Undo It!: How Simple Lifestyle Changes Can Reverse Most Chronic Diseases:
A Special Interview With Dr. Dean Ornish

By Dr. Joseph Mercola

JM: Dr. Joseph Mercola
DO: Dr. Dean Ornish

JM: Welcome, everyone. This is Dr. Mercola helping you take control of your health. Today we are privileged to be joined by Dr. Dean Ornish, who is a pioneer in using food to get yourself better and healthier, and not only using the but establishing the foundational study, so that the federal regulatory agencies can use this information to get people better. He's written a new book called *Undo It!: How Simple Lifestyle Changes Can Reverse Most Chronic Diseases*, which is published on January 8. Welcome and thank you for joining us today, Dr. Ornish.

DO: Thank you so much. May I call you Joe or Joseph?

JM: Either. Whatever works for you. That's fine.

DO: You can call me by my first name. My first name is Doctor. No. Just kidding. Call me Dean.

JM: Alright, Dean. We'll go with that. We'll drop the formalities then. I really enjoyed your book. I really want to congratulate you before we start discussing the book about what you've done, really. For establishing a presence and for doing the hard work, the due diligence in establishing the studies and really putting the science together to validate that this form of treatment works. You've done such a massive amount of work in this area. Specifically, you focused on cardiovascular disease because you're a cardiologist, so that makes perfect sense.

DO: A lot of people think that because the initial work that we did was to show that we could reverse heart disease for the first time. But I'm actually trained in internal medicine.

JM: You're not a cardiologist?

DO: No. I just play one on TV.

JM: Okay. Sorry about that. I was confused. Why don't we go into – To me, one of the most compelling components of the book is the story that you share and how you put in a decade and a half of reviewing or compiling information for Medicaid and Medicare, or one of those agencies, to establish you program for reimbursement. Which really, as we all know, if a program isn't reimbursed, the likelihood that it's going to be used consistently is pretty small. Why don't you share that story with us?

DO: Thank you. Again, I appreciate so much the chance to be on your show. You have so many people who look to you for advice and what you've done in educating people is really quite amazing. Thank you for having me.

You know, 40 years ago, I began doing research showing that these simple lifestyle changes that we've been talking about, if you reduce it down to its essence, the "Eat well, move more, stress less, and love more," can not only prevent, but actually reverse the progression of the most common chronic diseases. We started with heart disease, Type 2 diabetes, high blood pressure and high cholesterol.

We then did a randomized trial showing these same lifestyle changes can slow, stop or reverse the progression of early-stage prostate cancer, and probably by extension, many women with early-stage breast cancer. We found that these same lifestyle changes actually change your genes, turning on the good genes and turning off the bad genes, specifically the genes that promote heart disease, diabetes, prostate cancer, breast cancer and colon cancer.

We did a study with Dr. Elizabeth Blackburn, who received the Nobel Prize for her pioneering work with telomeres. We found that these lifestyle changes could actually increase the enzyme telomerase in just three months that repairs and lengthens telomeres. Over a five-year period, we found that these lifestyle changes could actually lengthen telomeres—the first controlled study showing that any intervention could lengthan telomeres. When The Lancet sent out a press release announcing this study, they called it "reversing aging at a cellular level." We just began the first randomized trial to see if this program can reverse the progression of men and women who have early-stage Alzheimer's disease.

The more diseases we study and the more mechanisms we look at, the more reasons we have to explain why these changes are so powerful and how quickly people can often get better in ways we can measure.

We've done all this work through the non-profit Preventive Medicine Research Institute, in collaboration with some of the leading scientists and institutions around the country. We've consistently shown that we can achieve bigger changes in lifestyle, better clinical outcomes, bigger cost savings and better adherence. And so we began, through our non-profit institute in the early '90s, training hospitals, clinics and physician groups around the country.

Again, we got these amazing outcomes. Despite this, some of the sites closed down. When I talked to them, I said, "Why?" They said, "You know, this is the best program of its type we've ever had. We're closing it down because it's not reimbursable." The painful lesson is that, as you say, if it's not reimbursable, it's not sustainable. Or as the Crazy Eddie ads say, "Money talks, nobody walks." We began going insurance company by insurance company. A few, like Mutual of Omaha, Highmark Blue Cross Blue Shield and others did cover it, but people generally don't go into the insurance world because they're visionary or entrepreneurial.

I thought, "Well, if Medicare would pay for it, then that would really change the whole paradigm. Because we doctors do what we get paid to do and we get trained to do to get paid to do." If you change reimbursement, you change not only medical practice but also medical

education. I was working with former president Clinton at the time, Hillary Clinton asked me to work with them shortly after he became president, with the chefs who cooked for them in the White House, at Camp David and on Air Force One. I later became one of his consulting physicians.

Also, at that time I began consulting with Newt Gingrich and part of his family on health issues. So, both the Speaker of the House and the President of the United States supported Medicare covering my lifestyle medicine program for reversing heart disease. Sixteen years later, Medicare created a new benefit category to cover my program for reversing heart disease. It was really the hardest thing that I've ever done.

I remember at one point, halfway through this whole process, they said, "Well, we'll do a demonstration project, but you have to get a letter from the head of the National Heart, Lung and Blood Institute of the National Institutes of Health (NIH), that your program is safe for older Americans." I said, "Safe compared to having your chest cut open?" They said, "No. Just safe for older people to walk, meditate, eat vegetables, quit smoking and love more." I said, "You must be kidding." They said, "No. We're not."

So, the Director of the National Heart, Lung and Blood Institute actually did a literature review, and concluded, "These are not high-risk behaviors." Ironically – we could talk more about this – the randomized trials instead have shown that in stable patients, stents and angioplasties really don't work in stable patients with heart disease. That's another story.

Anyway, after 16 years, we finally did receive Medicare approval, which I'm grateful for. Now that Medicare is paying for it, most of the major insurance companies are covering it as well. We have been training hospitals, clinics, health systems, and physician groups around the country, and it is working. Our new book is based on the experiences that we've learned by doing this: what really enables people to make sustainable changes and the extraordinary outcomes we've been able to show.

JM: Yeah. What I love about the program and your approach is that it is essentially impossible to address the foundational causes of disease in 10 minutes. It just isn't going to happen. Your program allows for 72 hours of training.

DO: Yes.

JM: Perhaps you can expand on that. Because to me, that's the core. I've interviewed Chris Kresser in the past. I suspect you know who he is. He's got this vision of getting these health coaches all together. Because the physicians by themselves can't do it. They're not going to do it in 10 minutes. It's just never going to happen. You need these alive professionals to educate them.

DO: Well, that's true. It's not just the amount of time we spend, but also we don't really get trained in lifestyle medicine in medical schools. I wrote a review article with some colleagues of mine, Andrew Freeman and others—we found that the average doctor gets only five hours of

nutrition training a year, and the average cardiologist gets *zero*. The time is part of it, and the training is the other, which is, again, part of why I spent 16 years to receive Medicare coverage.

It's not like I knew it was going to be 16 years. After 15 years, I thought, "Oh my God. This is never going to happen." But finally, it did.

Most doctors wouldn't recommend medicine as a career for their kids. It's not fun – if you only have eight to 10 minutes to see a patient, you basically go through the electronic medical record, the problem list, listen to the heart and lungs, write a prescription, and they're out the door. It's not fun for doctors or patients. I think it's one reason why more money has been spent for the last 25 years on so-called alternative medicine then traditional medicine, because whatever the modality, people who are doing alternative approaches generally spend time with you. They listen to you. They touch you. They ask what's going on in your family, your friends, your marriage, your kids, your school, your work and everything in your diet and your lifestyle that makes such an important difference.

Our approach is a team approach where the doctor is the quarterback. But he or she isn't really spending most of their time with the patient. It's the meditation teacher, the nurse, the exercise physiologist, the dietitian, the psychologist. Rather than coming to a 10-minute visit, Medicare and most of the insurance companies are now paying for 72 hours of training.

We divide that into 18 four-hour sessions. So people get an hour of supervised exercise; an hour-long group meal with lecture; an hour of meditation and stress management, yoga-based approaches. (Who would have thought Medicare would be paying for that?) And an hour of a support group, which is part of why we're getting unprecedented levels of adherence. Eighty-five to 90 percent of the people finished all nine weeks of the program, and 85 percent of them were still following it a year later.

During the first nine weeks, they come twice a week for four hours per session. If they work, they come after work or during the day if they don't. Then they continue to meet using the same kind of Zoom video technology that you and I are using now to have their support groups. They used to just come on their own in person, but Anne (my wife and co-author) found that it's actually easier to do it via Zoom because they've already bonded with each other. They say, "Let's pick a time. Thursdays from 5:00 to 6:00, we'll all Zoom in." They can be anywhere. They can be travelling and have that support group.

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We can talk more later if you want about why these psychosocial aspects are so powerful-- not only in terms of enabling people to make and maintain lifestyle choices that are life-enhancing than ones that are self-destructive, but also the direct health benefits that these choices provide.

JM: Perfect. I'm wondering if you could help us understand some of the challenges you had in its 16 years. What type of hurdles were they placing in front of you that you had to jump over other than getting sort of a note from the head of – saying these simple interventions were safe?

DO: Well, part of the problem was that the initial response was, "We don't want to do that." And then because I've been working with President Clinton and we were having dinner together one night after I had my initial meeting with the people at Medicare. He said, "How was your day?" I said it was challenging and he said, "Well, maybe I can help." I said, "Maybe you can. You're the President of the United States. You head the executive branch, which includes Medicare."

But it still took 16 years to receive coverage. When you're trying to do something innovative, it can often be challenging, because it may threaten the conventional order or the conventional paradigm.

Doing something pioneering – I grew up in Texas. They said, "You know how we tell pioneers in Texas? By the arrows in their backs." When you're trying to do something unconventional, it just comes with the territory. But I remain deeply grateful to the people at the Centers for Medicare and Medicaid Services (CMS) because they did, in fact, after thoroughly reviewing our data for 16 years, provide coverage. We had support from the most conservative Republicans to the most liberal Democrats. In this polarized political environment we're in, it's one of the few things that people really rallied around, including the heads of the American Association of Retired Persons (AARP) and other major health, scientific and medical organizations.

I think you can make a good case that medicine is inherently conservative because you don't want to embrace every fad that comes along. At the same time, 16 years was a big chunk out of my life. It was really hard, but it was worth it. Because now, we can really – I didn't want this to be concierge medicine. I wanted this to be available to everybody. Now, it is.

JM: Yeah. How many people have actually had access to it? Can you discuss some of the data and statistics that you've compiled so far?

DO: Yeah. We're now in 18 states and growing quickly. We've been partnering with a company called ShareCare to train hospitals, clinics and physician groups around the country. As I mentioned briefly earlier, we're getting bigger changes in lifestyle, better clinical outcomes, bigger cost savings and better adherence than have ever been documented.

Let's take those one at a time, beginning with bigger changes in lifestyle. We've learned that what really motivates people to make sustainable changes is not fear of dying. It's joy of living. When you make these changes, because these underlying biological mechanisms are so much more dynamic than we had once realized, most people feel so much better, so quickly, it reframes the reason for making these changes from fear of dying or fear of something really bad happening, like a heart attack or stroke, which is not sustainable, to joy, pleasure, love and feeling good, which are.

When someone's had a heart attack, they'll do pretty much anything their doctor or nurse says for about a month or two. That's probably what you find as well. But it's not sustainable because we all know we're going to die. The mortality rate is still 100 percent, one per person. But we don't think about it most of the time because it's too scary.

That's one of the most common misconceptions a lot of doctors say. "Well, I can get patients to take their pills, their statins, their blood pressure pills or whatever, but there's no way that they're going to change their lifestyle. It's too hard." And yet, the pharma companies' data show that half to two-thirds of people who were prescribed statins are not even taking them after just four to six months. One-third of these prescriptions never even get filled.

The reason is , when I talk to patients, I ask, "Why aren't you doing that?" Although they don't use these terms, it's because they're fear-based. In other words, "Take this pill. It's not going to make you feel better. Hopefully it won't make you feel worse. It may help prevent something really awful, like a heart attack or a stroke from happening years down the road," which people don't want to think about, so they generally stop doing it.

But when they change their lifestyle, most people feel so much better so quickly in ways that really matter to them. For example, people with heart disease often have angina or chest pain. For someone who can't walk across the street without getting chest pain or make love with their spouse or play with their kids or go back to work without getting pain in their chest, then within, usually, a few days or a few weeks, they're essentially pain-free. They can do all of those things. They often say things like, "Well, I like eating junk food, but not *that* much. Because what I gain is so much more than what I give up."

That's really the key. We're always making choices. These are choices worth making. You feel so much better, so quickly, that it reframes the reason for making these changes from fear of dying or fear of a bad thing happening to joy, pleasure, love and feeling good. The bigger changes in lifestyle are a big part of that.

The support groups we have are not really the classical support group of exchanging recipes and shopping tips and types of running shoes, but rather creating a safe environment where people can just connect in a deep and authentic love for each other.

You know, Joe, 50 years ago, people had an extended family they saw regularly. They had a job that felt secure. They had a church or synagogue they went to regularly, a club they belonged to, a neighborhood with two or three generations of people. Today most people don't have any of those.

I wrote a book 20 years ago called *Love and Survival: 8 Pathways to Intimacy and Health* that reviewed what were then hundreds and now literally tens of thousands of studies showing that people who are lonely and depressed and isolated, which I think is a real epidemic in our culture, are three to ten times more likely to get sick and die prematurely compared to those who have a sense of love and connection and community. I don't know anything in medicine that has that big an impact.

In doing these studies, I spent a lot of time with these patients. We got to trust and know and even love each other. I'd say, "You know, teach me something. Why do you smoke? Why do you overeat? Why do you drink too much? Why do you abuse opioids? Why do you spend too much playing videogames? These behaviors seem so maladaptive to me." They'd look at me and

say, “You don’t get it. You don’t have a clue. These behaviors are *very* adaptive because they help us deal with our emotional pain. They help us get through the day.”

I’ve had patients say things like, “I’ve got 20 friends in this pack of cigarettes. They’re always there for me, and nobody else is. You’re going to take away my 20 friends. What are you going to give me?” Or “Food fills that void,” “Fat coats my nerves and numbs the pain,” or “Sugar coats my nerves and numbs the pain,” or “Alcohol and opioids numb the pain,” or “Working all the time numbs the pain,” which is a more socially acceptable way of doing that.

Part of what we’ve learned, and I’m sure you’ve learned this as well, is that information is important but it’s not usually sufficient to motivate most people to change. I mean, we’re drowning in information. It’s not like I tell somebody, “Hey, I want you to quit smoking. It’s bad for you” and they reply, “Oh. I didn’t know that. I’ll quit today.” It’s on every pack of cigarettes.

So we can’t just give information. It’s important, but not sufficient. We don’t just focus on the behavior, but on these deeper issues that really matter most. When we focus and create a safe environment in our support groups where people can just let their emotional defenses down, talk about their feelings, say, “Hey. I might look like the perfect dad, but my kid’s having problems,” or whatever. Someone else can say, “Yeah. Mine too,” or “Gosh. I’ve got those problems.”

And then I just find that it heals that isolation and people are much more likely to make and maintain lifestyle choices that are life-enhancing than ones that are self-destructive. That’s why we’re motivating people to make bigger changes in lifestyle that lead to better clinical outcomes and larger cost savings. We’re finding that we can cut health care costs in half in the first year.

We did a study with Highmark, Blue Cross Blue Shield and they found that in the first year, compared to a matched control group that their costs were 50 percent lower. When they looked at the subgroup of people who cost them at least 25,000 dollars in the previous year, their costs were 400 percent lower in the year after going through our lifestyle program. Mutual Omaha found almost 80 percent of people who were told they needed a bypass or stent were able to safely avoid it by going through our lifestyle medicine program instead, saving them almost $30,000 per patient in their first year.

Why that’s important is that when I first went to insurance companies in 1993 and asked them to cover my program for reversing heart disease, they’d say, “One-third of people change insurance companies every year when they change employment. Why should we spend our money today for some future benefit that someone else is going to get?” I’d say, “Well, because it’s the right thing to do.” That was not the most persuasive argument. But when I can show that in their first year that they can cut their costs to such a degree, that really made it much more motivating.

It turns out that 5 percent of people account for 50 to 80 percent of all healthcare costs. These are the ones with chronic diseases that we work with, so we can show significant cost savings in the first year.

A field that I helped develop is called "lifestyle medicine," which is offering lifestyle changes not only to help prevent disease, but actually to treat or even reverse it. You're a big contributor in, advocate and pioneer in that field as well.

JM: Great. Are there any other elements of the psychosocial interventions you mentioned earlier that you want or like to expand on? In addition to what you just previously mentioned.

DO: Yeah. I appreciate the question. Love is one of those four-letter words that you're not really supposed to talk about as a scientist or as a doctor. So we use terms like "psychosocial support," "bonding" or whatever. But it really is a love-based program. It's a conspiracy of love in many ways because when you're feeling a sense of – I mean study after study, as I mentioned briefly, have showed that people who are lonely and depressed are three to 10 times more likely to get sick and die prematurely.

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That's how I got interested in this whole field. Forty years ago when I was a freshman in college at Rice University in Houston, I got suicidally depressed. Out of that really came my interest in lifestyle medicine. That was my doorway into learning about this.

Creating an environment that feels nurturing and loving, like the support group, is the part of our work that some people make the most fun of. "Oh, you live in California. It's an altered state. They'll do anything there." Although I'm actually from Texas. I used to get defensive and say, "No, no, no. Look at our quantitative arteriograms, our radionuclide ventriculograms and our cardiac positron emission tomography, blah, blah, blah."

Then one day I thought, "You know what? It *is* a touchy-feely program. It *is* a love-based program. That's what makes it work so well. We are creatures of community. That's how we survived as a species all these years."

That's why in this book, "love more" is the fourth component of, "Eat well, move more, stress less, love more," because love is really what enables people to make these other changes. It has healing benefits in its own right. Even the word "healing" comes from the root "to make whole." Yoga comes from the Sanskrit meaning "to yoke, to unite, union." These are really old ideas that were rediscovered.

JM: Yeah. That's a really interesting concept in perspective. I suspect you encountered some resistance in adopting that, because it – it typically isn't included in a traditional medical intervention.

DO: That's true. Dr. Kim Williams is a cardiologist, chief of cardiology at Rush University in Chicago, and was the president of the American College of Cardiology (ACC). A few years ago, he found that his own cholesterol level was really high. He did a literature review and came across our work, went into our program, cut his LDL of 170 in half. He became a proponent of this.

We did the first large-scale symposium at the ACC Scientific Sessions in Chicago – over 1,000 cardiologists came – on lifestyle medicine. I gave the lecture on love and support. It was really kind of ironic to be – The heart is a symbol of love, and yet it's something we don't really talk much about in cardiology.

There I was, giving probably the first lecture on love at one of the most prestigious cardiology meetings. It was met with such great support, because there's a hunger for this. That is the undiagnosed disease. As you know, and as you've written about, more money is spent on antidepressants, as well as cholesterol-lowering drugs than pretty much anything else. We need to address this.

Because what I learned when I was so depressed when I was in college is that if you tell someone who's lonely and depressed that they're going to live longer if they just change their diet or move more or eat well or stress less or whatever, it doesn't work for them. They say, "I'm just trying to survive. I'm just trying to get through the day. I don't know if I want to live longer." We have this assumption that everybody wants to live longer, especially here in the Bay Area, where so many tech people are trying to find ways to live forever.

But I think that just the act of knowing that we're mortal and the act of understanding what really brings happiness, that when we choose not to eat certain foods – Is that deprivation? It can be. Or why is it that all spiritual traditions have dietary guidelines even when they're often in conflict with each other? I think whatever the intrinsic benefit of eating or not eating certain foods, just the act of choosing not to do something that you otherwise could do imbues those choices with meaning.

If they're meaningful, then they're sustainable.

Choosing to be in a monogamous sexual relationship with someone, is that like a ball and chain? It could be. Is that a moral thing? It could be. But to me, it's more like these are the behaviors that bring the most pleasure into our life. What you gain is so much more than what you give up, and this also makes it sustainable. Instead of digging a lot of shallow wells and never reaching water, dig one deep well and reach the wellspring.

Anne and I have been working together for more than 20 years and co-authored this book, decided when we became lovers many years ago to be in a committed monogamous relationship, because you can only be intimate with someone to the degree that you can open your heart and be vulnerable to them. You can only do that to the degree that you feel safe. To the degree we really feel safe because of that commitment, then we're finding that we're more intimate. The more intimate we are, the more erotic it becomes, the more pleasurable it becomes. Here again, our book is really about the way to make sustainable changes is to realize that the lifestyle choices that bring meaning and pleasure to our lives are the ones that are most sustainable.

JM: How do you integrate meditation and yoga practice into that? How do you merge those to support that process?

DO: Yeah. Good question. As we discussed, Medicare and insurance companies are covering our program, it's four hours at a time, twice a week for four hours for nine weeks. One of those four hours is meditation and yoga. Part of what we've learned is that meditation is just the practice of focusing your awareness on one thing. Whatever it is – It can be a sound or an image. It can be religious. It can be secular. It's whatever you want it to be.

When you can focus your awareness, a lot of good things happen. The first is that you get better at focusing and concentrating. Whether you're in the sports world – World-class athletes use meditation, because at that level, it's really more of a mental game. It gives them a competitive advantage. Meditation also can lower your blood pressure and your cholesterol levels, and mitigate the fight-or-flight responses, one of the core mechanisms that lead to so many different diseases. It makes your fuse longer. Things don't bother you as much.

Also from a purely sensual level, whether it's food, sex, music, art or massage, when you're really focused on it, you can get more pleasure--and with fewer calories if you're eating food, for example. We've all had the experience of eating mindlessly while watching a movie. You look down and think, "Who ate that? I got all the calories and not much of the pleasure." But if I'm really focusing on the food, I can close my eyes and enjoy it much more fully.

My wife Anne has this wonderful guided meditation called "Eating with ecstasy." I love dark chocolates. I'll have a piece of really high-quality dark chocolate, close my eyes, I can spend three, four or five minutes that letting it melt in my mouth and noticing all the flavors and textures and harmonics of flavors as they come through. The first bite is always the best anyway. If you just have one bite and you really pay attention to it, it can be incredibly pleasurable with very few calories, fat and sugar.

The other thing that happens when you meditate is that you rediscover inner sources of peace and joy and well-being. Our culture teaches us that we get these from without– Our health is outside ourselves. Our peace of mind is out there somewhere. The whole advertising industry is based on the idea that, "Gosh. If only I had more [blank]." You fill in the blank--more money, more power, more beauty, more accomplishment, more sex, whatever, "Then I'd be happy." Once you set up that view of the world, as I learned when I was so suicidal and depressed in college, however it turns out, you feel bad.

I think if only I could get "it" – whatever that is – then until I get it, I'm stressed. If someone else gets it and I don't, then I'm really stressed and it makes me feel like we live in this very competitive zero sum game, dog-eat-dog world, "The more you get, the less there is for me," and so on. But even if I get it, it's great for only a short time. It's like, "Uh. I'm happy now."

But it's usually soon followed by "Now what?" It's never enough. I remember one of my patients years ago said, "I can't even enjoy the view of the mountain I've climbed. I'm already looking over at the next one."

Or "So what? Big deal. It doesn't really provide the lasting meaning that I thought it would." People say things like, "The letdown that comes from accomplishing a goal is so great that I always make sure I've got a dozen projects going on at the same time so I can distract myself."

The ecumenical spiritual teacher that I studied with for many years, Swami Satchidananda, who really helped me when I was so depressed, would say things like, "We're born fine and we define ourselves by setting ourselves apart. I'm this. I'm that. Whatever. We're born with a sense of ease and we disturb that when we become dis-eased." It's a different conception of health than what I was trained in in medical school, and probably one that's different than what you were originally trained in, which is that it's our nature to be peaceful and usually healthy.

Instead of saying, "What am I lacking that I need to get in order to be healthy?" I've learned to ask, "What am I doing that's disturbing my own innate sense of ease," which I can actually do something about. It's not a way of blaming myself, but a way of empowering myself. And then I can go out in the world and often accomplish even more, but without so much of the stresses and so on.

If you take meditation even further, it gives you a "double vision" and a sense of transcendence. That on one level, we're separate. You're you and I'm me and we can have fun talking to each other today. But on another level, we're a part of something larger that connects us all.

My teacher would talk about how like in an old-style movie projector, there's the light behind the projector and then it gets filtered through the film and all these dramas and names and forms and so on that we could enjoy, as long as we can also understand that beyond all that duality, there's one light behind that. The paradox is that it can actually make life that much more enjoyable to the extent that we don't get caught up in all those dramas.

People would ask my teacher, "What are you? A Hindu?" "No. I'm an Undo," which is part of where the title of the book came from. When we can work at that level – I mean my whole approach, like yours, is really about addressing the underlying causes of why people get sick. In my limited understanding, these are the deeper causes that are harder to measure scientifically, and, ultimately, the ones that are the most meaningful and often the most sustainable.

JM: Yeah. Tim Ferriss, I'm sure you're familiar with, has interviewed a lot of people and has compiled the best of the interviews and has correlated that most of the successful people he interviews are meditating. I think it seems to be a general consensus in the public of the value of meditation. You've been doing it for a long time, well before it became popular. It sounds like you started it when you were in college or close to that.

DO: Yeah.

JM: I'm wondering if you could describe your personal meditation practice and what you would recommend for someone just starting this.

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DO: That's a good question. I started meditating when I was suicidally depressed. I was about ready to do myself in and I got so sick from being so stressed out, I got a severe case of infectious mononucleosis, I couldn't even get out of bed. My parents saw what a wreck I was, so

I went home to Dallas and my plan was to get strong enough to kill myself, as crazy as that sounds.

There's an old saying that "When a student is ready, the teacher appears." My older sister had studied with this spiritual teacher. It really helped her. My parents decided to have a cocktail party for the swami. This was Dallas in 1972. You can imagine how strange that was.

In walks this kind of central casting-looking swami with long saffron robes and white beard and so on. He started by saying that, "Nothing can bring you lasting happiness," which I'd already figured out, except that he was glowing and I was ready to do myself in. He went on to say – again, it probably sounds like a new age cliché but it turned my life around – "Nothing can bring that to you. That's the bad news. But the good news is that we already have that if we just stop disturbing it."

Meditation was one of the tools that he taught me to begin to quiet down my mind, to begin even getting glimpses of that inner peace. At the end of a long meditation, when you're feeling more peaceful, it's really helpful to point out to yourself that the meditation didn't *bring* that to you. The ancient swamis, and for that matter, rabbis, priests, monks, nuns or whatever didn't develop these techniques to bring you a sense of peace, but rather, to help stop disturbing what's already there. It can give you the direct experience of that.

The other thing that I have found – and it's been enormously helpful to me, and I'm curious to know if you find this to be true as well – is that when I quiet down my mind, I can get greater access to my own inner wisdom that sometimes goes by the still small voice within, the teacher within, the guru within or whatever name you want to give to that. It's the voice that we all have that speaks very clearly but quietly. But it often gets drowned out by the chatter of everyday life.

Sometimes it wakes me up at 3:00 in the morning and says, "Hey, Dean. Listen up. Pay attention. You're not doing something that's in your best interest." But we can access it directly. I've learned to do that.

In all of the research that I've done, it was thought impossible when we started doing it. But in addition to reading the scientific literature, I'd listen to that inner voice and it would say, "Yes. I think this is going to work." Then I kind of reverse engineer and start reading all the studies and say, "Why would this work? What are the mechanisms why that would work? How can we really test that in a way that would be credible?" And so on.

I would encourage anyone watching this, when you meditate, at the end of a meditation, when you're feeling more peaceful, just ask yourself a simple question, "What am I not paying attention to that would be helpful that I need to hear?" Just listen. You'll be amazed at what comes out.

You can meditate an infinite number of different ways. But to me, focusing on a sound is one of the easiest and the most accessible. There are certain sounds that throughout different cultures, both religious and secular, have been found to be very soothing. They generally are words that start with an "oh" or an "ah," and end with an "m" or an "n." Like "Om," which is a classic one,

or even the word “one,” or a mother or father humming to their child, or “amen,” “amin,” “salaam,” or “shalom.” These are words that are often translated to mean peace, because in just the act of expressing these, the vibration is a very peaceful one.

If you want to learn how to meditate, we can do it right now. It takes all of 30 seconds. Close your eyes, assuming you’re not in a car or some place that you need to be looking, and just take a deep breath. Bring your awareness to these sounds. Let’s just use the word “one,” because it’s secular and it wouldn’t offend anyone. Just intone “One,” just focusing on the humming sound, or “Om,” or “Shalom,” or “Salam,” whatever it is.

And then when you run out of air, do it again, over and over again. What invariably will happen is your mind will start to wander. You’ll start to think about 1,000 things you should be doing or forgot to do or whatever. That’s just normal. Everybody’s mind wander. If you become aware that you’re thinking about something else, just gently but firmly bring it back to the sound over and over and over again. Then your mind really begins to quiet down in a very deep way.

JM: Is it important to vocalize that sound?

DO: That’s a good question. I find it easier, especially when I’m beginning, to vocalize and my mind wanders less. You can actually feel the peaceful vibration. But you can do this silently. I find that, like you, I’m in a lot of airplanes. That’s a good place to do it. If you’re in an Uber or a Lyft and you don’t have to be driving, just close your eyes and meditate silently.

What I find is that the consistency is more important even than the duration, just doing a little every day. I often have people say things to me like, “I used to have a short fuse and I’d explode easily, but now my fuse is longer. Things don’t bother me as much.” Just a few minutes at the beginning of the day or the end of the day can really make a huge difference. If you can do more, even better.

But sometimes, I play a little game with myself. I think, “I’m too busy. I don’t have time to meditate for half an hour.” I’d reply, “Do you have a minute?” If I have to admit to myself I do not have a minute, then I’d have to admit my life is so out of balancethat it’s easier just to do the minute. Of course, once I do a minute, chances are I’m going to do more anyway, because it’s getting started that’s always the hard part. But even a minute has benefits. It’s kind of like if you hear a song on the radio in the morning and you find yourself humming it later in the day. Subconsciously, your mind is meditating throughout the day even if you’re not aware of it.

JM: So your specific practice, is it formalized where you commit to 20 to 30 minutes or even longer in the morning or at night? Do you find that you’re doing a hybrid of something like that, and then these several-minute pauses through the day where you’re able to focus on that?

DO: It depends on the day. I almost always start the day with a meditation, because that’s one thing I can control. I get up a few minutes early. I find that the meditation gives me actually a deeper state of relaxation than sleep. It’s not that it really costs me anything, because I’m using that time that I would be sleeping to meditate.

And then during the day, when I can find moments, especially if I'm feeling stressed, I do it then as well. People often think of meditation as an ascetic practice, but it's a profoundly sensual one. As we mentioned earlier, food, sex, music, art, massage or anything sensual, when you really focus on it, you'll enjoy it a lot more fully with a greater sense of pleasure.

JM: Excellent. In many ways, meditation can be viewed as an exercise. It's a mental exercise, of course. I'm wondering if you integrate any personal, physical exercises into your program.

DO: We do. The program is "Eat Well, Move More, Stress Less and Love More." The exercise is the "Move More" part. It's aerobic exercise such as walking, strength training, and stretching. All three generally are good. So I have a trainer who I work with. I also try to do something every day and to incorporate it into my daily life.

First of all, if you like it, you're going to do it. The best kind of exercise is the one that you enjoy doing. I find that just simple things, by getting a portable phone and walking around my office when I'm on the phone or I have a treadmill desk – but if you don't want to invest that much, just buy a portable phone and walk around when you're on the phone. That can make a huge difference. Or taking the stairs. I used to get annoyed when I couldn't find a parking place near the gym. That's ridiculous. Today I deliberately park farther away, which would give me a little more exercise and reduce the stress of not having to find a parking place. Little things can go a long way.

JM: I'm a big fan of walking. Fortunately, I live close to the beach, so I'm pretty much able to do that most of the days I'm not travelling and the weather's decent, which is most the time in Florida. I've done that for a few years, but I just recently learned of a way to enhance that pretty simply. Are you familiar with enhanced external counterpulsation (EECP)?

DO: I am.

JM: Yeah. It's a great, expensive modality. It certainly, in my view and I suspect yours also, is a far better approach than doing a coronary bypass or a stent for relief of angina or even heart failure. You actually can simulate that intervention by walking if you get your heart rate high enough. If you're walking up the hill, that would do it. But I live on a flat beach, so I've gotten some ankle weights.

There's actually a device that you can get that's called a Counterpace. It's one word. Counterpace.com. You can wear it and it measures your heart rate and measures your walking frequency. It can sync it up so they're actually augmenting the backflow to the heart during the diastolic phase, so you're actually getting this benefit of EECP while you're walking. It's like you're doubling your benefit. Heart disease, of course, is such a big issue and one that you focus on in your program.

DO: Yeah. Well, I think any kind of exercise is going to squeeze your muscles.

JM: Augmentation when it's in diastole –

DO: That's true. The heart will do that to the arteries. The veins have a much lower pressure, and the lymphatic system even less. When walking, in addition to exercising, you're actually squeezing and milking the lymph, which is kind of like the garbage sewers of our body, to be able to empty out into your thoracic duct to help detoxify your body. Anything that, if it's ankle weights or anything that helps you do that more efficiently and something that you enjoy, I'm all in favor of.

JM: Yeah. Have you looked into compressed eating windows or time-restricted feedings in augmenting the benefits for those who are insulin-resistant and struggling with weight?

DO: We do. In the book I recommend to try to make breakfast and lunch your big meals, and then to try to eat a much smaller dinner if at all and to try to eat it early enough so that you have basically intermittent fasting every day. If you can finish your dinner by 6:00 or maybe even 7:00, and then you don't eat and maybe eat a later breakfast, that gives you 12 hours to 14 hours of not eating, first of all, you sleep better because your body's not trying to work, process and digest your food while you're trying to rest and sleep.

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And also, there's just a lot of evidence that this gives your body a chance to detoxify and to clean itself out. It's one of the reasons why when you eat a healthier diet, not just what you eat but how you eat and when you eat, will make a difference as well.

JM: Yeah. The challenge with that, especially when you're integrating your recommendations, is the psychosocial intervention that most of us in our culture tend to have dinner and that's the time we connect with our family or loved ones. You're pushing back that window to three hours before bed time. That could be a challenge. But you know, it's just an opportunity for exploring some novel approaches, I guess.

DO: You'll have the social interactions. But it's a continuum. To a degree, you can eat earlier and eat lighter, you're going to be better off.

JM: Yeah. That's great. Do you have any fond examples of success stories of those who adopted your program?

DO: Yes. On our website, Ornish.com, there are 100 or so video testimonials. Dr. Robert Treuherz, an internist who I wrote about in my new book, had such bad heart disease he was told he needed a heart transplant to survive. While waiting for a donor, he went through my reversing heart disease program at the University of California Los Angeles (UCLA). After nine weeks, he improved so much he didn't need a heart transplant anymore!

What's the more radical intervention here? A heart transplant, which costs $1.5 million and a lifetime of immunosuppressive drugs, or Eat Well, Move More, Stress Less, Love More? We have over a dozen cases like that.

What I tried to do in the book was to present a new unifying theory. We were both trained to think of heart disease, diabetes, prostate cancer and Alzheimer's as being fundamentally different

diseases. I'm putting forth a radically new unifying theory, which is that they're really not different diseases. They're different manifestations of the same underlying biological mechanisms that are disordered, such as chronic inflammation, oxidative stress, changes in the microbiome, immune function, gene expression, telomeres, autophagy, chronic stimulation of the sympathetic nervous system, and angiogenesis.

Each one of these, in turn, is directly influenced by what we eat, how we respond to stress, how much exercise we get and how much love and support we have. Because these underlying mechanisms are so dynamic, most people feel so much better, so quickly, it's highly motivating. We have amazing testimonials from people and scientific evidence showing reversal of chronic diseases, which is what gets me out of bed every day.

I think personalized medicine has some real benefits if you have pancreatic cancer or melanoma and you want to use a targeted immunotherapy based on a particular cell type. That's awesome. But for the vast majority of chronic diseases, it doesn't need to be personalized. We found that over 40 years of research that there wasn't one diet and lifestyle program for reversing heart disease and a different one for diabetes or prostate cancer or heart disease or whatever. It was the same for all of these.

In China and other Asian countries, until 50 or 60 years ago, they had very low rates of these chronic diseases. Then they started to eat like us, live like us, and all too often, die like us. They have the same genetic diversity that we have here. But for example, even if you're genetically not very efficient in metabolizing refined carbohydrates or fat in your diet, if you're not eating too much of these, then those differences tend not to matter so much.

It's one of the reasons why you find so many of these diseases as comorbidities. People who have heart disease often also have high blood pressure or diabetes or high cholesterol because they're really all different manifestations of the same underlying causes.

JM: Yeah. I couldn't agree more. In fact, one of my future books, probably 2020 or 2021, is *The Unifying Theory of Disease*, which focuses on these oxidative stressors and inflammatory and using the dietary lifestyle recommendations here, but also molecular biology and all the magnificent new research. Investigators have been exploring these things for decades and are developing this fountain of knowledge, –

DO: Yes.

JM: – essentially, that you can utilize and really help address some of these causes, because you're right. It's just a wide – For almost every disease has some of these foundational causes. If you can address them, you don't just treat one. You treat all of them, which is – most people with cancer don't die from the cancer. They die from the treatment, because the treatment causes an acceleration of the other conditions: the oxidative stressors, the inflammation, telomere shortening, senescent cells and all of that. It's a big issue.

DO: I look forward to reading your book when it comes out.

JM: I'd like to give you a draft. Because someone with your insights and experience, I would love to have your feedback on it.

DO: I'd be delighted and honored to do that.

JM: That would be great. I'm interested in helping our viewers understand how they can identify someone, a participating center where they can access your program, because, literally, I mean everyone watching this, either themselves personally or someone they know of, would benefit from participating for some chronic disease. The huge plus here is that it's covered by insurance in most cases.

DO: Yes.

JM: How would they find that?

DO: I appreciate the question. The new book, *UnDo It!*, is the best place to begin. Everything is in the book. You can do the whole program just from that. It's a pretty small investment for that.

JM: Yeah.

DO: If you want more than that, we've been training hospitals and clinics and physician groups around the country. We're still on the steep part on that. If your viewers go to Ornish.com, there's a listing of all the sites that we've trained and certified. My wife, Anne, who's amazing, is developing support groups that we can create for people. That will also be available on the Ornish.com site as well.

JM: Great. What does it take to qualify and become considered for training and become certified? Does it have to be a large physician group?

DO: No. We train a team: a doctor, nurse or nurse practitioner, meditation/yoga teacher, dietitian, exercise physiologist, and psychologist. Then you can be trained by us and certified by us. Medicare and many insurance companies will pay the same reimbursement, whether it's offered in a physician's office or in a hospital or in a large academic institution, which is a real breakthrough.

We're creating a new paradigm of health care rather than sick care. Medicare is just currently paying for reversing heart disease. Some of the other insurance companies are covering it, not only for heart disease, but for Type 2 diabetes or even two or more risk factors like obesity, high cholesterol, high blood pressure and so on. Most people with heart disease will be covered if they can go to one of our programs.

JM: Well, again, I think that's one of your biggest accomplishments really. To establish the reimbursability of that and the availability for so many people. I mean you've really opened up the door. From my perspective, and I didn't realize that – I thought you'd have to be a medical center or something to get that certification. So anyone of the groups that you mentioned earlier, it would be crazy not to apply for this information. Maybe you can describe for our viewers,

because many of them are healthcare professionals, what the process looks like to become certified so that you can be eligible for reimbursement from the insurance companies.

DO: Again, I appreciate the question. Our training is a combination of didactic and experiential. We've learned that the best way to teach this is to go through it yourself, even if you don't have any conditions. People come to the Bay Area here. We put them through the program for three and a half days. It's just like how a patient would go through it. They eat the food, they do the meditation and yoga, they have the exercise, they have the support group and so on.

In addition, we have lectures from me and other people who I worked with for many years about the scientific basis of this and how to understand the scientific and medical literature and how to incorporate that into your life. And then we have ongoing training, both on site and through video technologies. We have yearly reaccreditation to maintain the quality of the program. Most people who do it say, "This is what I've been waiting for. This is why I went into healthcare." If we're just a collection of algorithms, we're going to get replaced by artificial intelligence and probably an iPhone app before long.

JM: Yeah. Within our lifetime.

DO: Within probably in the next five years. For me, at least, it's part of our conspiracy of love. That when you go through this program, and you can really experience what a difference it can make. You know, we so often think that advances in medicine have to be something really high tech or expensive – a new drug or laser, a new device or whatever. I think our unique contribution has been to use these very high tech expensive state of the art scientific measures to prove how powerful this very simple and low-tech and low-cost program can be.

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But it's one thing to say that. It's another thing to actually experience it. Even in three and a half days, people often find that they have life-transforming experiences, which make them that much more passionate and committed and effective in training their patients who they ultimately will be working with.

JM: That is just outstanding. If you're a healthcare professional watching this, I would strongly encourage you to Ornish.com and find out the details so you can head out to the Bay Area and literally take the training and become certified, so you can offer this to a large number of people. Because there's such a desperate need for this type of intervention.

DO: There is. That's what made the 16 years of scientific review by Medicare worth it, because now it's financially viable and sustainable. For me, money has never been the primary motivator. In fact, I even had the spiritual vision years ago that if that were my primary goal, I would have nothing. But if I'm just focusing on doing good work, then the money needed to do this work seems to follow.

For example, when I moved to San Francisco after finishing my medical residency in Boston at the Massachusetts General Hospital and moved to the University of California San Francisco (UCSF) to join the faculty in '84, we'd raised a certain amount of money to do the reversing

heart disease research. And then some of the people who said they would give money weren't able to fulfill their pledges for a variety of reasons. We said, "Let's just do it. Somehow the money will come." I've always taken that attitude. Every day on the last day of the month, some angel would come forward who enabled us to do this research.

Part of the problem is when you're doing research that's truly disruptive, it's hard to get funding for it, because people would say, "Why would we waste our money on proving you can reverse heart disease when everyone knows that it can't be done?" Without the funding, you can't prove it. If they don't think it's possible, then why would they want to fund it? We just raised the money as we went along. Fortunately, we were able to show that.

We're doing the same now. We're doing the first randomized trial to see if we can reverse the progression of early stage Alzheimer's disease. I think we are at a place with Alzheimer's very similar to where we were with heart disease 40 years ago. Our new book, *Undo It*, is a way of synthesizing these decades of experience.

It begins with a quote by Albert Einstein, one of my favorites. It says, "If you can't explain it simply, you don't understand it well enough." Because I've been doing this for most of my adult life, I can drill down to say it's really not that hard. You know, there are thousands of studies that we draw from and many of which are included in the book, but I wanted to make it radically simple for people. Kind of like what Steve Jobs did with the iPhone. You don't need to use your manual. You don't have to know how to code.

My three-year-old, when she first got one of the first iPhones, was able to use it, because it's designed in an intuitive way. That's the way Anne and I wanted to present our new book, *Undo It.* It seems to be succeeding from the feedback that we're getting, because it's really not that hard.

My favorite key on the computer has always been the undo button. I thought, "Wouldn't it be nice if we had one of these in our life?" Now we do.

JM: That's great. I'm glad to hear that you're doing some work on Alzheimer's. I'm wondering if you had considered collaborating with Dale Bredesen, who's a really major investigator, as I'm sure you well know. But his challenge has been that he's got these 36 different approaches he's looking at. It just conflicts with the normal model because they only want to look at one. That's it.

DO: Yeah.

JM: It's a comprehensive approach.

DO: Well, that's been an issue for me throughout my 40-year career. It's people want to have one independent variable, one dependent variable and keep everything else constant. But that's a myth anyway, because you're never just changing one thing. You may think you are. I might say, "Let's just do an exercise intervention." We're only going to do exercise. But when you're exercising people, you're giving them a sense of control, a sense of hope, positive expectation.

They're more aware of how they feel so they're more likely to eat healthier. All of these things kind of interact. We said, "Look. Let's take a combined approach."

Now, Dale has described publicly that his program is based on my work. We had, at one point, talked about doing a study together. But he wanted to write a book and get it out there. I wanted to do the research first. There's no criticism, but my approach has always been, "Let's do carefully controlled randomized trials to see if something works. If we prove it works, then we can get it out there to the general public." I just don't want to say anything until I have proof that it really can work.

JM: I'm curious as to what your big vision for the future is, assuming that you could have your wishes fulfilled. What would it be?

DO: World peace.

JM: On a practical level and related to your work. Something where you have definite influence over.

DO: Well, if we can show that we can reverse Alzheimer's disease, which I'm hoping that we'll be able to show, my instincts are that we will, that will be a major contribution. My mother died of Alzheimer's, and all of her siblings did, so I'm sure I have the gene for it as well although I haven't yet tested for it. There are no good drugs for treating it or for preventing it.

James Watson – of Watson and Crick who decoded the DNA for the first time – was one of the first people to get his genome sequenced. He said, "I wanted to know everything except the Apolipoproten E4 (ApoE4) gene, because why would I want to know if I'm likely to get Alzheimer's if there's nothing I can do about it?" But I think there's a lot that we can do about it.

It'll give a lot of people new hope and new choices if we can show that. Also, if we can continue to grow our training and lifestyle medicine programs so that we're throughout the country and we can continue to create this new paradigm and collect data on it.

In this Alzheimer's study, we'll be measuring not only the changes in cognitive function, but also changes in what's happening with their telomeres, with their microbiome, with their genomics, their proteomics, their changes in the DNA clock and so on. We'll have not only an idea of whether we can reverse it and also what some of the mechanisms are that hopefully enable us to do that.

JM: When do you anticipate having this finished?

DO: Well, probably in a year or so, maybe a year and a half.

JM: So soon.

DO: Not that long.

JM: Yeah. Dale has published some really interesting case reports – very impressive – on this reversal. I'm sure your study will even further enhance that.

DO: I hope so. He published a study of 10 patients. Eight of them showed significant improvement in their cognitive function.

The combination of those case reports, the fact that the same risk factors for heart disease and diabetes you find for Alzheimer's as well, the epidemiological data, the animal studies, the interventions like the Finnish Geriatric Intervention Study to Prevent Cognitive Impairment and Disability (FINGER) study and the POINTER (Protect Brain Health Through Lifestyle Intervention to Reduce Risk) trial, and the MIND studies, have showed that less intensive interventions may slow or even stop the progression of early stage Alzheimer's, very much the way it was 40 years ago with heart disease. We think a more intensive intervention may actually be able to reverse it, so stay tuned.

JM: That's great. I look forward to your pioneering efforts in that area also. I really deeply would like to express my deep gratitude for putting in the hard work and effort over 16 years to put that program together that I think is really going to make such a massive impact.

DO: Thank you.

JM: Because we can't wait until the system collapses, which is what I believe is going to ultimately happen. It's going to collapse. It may not collapse for 10 or 20 years, but it will collapse. In the meantime, your hard work can facilitate the transition of so many hundreds of thousands and millions of people who desperately need this work. Thank you so much.

DO: Thank you. It took us a long time with Medicare, but they've been very supportive, and I'm very grateful. There is now a convergence of forces that make this book and these ideas the right idea at the right time.

On the one hand, as you know from having reviewed a lot of these in your website, that the data from eight randomized trials are showing that stents and angioplasties in stable patients really don't work very well. They don't prolong life. They don't prevent heart attacks. Some doctors said, "Well, at least they reduce angina." And then in the Objective Randomized Blinded Investigation With Optimal Medical Therapy of Angioplasty in Stable Angina (ORBITA) study a year ago – I don't know how they got this through the human studies committee – they did sham stents, fake stents on half the people. They found that those who had the fake stents-- they just put the tube all the way up in their heart and pulled it out without putting the stent in-- they showed the same reduction in angina as those who had the stents put in.

Then they said, "Well, okay. If you just stent the most severely blocked ones, which is what they call the fractional flow reserve (FFR), that'll work." I have a letter coming out in The New England Journal of Medicine this week where I pointed out that didn't show it either. At the same time, my colleagues and I have shown in randomized trials that our lifestyle medicine program could actually reverse the progression of even severe heart disease in most people, simply by making these lifestyle changes.

In the case of early stage prostate cancer, there are two 10-year studies that were in the New England Journal of Medicine. They both showed that most men who have early stage prostate cancer, who have radiation or surgery to remove their prostate don't live any longer than those who did nothing. It turns out that one out of 49 or 50 men actually benefit from the surgery or radiation because they have really aggressive disease.

But the others often get maimed in the most personal way. It's very often either wearing a diaper because they're incontinent or they can't have sex because they're impotent for no real benefit and at huge economic and huge personal cost. But if the choice is between doing nothing and something, most guys, who know they have a biopsy-proven prostate cancer, want to go and do something, even if the treatment is worse than doing nothing. We want to give people a third alternative.

We did a randomized trial with Dr. Peter Carroll, the chair of virology at UCSF, probably the leading urologist on the planet now, and the late Dr. Bill Fair, when he was the chair of urology at the Memorial Sloan Kettering Cancer Center in New York (MSKCC). When you're doing these kinds of studies, it's great to work with the people who are the most thoughtful and influential.

We found that the same lifestyle changes could slow, stop and often even reverse the progression of early stage prostate cancer.

There's a third alternative with type 2 diabetes as well. As you know, with Type 2 diabetes, getting your blood sugar down with drugs may not prevent the horrible complications of Type 2 diabetes: the blindness, the kidney failure, amputations, impotence, heart attacks and strokes. But getting it down with diet and lifestyle can not only help prevent it but may often even reverse it.

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I think that it's the culmination of the convergence of forces showing that the traditional approaches aren't working as well as we thought, these other approaches work even better than we thought and how much money that we can save and empower people. If we really want to make healthcare available to everyone, we need to address the underlying lifestyle factors which are major causes of chronic diseases. Last year, 86 percent of the 3.6 trillion dollars we spent last year on healthcare, which is mostly sick care, were for treating chronic disease that can often be prevented and often even reversed by making these same lifestyle changes. Then we can make better care available to more people at lower cost. And the only side effects are good ones.

JM: That's terrific. Well, I think that's a good point to close at and remind people of the basics in that your book really summarizes most of what we discuss, a lot of what we discuss. But there are much more useful details and motivating statistics in the book. The book is *Undo It*. The program is available, if you go to Ornish.com, to be reimbursed by many insurance carriers. Again, thank you so much for creating this resource and all the pioneering work you've done and the hard work you've put in.

DO: Thank you. To me, awareness is always the first step in healing, and you reach so many people. I'm deeply grateful for the opportunity to share this information with your viewers. I hope at least part of it's been useful. God bless you and thank you again.

JM: All right. Well, thanks.

[END]