanks, everyone, for joining us. We will see you soon. Bye for now.