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DEAN ORNISH, MD:
A Conversation With the Editor
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Dean Ornish was born on 16 July 1953 in Dallas, Texas, and he grew up there. He attended Rice University and then the University of Texas in Austin where he received a BA in Humanities summa cum laude and gave the baccalaureate address. He graduated from Baylor College of Medicine in Houston in 1980 and did his internship and 2 years of residency in internal medicine at the Massachusetts General Hospital in Boston (MGH), where he was a clinical fellow in medicine at Harvard Medical School. For the past 25 years Dr. Ornish has directed clinical research demonstrating, for the first time, that comprehensive lifestyle changes can reverse the progression of even severe coronary artery disease without drugs or surgery. He is the founder and president of the non-profit Preventive Medicine Research Institute in Sausalito, California, where he holds the Bucksbaum Chair. He is also a Clinical Professor of Medicine at the University of California, San Francisco. He is the author of 5 best-selling books, including New York Times' best sellers Dr. Dean Ornish's Program for Reversing Heart Disease, Eat More, Weigh Less, and Love & Survival. A 1-hour documentary of his work was broadcast on NOVA, the PBS Science series, and was featured on Bill Moyers' PBS series, Healing & The Mind, and in most major media. Dr. Ornish is a member of the board of directors of the U.S. United Nations High Commission on Refugees, the board of the Quincy Jones Listen Up Foundation, and the board of the Wheelchair Foundation. He was appointed to The White House Commission on Complementary and Alternative Medicine Policy. He has received a number of rewards for his work including the 1994 Outstanding Alumnus Award from the University of Texas, Austin; the Golden Plate Award from the American Academy of Achievement; a US Army Surgeon General Medal, and the Beckmann Medal from the German Society for Prevention and Rehabilitation of Cardiovascular Diseases. He was recognized as “one of the most interesting people of 1996” by People magazine, featured in the “TIME 100” issue on alternative medicine, and chosen by LIFE magazine as “one of the 50 most influential members of his generation.”

William Clifford Roberts, MD† (hereafter, WCR): Dean, I appreciate your willingness to speak to me and therefore to the readers of The American Journal of Cardiology. We are in my home in Dallas on December 19, 2001. Could we start by your talking about your early life, your mother and daddy, siblings, and some of your early memories?

WCR: Where were you in the hierarchy?

DO: I'm the second of 4. Laurel is 3 years older. My brother is 3 years younger and my sister, 10 years younger. Laurel is 51.

WCR: What was home like as you were growing up? Did you all have dinner together at night? Was that an active conversation time? Was it a major gathering for the family each day?

DO: We almost always ate dinner together. That was the time the family got together. I can't think of a time when our family didn't all get together around dinner. We were encouraged to talk about anything and everything over the dinner table. Our discussions got pretty lively sometimes.

WCR: Politics, religion, what you were doing in school?

DO: Not much about politics or religion, more about school and what was going on in our personal lives. It was a good time, a solid, grounded background. It gave me more comfort to try things I might not have done if I didn't have that sense of being grounded to fall back on.

WCR: I have met your parents and they are obviously very warm people. I gather that your home was very warm and pleasant with very little arguing. Is that proper?

DO: It was warm but we were encouraged to speak our minds. There was a sense of discipline but in a

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Dean Ornish, MD‡ (hereafter, DO): I was born here in Dallas in 1953. I went to elementary school at Arthur Kramer, junior high at Ben Franklin, and high school at Hillcrest. My parents kept trying to get me to go to St. Mark's (a private school), but I just decided I would rather stay in public schools because that was where my friends were. I regretted that decision when I went to college.

My father, Edwin Ornish, is a dentist here in Dallas and still practicing. My mother Natalie is a historian and before that wrote children's books, musicals, plays, and records, and was a journalist. She wrote, produced, and published them. I got my interest in health care from my father and my interest in photography, journalism, and writing books from my mother. I got my best and worst qualities, such as my relentless persistence, from my mother.

I have an older sister Laurel who still lives in Dallas. She was the first woman broadcast journalist in Texas and worked at several radio and television stations. I have an older brother Steven who practices psychiatry in San Diego and a younger sister Kathy who is currently in Michigan, but for many years was a studio art professor in ceramics at Notre Dame and St. Mary's.

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very innovative way. Our growth and development was encouraged within a certain amount of structure that was very reassuring.

WCR: Are both your mother and father from Dallas?

DO: My father is from Dallas. My mother is from Galveston.

WCR: How did they meet?

DO: A friend of theirs fixed them up.

WCR: Your mother was already here in Dallas.

DO: Yes. She'd already moved to Dallas. It was during the World War II. I don't know how they first met.

WCR: When did they get married?

DO: They got married when she was in her early 20s.

WCR: I understand that you were a major photographer in high school and that you won some photography contests. Can you talk about that? How did you get interested in photography? You mentioned that your mother might have played a role there.

DO: I always loved photography. I probably did get my interest in it from her. She earned her masters degree in journalism and photojournalism from Northwestern when she was 16, which back then was the best school for that. I had a darkroom in our bathroom from fifth grade on. When I was 12, I went to work for Tom D'Aquino, a leading portrait photographer who had been one of the heads of Gittings Photography and Bachrach in New York before that. I worked for him as an apprentice. I worked 10 hours a day. He paid me for 4 hours a day because he said I was learning the other time, which I was. He paid me $1.60 an hour which was minimum wage, so I earned $5 to $6 a day. I carried his equipment, developed his film, and went with him on photo shoots. We'd take portraits in the park and in people's homes or offices. I worked as his apprentice for about 2 years.

When I was 14, he encouraged me to open my own studio and sold me his used equipment. He had more business than he needed so he would refer people to me and I'd charge about half of what he did because I was only 14 years old. I had no studio overhead because I lived at home. I did weddings, portraits, and any kind of events for people. I loved it. It was a great way to make money, and I enjoyed making people happy.

Separate and apart from that, I had a different type of photography that was really just for fun. The portraits were designed to make people look better than they really were by lighting, retouching, and airbrushing. The kind of photography that I loved was on the other end of the spectrum. I used a 35-mm Leica or Nikon and saw things as they were as opposed to trying to change things that were not so beautiful to what was beautiful or what it was supposed to look like.

For me, that became a metaphor, a way of trying to see the world without preconceptions. To me, any kind of great art, whether a painting or a photograph or writing, is when someone can see the world in a new way and then share that vision with other people. Science is the same way. It was great training for me, learning how to see without preconceptions. Some of the best teachers I studied with talked about this directly—people like Garry Winogrand, who is considered one of the great photographers, and Russell Lee in Austin. I studied with them when I was at the University of Texas. Russell Lee, like Walker Evans, was one of the great Farm Security Administration photographers. Their photographs often were very stark, direct, black and white.

In photo class, Garry would put a picture up on the wall and say, "What do you see?" People would say, "I see this." People would actually project a lot of stuff onto the picture that really wasn't there. He'd say, "How do you know, maybe there's a person right outside the frame that is pointing a gun at that person. Or maybe there's something on fire that you don't see. There could be all kinds of things going on that you're presuming are there, that you project onto the photograph, but if you really look at it, are not there. What do you actually see?" There was a lot of emphasis on learning to see without preconceptions.

For many years wherever I was, I would take a little 35-mm camera with me and I took pictures all the time. That also came in handy because I was a stringer for Texas Monthly, Rolling Stone, Newsweek, Esquire, Ms. magazine, and a few others. I loved the work, and it also got me a press pass so I got to go to all the rock concerts for free.

WCR: Do you still take a lot of photographs?

DO: I do now, but I went through a time when in medical school, particularly in the clinical years, when I knew I had to stop taking pictures. I even had to stop seeing pictures. For example, I would be working in an emergency room and somebody would come in bleeding with a gunshot wound. It sounds ridiculous,
but I would be so struck by the lighting, colors, sounds, textures, and the way people were standing that I would have to say to myself: "Wait a minute. That’s not why you’re here.” I had to actually train myself not to see those things because they were distracting, and just focus on heart rate, blood pressure, vital signs, airway, or whatever it took to deal with the particular situation. It wasn’t until toward the end of my senior residency in Boston that I began to actually allow myself to see things again and start taking photographs again. I still do that now. Now, I photograph mainly my wife and baby.

WCR: Is your home filled with your pictures?
DO: It is, mostly with pictures of my wife, baby, and friends. In the past, there would be pictures I had taken of other things or other peoples’ pictures.

WCR: Do you develop your photographs now?
DO: Now, I’ve switched to digital, and I do my own printing. I used to look down at digital; I was a real camera snob. I got a digital camera when the baby was born just so I could e-mail pictures to my family and friends. I soon realized that the quality of digital is as good as film and in some ways better and I don’t have to go into the dark room. I can do it all on my computer so it’s really handy.

WCR: Do you use 35-mm anymore?
DO: Hardly at all. And I never thought I’d see that day.

WCR: Did your photography skills have a major impact on you and what you have finally done?
DO: Yes, but not from the photography per se, but more as a way of seeing. Learning to see the world without preconceptions is an ongoing process. When I was in junior high school, I went to a National Science Foundation summer program on lasers and holography. It was a way of combining all my interests in science and in photography at the same time.

Thomas Kuhn wrote a book that really influenced me called “The Structure of Scientific Revolutions.” In it, he talked about how the world is an infinitely complex and varied place. As humans, we have a hard time managing concepts like infinity, so we try to reduce the world to more manageable proportions. We do that by coming up with paradigms or models of world views, and they tend to be shared by the prevailing culture by most people.

For thousands of years, the Catholic Church provided the world view, the paradigm that the earth was the center of the universe and everything revolved around it. And the Catholic Church didn’t tolerate dissent very well, just as most paradigms don’t tolerate dissent very well, including medical paradigms, as I can tell you from personal experience.

I remember once giving a lecture in Texas years ago. Someone said, “Hey, your research is really pioneering. You know how we tell pioneers here in Texas? By the arrows in their backs.”

In the 16th century, Bruno, an Italian philosopher, came up with the idea that maybe the earth wasn’t the center of the universe, but that the earth revolved around the sun. He was burned at the stake, one method of dealing with dissent. Dissent not only threatens the paradigm, but more importantly, it threatens the order that that paradigm provides. When people feel a sense of chaos, they often act irrationally. It brings out a lot of darkness.

A hundred years later in the 17th century, Galileo said the same thing as Bruno—the earth revolved around the sun—but he gave people a tool, a telescope, so they could see the truth for themselves and have a direct experience of the anomaly of that paradigm. By definition, a paradigm takes an infinitely complex universe and reduces it to manageable proportions, but there are always things that don’t fit—i.e., the anomalies. In this case the anomaly was that the earth revolved around the sun, not the sun revolving around the earth. By giving people a tool that showed this, the telescope suddenly became a real threat to the order that the prevailing paradigm provided.

Through the Inquisition, the authorities were able to get Galileo to recant, but it was too late. The cat was out of the bag because people could use a telescope to see for themselves the limitations of that paradigm.

Eventually the prevailing world view began to change. Science became more the predominant world view, and the split between mind and body, head and heart, and science and religion really came out of Galileo, Descartes, and the philosophers that followed them.

Part of what interests me is to try to be able to see beyond the limitations of any paradigm, while recognizing and respecting the paradigm, to realize that there’s value in that. Often, if you can hold one paradigm, but also look at the world through other paradigms, you can get a more complete picture of what is closer to the truth.

It’s a little like the blind man and the elephant, where if you just see one part of the elephant it’s more like a glimpse. The more pieces of the elephant you can see, the closer to an accurate image you are getting. It’s like a digital picture: the more pixels you have, the higher the resolution.

Newton came up with a view of physics and it was accurate within its limitation, but then Einstein came along and said, “Yes, that’s true, but when you get to higher speeds approaching light, things change. It doesn’t mean that Newtonian physics was wrong; it was just limited. As long as you can understand its limitations, there is still great value in it. If you can also expand it beyond that, there’s also great value in that too.

That’s an approach I’ve tried to take, which is what has caused me to explore a number of different ways of seeing the world through different eyes—through meditation, through photography, and other ways of seeing from different perspectives. It was helpful to realize that when you are trying to do something new, then it is likely to threaten some people. Not just in the way most people tend to think of economically—prestige, or human jealousies—but in a more basic fundamental way. It can threaten people because it threatens that paradigm which provides order.

WCR: Were either your mother or father photog-
DO: I didn't know that. He's done some very important work.

WCR: He described his father as more of a family practitioner than a dentist. He interested his son Ken in preventive medicine.

DO: I'm glad you reminded me of that because I also got my interest in preventive medicine from my father. Dentists have been years ahead of doctors (and still are) in terms of prevention. They've been talking about prevention since I was a child—fluoridation, regular brushing of teeth, dental floss—all of the things that for many people sound so boring and yet have made such an impact. Look at the incidence of dental caries. They are a fraction of what they were. And dentists, in many ways, have hurt their income by emphasizing prevention; yet their preventive measures were the right thing to do. My father was a leader in prevention. He always talked about the importance of preventive medicine. I remember he'd come home from work and he'd say one of his patients told him, "Well, I don't care. Let my teeth rot. I'll just get dentures." He said people didn't appreciate their own teeth.

From a very early age, I worked in his office. I developed his x-rays. I liked hanging with him, spending time together.

The nice thing about dentistry is that it is very practical. It's like having an erector set. It's just right there. It's not so much conceptual as practical. You are really doing a service that gives direct benefit to someone and you can see the tangible results of that. What I really admire even more now than I fully appreciated then was that although it was economically a disincentive to talk about prevention because much of the money dentists make is from fillings, restorative work, and dentures, they had no qualms at all about emphasizing prevention. I don't always see that in medicine today where people, or third-party reimbursement for that matter, say prevention is the right thing to do. Let's do it even if it's not economically beneficial for us. You do not see that as much in medicine as in dentistry.

WCR: Did you and your father do things together when you were growing up?

DO: We did. One reason my father went into dentistry was that he wanted to make sure he had time for his family. We did a lot of things together as a family. We played baseball together, other sports, watched the Dallas Cowboys at the Cotton Bowl, went to Lake Dallas regularly to go water-skiing. Family was very important to both my parents.

It's nice to be interviewed in Dallas because just being here reminds me of a lot of things I don't usually think about these days. Being a new father...
myself has given me a greater appreciation for how much effort my parents made. We just have 1 son. I can’t imagine how much effort 4 kids take. You have 4 kids?

WCR: Yes, but they came along when both my wife and I were in our early 20s. It’s very different when you don’t start a family until you are 48. I was more unconscious about the effort.

DO: I actually have modulated my life a lot so that I have more time to spend with our son. I’m not traveling nearly as much. When I do travel I try to be away for no more than 1 night at a time. It’s been a real change and has put everything else in perspective.

WCR: Did you go on vacations in the summertime as a family?

DO: Yes. We usually went to Galveston because my mom was from there. It was affordable, close, and fun.

WCR: What did your mother’s parents do?

DO: My mother’s parents owned a grocery store in Galveston.

WCR: Was she the first college graduate in her family?

DO: Yes.

WCR: She graduated from Northwestern at 16?

DO: With a masters in journalism. She’s a smart woman.

WCR: Where did your father go to dental school?

DO: He went to Baylor University dental school in Dallas. Although my parents have traveled a great deal, they have spent most of their lives here. They have deep roots here. My most recent book, “Love and Survival,” was on the power of community and how important it is. That is something I didn’t fully appreciate when I was younger, how important having those kinds of roots and those long-term relationships over a lifetime can be. Not only in terms of the quality of life, but in terms of one’s health and well being.

WCR: Your mother and father certainly have a lot of friends here in Dallas. As you were growing up, I presume your mother and father entertained many of their friends in your home?

DO: Yes. We’d go to my father’s parents for brunch every Sunday. We’d eat all kinds of foods. I have very happy memories of a big extended family. The whole family got together on a regular basis. There would always be some excuse or some event when we’d all get together. Family was very important to my parents, not just the immediate family, but also the extended family.

WCR: Your father had a lot of brothers and sisters here in Dallas?

DO: He had 3 sisters, no brothers. Two lived here and one lived in Houston.

WCR: What activities did you participate in junior high and high school? You won several photography contests. Were you an athlete?

DO: I was on the tennis team, but “athlete” would be a stretch. I played in a baseball and basketball league, and I loved playing tennis. In addition, I took karate classes for 8 years. I was the newspaper photographer and yearbook photographer in both junior high and high school.

WCR: Do you still play tennis?

DO: I do, not as often as I’d like, but I still play.

WCR: That probably did you a lot more good than playing the team sports.

DO: My parents wouldn’t let me play football, which was not a big deal at the time. When I see the chronic injuries that so many of my friends have now from their high school and college football days, I’m glad that I didn’t participate in that particular sport.

WCR: Were there any teachers in junior high or high school who had a particular impact on you?

DO: There were. Julia Jeffries was the journalism teacher in high school and she had an influence on me and also on many other students. Many went on to become journalists, like Quinn Matthews. She taught us how to write in a focused and direct way and to say the most important things up front. She also had a lot of integrity in how she approached journalism. She emphasized writing what was actually in front of you, not what you thought was in front of you. She urged us not to project our way of seeing on to the events, but to try to see the events without the preconceptions that we talked about earlier.

I had an algebra teacher in junior high school named Mr. Boruff. His first name was always “Mr.” to me. Until then, I had always thought mathematics was boring and tedious. He showed me that there is a real beauty in mathematics that I had never appreciated before. It became fun.

That became part of a real shift in my thinking, that learning was fun and a joy. It’s not a performance-based, anxiety-based way of learning to pass a test, but there’s just a joy in intrinsically learning—what the physicist Richard Feynman called the “pleasure of finding things out.”

There was Mr. Skinner, a science teacher. He encouraged us to think outside the box. Science isn’t just a collection of experiments or facts; it’s a process. It’s a way of seeing the world. It’s a way of interacting with the world. It’s a powerful way of helping people understand what’s true, what isn’t true, what works, and what doesn’t, and for whom and under what circumstances. And while not everything is testable, a lot of things are. He was always encouraging us to come up with good questions. He’d say, “I’m not so interested in your answers as in your questions.” Rainer Maria Rilke, centuries earlier, said, “Be patient towards all that is unsolved in your heart and try to love the questions themselves.” Mr. Skinner always tried to get us to ask the most outrageous questions and not be limited by “force = mass times acceleration” and would ask, “What are you most interested in finding out? If you could answer any questions, what would they be?”

I was encouraged to learn to ask questions. It wasn’t until I got to medical school and internship that I was discouraged from asking questions. In my first week of internship, I asked a question about a patient’s wedge pressure. The resident told me to never ask a question that you don’t already know the answer.
to when you’re on rounds. Invariably, they would ask, “What do you think Dr. Ornish?” I’d say, “I don’t know, that’s why I’m asking you because I’m trying to learn.” That was not the right thing to say there. I quickly learned never to ask questions on rounds that I didn’t already know the answers to. In life, though, the questions are what make things interesting for me.  

WCR: That’s a very interesting comment. I teach now asking one question after another. It’s a lot more fun for me. I think the attention of the audience is a little greater than previously.  

DO: Much greater, I imagine.  

WCR: Two of my kids ask me questions all the time. One of my kids has asked me probably one question in my life.  

DO: Really? I wonder why?  

WCR: They are all from the same family, but I think confidence is important in asking questions. Asking questions is a sign of a very confident person.  

DO: It sometimes drives my wife crazy when she thinks I ask too many questions. There is a point where it may not be the most appropriate thing, but it is just part of my curiosity about everything.  

WCR: When you were growing up in your home, you mentioned conversations around the dinner table at night. Did you talk much about feelings with your mother for example?  

DO: To some degree, but not as much as we do in my family.  

WCR: Was your family religious as you were growing up?  

DO: They were and are still. I went to public school and then I went to religious school after that 2 or 3 times a week. I got pretty good grounding in that. I tend to be more spiritual than religious these days. I will teach my son about religion when he becomes old enough to understand, because I think it’s important to have that grounding, even if it’s something to renounce later. I have a close group of friends and we get together and talk about spiritual issues in our lives. When I was growing up, there was more of an emphasis on the form than the content. It was more on the ritual than the meaning behind it. It wasn’t until I became much older that I really understood more of the meaning behind it rather than just the form. That, to me, was much more important.  

WCR: I gather you did quite well academically in high school, particularly since you said learning was such a pleasure. Why did you choose Rice University for college? I assume you could have gotten into any college you wanted to?  

DO: I started at Rice University and had a very difficult experience there. I was at Rice for 18 months, and that’s when learning became “not fun.” I wrote a little about it in chapter 5 of my book “Reversing Heart Disease” and also in chapter 3 of the more recent book, “Love and Survival.” The short version is that I knew I wanted to be a doctor. I had to take organic chemistry like everybody else. My college roommate was one of 4 people in the country that year who scored 1600, a perfect score, on his SATs. One half the student body at Rice then had graduated first or second in their high school class. They put everybody under a bell curve so that no matter how well you did (just about everybody was making straight A’s before they got there), 60% were going to make C’s; 15%, B’s or D’s, and 5% were going to make A’s or F’s. My chemistry professor was a guy who, I was convinced, had fled from Nazi Germany and instead of going to Argentina, ended up in Houston so he could be my chemistry professor. On the first day, he said, “This is a weed out course and I’m going to weed you out! Look to the person on your left and to the person on your right and they won’t be there by the
end of the semester. Or maybe it will be you and you won’t be here for very long.” He taught the course purely from notes, purely rote memory. Rote memory has never been my strong suit. I think pretty well conceptually, but just memorizing unrelated facts has never been something I’m particularly good at.

My college roommate never studied and he nevertheless always made perfect scores. I did okay, but I began to worry because I really wanted to be a doctor and I didn’t want to be weeded out. The more I worried, the harder it became to study. The harder it became to study, the more I worried. I got into a vicious cycle where I couldn’t sleep at night. I got into a full-blown agitated depression and became psychotic to the point where I didn’t sleep for a week straight, which itself can make you psychotic. From the sleep deprivation and depression, I became convinced that I was really stupid, that I had somehow managed to fool everybody that I was smart. I was able to fool people in a public high school, but now that I was in a place with really smart people, it was just a matter of time before they figured out what a big mistake they’d made by letting me in.

I felt like I didn’t deserve to be there. In fact, I didn’t even deserve to be alive and my day of reckoning had arrived. I was convinced that I was going to fail organic chemistry, and I would never accomplish my dream of being a doctor. I didn’t even think I was smart enough to be a janitor. I remember being unable to make a decision about anything, even about what course to take or what books to read.

This went on for a while. I remember being in class one day and I thought, “Why don’t I just kill myself and be done with it? Then I’ll be peaceful. I’m going to leave this miserable life.” In one of those sleepless nights when I’d lie down and watch the hands of the clock go around and around, I had a spiritual vision, which was more than I could handle at the time. It was the realization that nothing can bring you lasting happiness.

I went through all the things that I had been taught would make me happy—“just marry a beautiful woman, make a lot of money, become famous, become a doctor—and then you’ll be happy.” At that moment, I knew that was not true. Nothing could bring lasting happiness; it would always be temporary. It would be like “I got it. It’s mine. Now what?” It’s never enough. Or, “So what? Big deal.” It wouldn’t provide a lasting sense of meaning. The double whammy—feeling like I was really stupid and a fraud and would never amount to anything, and even if I was it wouldn’t matter anyway—was profoundly depressing.

One of the worse things about being depressed, one of the hallmarks of depression is the sense of hopelessness. This very distorted view of the world seems so real at the time that you’re convinced you’re seeing things as they really are for the first time, and all the other times when you thought you were happy, you were actually just fooling yourself. You were deluding yourself. And now, you are finally seeing things clearly. When you are really depressed, you see the world through dirt-colored glasses, to put it in nice terms.

I lived in a concrete-jungle, soulless apartment in Houston right across the street from the Houston Oiler football practice field. They had a big oil derrick there because that was their mascot. At first, I was just going to jump off there but decided that would leave my family and friends upset. Then, I thought, “I’ll get drunk and I’ll run my car into the side of a bridge and everybody will think I just got drunk and it’ll look like an accident.” That way, they won’t feel as bad as if I killed myself.

I was actually ready to do that, but I got so sick with mononucleosis that I didn’t have the energy to get out of bed. I was simply completely exhausted from being so run down. My roommate called my parents and they came down and saw what a wreck I was. I was feeling so agitated I could hardly sit down. They brought me to the campus psychiatrist and another psychiatrist to see me. I told them, “You don’t understand. I’m really stupid.” They asked, “What do you want?” I told them, “I think I want to be dead.” “Do you have a plan?” I said “yes” and all the hallmarks of the things that I know now that you look for when someone’s really serious were there. I withdrew from school and came home to Dallas. My plan was to get well enough to kill myself.

WCR: This was during your sophomore year?
DO: That’s right. It was the semester break of my sophomore year. My older sister, Laurel, had been involved with yoga, which made a positive impact on her life. She’d been studying with a spiritual teacher named Swami Satchidananda. He was coming to Dallas, and my parents decided that they were going to have a cocktail party for the swami. This was in 1972.

There’s an old saying, “When the student is ready, the teacher appears.” That was certainly true for me. He is a very loving and wise soul.

He came into our living room and gave a lecture. He started off by saying, “Nothing can bring you lasting happiness,” which I had already figured out—but he was serene, radiant, and peaceful, and I was a mess.

He went on to say what almost sounds like a New Age cliché but really turned my life around at the time: “Nothing can bring you lasting happiness because you have it already as long as you don’t disturb it. Not being aware of that, people often run after so many things that they think are going to make them happy, disturbing their inner peace in the process is one of the great ironies of life.”

Somebody asked him, “What are you, a Hindu?” He said, “No, I’m an Undo.” Spiritual practices in any religion are really designed to help you stop doing whatever is disturbing your inner peace. Peace is not something you get from outside yourself; it’s there already until you disturb it. The real question is not, “How can I get happiness or how can I get peace?” but rather, “How can I stop disturbing the inner peace that is there all the time in everyone?”

Whether it’s spiritual practices or religious prac-
FIGURE 4. Presentation of Dr. Ornish's research findings—the first time heart disease could be reversed without drugs or surgery—at the American Heart Association's annual scientific session in 1990. From left to right: Dr. William Castelli, Dr. Ornish, Dr. Elliot Corday, Dr. Michael E. DeBakey, Dr. Claude Lenfant, Dr. Tom Chalmers, Dr. Herman Hellerstein, Dr. David Blankenhorn, Dr. Robert Wissler.

Practices or medical practices, ideally these are designed to help you identify what’s causing the disturbance to your inner peace (and health) and to give you a different way of dealing with it by addressing these underlying causes.

I decided to give the swami’s approach a try. That’s when I gave up my Texas diet of chili, cheeseburgers, and chalupas and began eating a vegetarian diet, doing yoga, and exercising. I began to get glimpses of what he was talking about, just moments of feeling peaceful, which for me was a big change from feeling depressed and desolate. Just getting those little moments that came out of my direct experience made all the difference, because I could experience for myself the truth of what he was saying.

I went back to school and took the other half of organic chemistry with a different teacher, one who taught it with the Morrison and Boyd textbook. I realized that there was a great beauty to organic chemistry which I had never appreciated because it has its own conceptual basis. Once I understood the concepts, I could see the molecules dance and appreciate their beauty, how they fit together. I transferred to the University of Texas at Austin for my last 2 years and graduated in 1975 with a degree in humanities.

WCR: What courses did you take that came under “humanities”?

DO: I took everything from biochemistry to philosophy, along with photography, English literature, poetry, history, and psychology. I figured that when I got to medical school I would get all the science I needed.

WCR: You must have torn the University of Texas apart to have just been there for 2 years and to give the baccalaureate address at your graduation. How did that actually come about?

DO: They asked me to do it.

WCR: What did you talk about?

DO: That was a long time ago (1975)—27 years ago. Since I was an interdisciplinary major, I talked about the value of seeing things from a number of different perspectives. Trying to find common threads among apparently different disciplines. I also discussed dialectics, how the extreme positions often had something in common, whether in politics or in science. I used an example then of one of the astronauts being blasted into space, that it was one of the ultimate isolating experiences, and yet that gave him the perspective to see the earth as a whole. What he was doing profoundly transformed him when he came back to the work, even though he came out of the science and engineering perspective of the reductionistic perspective of knowing more and more about less and less. There was also value in seeing how things interrelate and interreact. That’s what my life’s work has really been about.

WCR: You went to college as a premed student.

DO: Yes, I was a biochemistry major at Rice and became a humanities major at the University of Texas.

WCR: How did you come to grips with the fact that you wanted to be a physician? Who influenced you to be a physician? Were there any physicians in your family?

DO: There were a lot of physicians, and prominent ones at that, in my family, but I didn’t know that until much later when I was already a physician. My mother did a genealogy of her side of our family. Samuel Albert Levine from Boston was my cousin. As you know, he was a cardiologist at Harvard and the Peter Bent Brigham Hospital many years ago. His son, Herbert Levine, became head of cardiology at Tufts. Dr. Levine, who invented the Levine stomach tube, is also a cousin. Dr. Max Levine, who developed and rebuilt the water purification system for the USA, was a cousin.

When in high school, I really wanted to be a photographer. I remember sitting in Dallas listening to a lecture by Philippe Halsman, who had done over 100 covers for “Life Magazine,” the premiere magazine then. He led a very glamorous life. He showed pictures he had taken of Marilyn Monroe and Jayne Mansfield, usually nude. I thought, “That seems like a fun way to make a living.” All my hormones were raging at the time. I got to sit next to him after his talk. I said, “I want to be just like you.” He said, “Oh, no. Don’t do that; it’s a terrible life. Be a doctor.” I asked him what he meant. “Because you’re always corrupting your vision to fit the vision of some editor and you lose your own perspective. You lose your integrity by doing that. If you become a doctor you can always
take pictures, but then you don’t have to answer to anyone else. You can keep your vision.”

My father wanted me to be a dentist and I took the dental aptitude test and applied for dental school. But there was just something in my soul that didn’t resonate with dentistry. I had done a lot of work during the summers in hospitals and research labs and decided I really wanted to go into medicine. So I did.

**WCR:** You worked in research labs when in high school?

**DO:** Yes, in both junior high and high school. I worked at the Wadley Institute of Molecular Medicine when I was in high school. I worked at Yale in New Haven in a neuroanatomy lab one summer with Dr. David Egger torturing cats. That led me to realize that I really didn’t want to do that kind of research (mapping out the plantar reflexes and things like that) anymore. I worked in Houston at the Texas Institute of Rehabilitation and Research doing research in cystic fibrosis. I worked briefly in a couple of other labs also.

**WCR:** You must have decided to go into medicine early on?

**DO:** I did.

**WCR:** Did you convince your brother Steven to be a physician? How did that come about?

**DO:** He decided that was something he wanted to do. We shared a lot of common interests. We took karate classes together at the Texas Karate Institute. He also got interested in photography and ultimately medicine.

**WCR:** How did you enjoy Houston (when at Rice, and later medical school) and Austin (when at the University of Texas)? Were those pleasant environs for you?

**DO:** I didn’t particularly enjoy living in Houston, but I loved Austin. Austin felt like freedom to me. It was a liberating time for me. I loved the classes and I loved learning. The professors were wonderful and inspiring; it was a great joy. I’d arrange time in my schedule where I’d have all my classes on Monday, Wednesday, and Friday and Tuesday and Thursday I could go off and do fun things like skinny dipping in the Pedernales River with friends. I did all kinds of things that I had never done before. It was a great time.

My other real love in life is music. I played guitar in a rock band when I was 13, 14, and 15 years old. Later, I switched to acoustic and played in a lot of coffeehouses and I continued that through college. I would get together with friends and play music. Austin also had a wonderful music scene—Willie Nelson, Stevie Ray Vaughan, and others.

**WCR:** When did you start playing the guitar?

**DO:** When I was about 8 years old.

**WCR:** Did you sing too?

**DO:** Yes. People used to tell me I should take up classical guitar so they wouldn’t have to listen to me sing, but I’ve gotten a little better.

**WCR:** Do you still play the guitar?

**DO:** I do. I love playing and play a lot with my son.

**WCR:** Was there a lot of music in your home as you were growing up?

**DO:** We had a lot of lessons—piano, clarinet, and trumpet. But I really liked the guitar. Any time you learn something when you are young, you learn it really well. I’m trying to teach my son languages and music while he is young because kids’ brains are like sponges at those ages. They can really absorb it.

**WCR:** It looks like your experience at Rice—the one that caused you to discontinue going to Rice—really had a tremendous impact on you for the good.

**DO:** It still does, actually, having survived it. At that time, Rice University had the highest suicide rate per capita of any school in the country. (That fact wasn’t in their course catalog.) Students took books to their parties, and there was a 5:1 male:female ratio. Socially, it wasn’t a whole lot of fun being there. I understand that it has changed quite a lot since then, but back then it was difficult.

That experience did have a tremendous impact on me. First of all, it made me much more compassionate. There’s nothing like pain to make you more compassionate to other people’s suffering. I also understood that emotional pain could be as bad as physical pain, sometimes even worse.

It also made me very comfortable talking about depression, something a lot of people are not comfortable talking about because there’s still a social stigma associated with it. That’s why I was really glad to see that Mike Wallace wrote a column in The New York Times recently about that, and that Tipper Gore (Al’s wife) talked about it during his campaign or when William Styron wrote a book, “Darkness Visible,” about depression.

Depression is epidemic in our country, especially among doctors. Look at the sales of antidepressant drugs. They are among the biggest sellers because there is a great need for them. I’m sure you’ve had the experience, when giving a lecture to a group of people in the general public, of saying something funny and they laugh. But when you talk to group of doctors, they may just sit there. Many people are not comfortable talking about depression, so they may think they’re the only one with the problem. It looks like everybody else has it together except for them when no one talks about it. This makes them feel even more isolated.

When we started doing our research studies beginning in 1977, the support groups were initially a place for people to talk about how to stay on the diet and how to exercise. What I unwittingly created was a safe environment where people could open up and talk about their depression or loneliness and often change the subject. It’s even worse now with
managed care because physicians don’t have the time to discuss the subject properly.

There’s a conspiracy of silence that often keeps people from being able to talk about these things, yet they desperately need to have a place that feels safe enough to open up. Because of my experience in college, I’m comfortable talking about depression. That experience made me interested in not just dealing with people on their physical level, but also the psychosocial, the emotional, and even the spiritual dimensions.

Over the years, I’ve learned that it’s often necessary to address these levels to best serve the patients. Providing people with health information is important but not usually sufficient to motivate them to make lasting changes in diet and lifestyle, quit smoking, or even to take their medications. If it were, no one would smoke; it’s not a lack of information.

Two thirds of people who are prescribed statin drugs are not taking them just 1 year later. Why not? It’s just taking a pill once a day. They don’t have many side effects for most people, and insurance usually pays for it.

The problem is that telling somebody who is lonely, depressed, isolated, and unhappy that they are going to live longer if they just take this pill, or quit smoking, or exercise, or change their diet, they often think, “I don’t care if I live longer. I’m just trying to get through the day.” They often choose behaviors that we think of as being maladaptive—smoking, overeating, drinking too much, working too hard, abusing drugs, spending too much time watching television—but they’re very adaptive.

In conducting our clinical research, I spent a lot of time with the same group of patients over periods of time, and we got to know and trust each other. I’d ask, “Tell me, why you are doing these things? They seem so maladaptive to me.” They’d reply, “You just don’t get it. These behaviors are not maladaptive, they’re very adaptive because they help us get through the day.”

One patient said, “I’ve got 20 friends in this pack of cigarettes and they’re always there for me and nobody else is. Are you going to take away my 20 friends? What are you going to give me instead?” Or they may eat when they are depressed. They use food to fill the void. One patient said, “Food is my heroine, and my heroin.”

Or they may use other drugs like alcohol to numb the pain. They may work too hard (as I’ve certainly done) to distract themselves from their pain. It’s more socially acceptable (a lot of doctors do this) and it serves the same function. Or they may spend too much time on the Internet or watching television. There are lots of ways of numbing or killing or bypassing or distracting yourself from pain. What I learned when I was in college was that the pain is not the enemy, it’s the messenger. It’s saying, “Hey! Listen up! Pay attention! You’re not doing something that’s in your best interest.”

If we just kill the pain or numb it or distract ourselves from it or bypass it without listening to it, then it’s like clipping the wires to a fire alarm and going back to sleep while your house keeps burning. The problem keeps getting worse, except now you’ve killed the messenger. The next time it’s harder. Or you may bypass the problem, but the same problem comes back again, or you may get a new set of problems or side effects, or have painful choices.

I have studied yoga and meditation for >30 years with Swami Satchidananda, an eminent and ecumenical spiritual teacher. He taught me to keep asking questions, “What is the cause? What’s really going on here? What’s causing this and what is causing that? What’s behind that?”

For example, a patient is having a heart attack. Well, why? Because they may have coronary atherosclerosis, their arteries may be constricting, and their platelets may be aggregating. What causes these to occur? Factors may include a high-fat diet, chronic emotional stress, and hypertension.

Let’s take one of those—what causes stress? Do you have to choose between leading a stressful life that’s productive and interesting or a boring life where you sit under a tree and watch your life go by? Are you going to live longer or does it seem longer if you change your lifestyle?

Fortunately, it’s not just what you do; more important is how you react to what you do. So we go back another step in the causal chain and ask, “Why do people react differently?” You can put 2 people in the same job, 1 thrives on the stress, and the other gets a heart attack. What’s the difference?

That’s where it gets really interesting. A lot of it has to do with your perceptions about how you view
yourself and others. In my experience, many people with heart disease often feel like they live in a hostile world where they feel isolated, depressed, and lonely and they have to get their happiness and well being from something external in order to prove to themselves and others that they're good, lovable, and respectable.

They may say, “If only I had more ‘whatever’, then I'd be happy and I wouldn't feel so stressed and lonely.” They may fill in this blank with different things—more money, power, accomplishments, beauty, etc.—but the net effect is the same. Until they get whatever they think they need, they feel stressed. If someone else gets it and they don't, then it's even more stressful and confirms their belief that they live in a dog-eat-dog, zero-sum game world: the more you get, the less there is for me.

Now, the stakes and the stresses are even higher. It's not just winning or losing, it's being a winner or a loser. If you're a winner, you think people will love you and you won't feel so lonely, and if you're a loser, nobody wants to be around you.

Even if you get what you think you need, there is a momentary pleasure—“I got it! It's mine!” It reinforces the misperception that your happiness came from getting something outside yourself. But it usually doesn't last very long. “Well, maybe this didn't do it, but that will.” And the cycle continues.

In my experience, that's where the problems begin. If we want to address the more fundamental causes of stress and suffering and heart disease, then we need to work at this level as well as the physical one. In this context, we teach patients more than “stress management techniques.”

These are ultimately profoundly spiritual questions involving values and meaning and purpose. We often skirt around them in medicine because you can't measure those feelings the way you can measure blood pressure or apolipoprotein A-I. And yet, it's important to address these.

First, as I mentioned earlier, it is very hard to motivate someone to change their lifestyle or take their medications when they're lonely and depressed. Second, many studies have shown that people are much more likely to get sick and die prematurely when they feel lonely and depressed via mechanisms that are not entirely understood. Patients who are depressed following a myocardial infarction are 5 times more likely to be dead 6 months later than those who are not depressed, independent of their cholesterol levels or other known risk factors.

What I try to do with patients, just as in my own life, is to help patients use the experience of suffering as a doorway to help transform their lives in ways that can make it so much richer and more meaningful. When most people think about my work, they think about diet, which is important, but to me the least interesting aspect of the work.

The experience of suffering comes in many forms, whether physical (e.g., angina) or the deeper suffering which is harder to measure and yet ultimately more meaningful to someone—their loneliness, depression, powerlessness, unhappiness, anxiety, fear, worry, sense of being cut off, their sense of helplessness or hopeless, a lack of meaning in their lives. All of these things I experienced to the nth degree when I was in college.

I've had patients say to me, “Having a heart attack was the best thing that ever happened to me.” I would say, “That sounds crazy. What do you mean?” They'd respond, “Because that’s what it took to get my attention to begin making these changes I probably never would have done otherwise that have made my life so much more rich, peaceful, joyful, and meaningful.”

Part of the value of science is to help raise the level of awareness for people so that they don't have to suffer as much to gain insight. Awareness is the first step in healing. They don't have to wait until they get a heart attack to begin taking these ideas seriously and making them part of their lives.

In our research, we initially focused on heart disease as an example—in part because it's the leading cause of death in the USA, but also from an emotional standpoint, the heart has always been more than just a pump. In literature and poetry and art and music, the heart is a symbol of love, compassion, courage, and wisdom. In our language, we talk about open-hearted and warmhearted people versus hardhearted, closehearted, or coldhearted people.

My friend Rachel Remen, MD, wrote a wonderful book called “Kitchen Table Wisdom,” which I highly recommend. She describes the difference between healing and curing. Healing and curing are not the same. Curing is when the physical disease gets measurable better. Healing is a process of becoming whole. Even the words “heal” and “whole” and “holy” come from the same root. Returning healing to medicine is like returning justice to law.

In my work with people who have heart disease, both healing and curing often occur. When the emotional heart and the spiritual heart begin to open, the physical heart often follows. But healing may occur even when curing is not possible. We can move closer to wholeness even when the physical illness does not improve.

In the process of healing, you reach a place of wholeness and deep inner peace from which you can deal with illness with much less fear and suffering and much greater clarity and compassion. While curing is wonderful when it occurs, healing is often the most meaningful because it takes you to a place of greater freedom from suffering. When healing occurs, people often become more peaceful, centered, happy, and joyful.

Dr. Remen is medical director of Commonweal, a nonprofit institute north of San Francisco. In her work, as in ours, people are taught how to use their wounds as doorways or windows for transformation. These are things we don't learn much about in our medical training, yet I have found them to be terribly important, in terms of being real physicians and healers for our patients and not just technicians.

I'm not against the use of statins, stents, bypass surgery, or anything that works in the short run as a...
way of temporizing, but we also have to deal with these underlying issues. We are missing the opportunity to be of greater service to people and we're being reduced to technicians. Because of this, many people are voting with their feet even though there is so little science to support alternative interventions. More money is spent out of pocket for alternative medicine than for conventional, allopathic medicine.

Why? Because whatever the modality—e.g., massage, acupuncture, chiropractic, therapeutic touch, etc.—what they have in common is that they often touch people. They spend time with them and listen to them. They talk about these issues that you and I have been talking about as part of their overall approach. There is a fundamental basic human need for a sense of love, connection, community, and intimacy, and this is so often unfulfilled in a typical doctor/patient interaction. More money is spent out of pocket for alternative interventions than for conventional ones, even though there is little science to prove their efficacy because those practitioners often fulfill those basic human needs.

If we don’t address that need, our profession is in danger because people are going to find other people who do, even if they are not as qualified, are not as competent, or are not as scientifically based. Many physicians are leaving the medical profession, in part because it’s not fun to practice medicine if you are just being a technician rather than our time-honored role as healers.

I’m a scientist, first and foremost, because I believe in the power of science to find out what works, what doesn’t work, under what circumstances, and for whom. As an educator, I’m trying to bring this information to a larger group of people both within the medical profession and in the general public. Providing health information is important, but not always sufficient. We also need to bring in the psychological, emotional, and spiritual dimensions which are so often ignored.

Telling people who are lonely and depressed that they’re going to live longer if they take a statin drug, quit smoking, or change their diet and lifestyle is not that motivating—for who wants to live longer when you’re in chronic emotional pain? We need to focus on these deeper issues if we want to be able to motivate patients to take their medications and live healthier, happier lives.

The reason that my colleagues and I have been able to achieve such high levels of adherence to the intensive changes in diet and lifestyle in our studies is that we reframe their reason for making changes. Talking about “risk factor modification” and “prevention” is boring to many patients. Telling a patient that he is going to live to be 86 instead of 85 is also not that motivating—unless they’re 85. Instead of trying to motivate patients out of their fear of dying, we emphasize the joy of living. Paradoxically, it is sometimes easier to motivate patients to make intensive changes in diet and lifestyle than more moderate ones, because they experience that significant benefits often occur so quickly.

There is no point in giving up something you enjoy unless you get something back that’s even better, especially if the benefits occur quickly. When a person quits smoking, manages stress more effectively, exercises moderately, and eats a low-fat, whole foods, plant-based diet, blood flow to their brain often improves and they think more clearly, have more energy, and have an improved feeling of well-being.

Sometimes when I lecture, I’ll ask, “How many of you have kids?” People raise their hands. “Was that a big change in your lifestyle?” They respond, “Oh, yes,” “Was it harder than you thought?” “Yeah. Much harder.” “How many have more than one kid?” Several people raise their hands. “Did you forget?” The
first time you can plead ignorance; the second time they respond, “It’s one of the hardest things I ever did and one the most meaningful.” Many people are not afraid to make big changes if they understand the benefits and they understand how quickly the changes can occur.

They not only feel better, in most cases they are better within weeks in ways that can be measured. Myocardial perfusion improves in only a few weeks as documented by exercise thallium scintigraphy, radionuclide ventriculography, and cardiac positron emission tomographic (PET) scans. As a result, patients reported a 91% reduction in their frequency of angina pectoris within only a few weeks. Patients sometimes say, “I like eating meat, but not that much.” Even sexual potency often improves via the same mechanisms by which Viagra works, such as nitric oxide.

In addition to the physical benefits, many patients are able to quiet down their mind and body to experience more of an inner sense of peace, joy, and well being. They often realize that our nature is to be happy and peaceful until we disturb it. The support groups are more than a way to increase compliance to behavioral changes. They enable patients to re-experience a deeper sense of connection and community. The support groups provide a safe place for them to let down their emotional defenses, to connect with people at a deeper level.

It’s not that emotional defenses are bad; they’re essential to protecting us from emotional pain. The problem comes because many people have nowhere they feel safe enough to let down those walls, and no one they trust enough to open up to. In effect, those walls are always up. If they’re always up, they not only protect you, they also isolate you. A number of studies have shown that people who feel lonely and isolated are many times more likely to get sick and die prematurely than those who have a stronger sense of connection and community.

WCR: Why did you choose Baylor College of Medicine for medical school? I assume you had your choice and that you could have gone anywhere.

DO: Because it was not very expensive and the clinical training was excellent. Tuition was only $400 a year then. At the time I chose it, I was impressed by Dr. Michael DeBakey and people like him. There were a lot of good people there and I felt I could get a good education there. I was able to do things as a fourth-year medical student at Baylor that senior medical residents weren’t allowed to do when I was completing my residency at the MGH.

Also, the system at Harvard and MGH is very hierarchical. I conducted my first clinical research study (on reversing heart disease) between my second and third years of medical school. That probably wouldn’t have been allowed in Boston. There is much more of a pioneering ethos in Texas where if you have a good idea and can convince other people, they’ll say, “Fine. Do it. We’ll help you.”

I remember when I was on Dr. DeBakey’s surgical service during my second-year surgery rotation seeing a lot of coronary bypass surgery. Patients felt like they were cured and would go home and eat the same food, not manage stress, not exercise, and smoke. More often than not, they’d come back a few years later because their grafts had occluded. We’d do the same thing all over again, bypassing the bypass, sometimes multiple times. For me, bypass surgery became a metaphor of an incomplete approach. We were literally bypassing the problem without also addressing the underlying causes. I went through the medical and scientific literature, and it became increasingly clear to me that the diet and lifestyle choices that people make each day were among the most important underlying causes of coronary heart disease. I wondered what would happen if we addressed these.

A number of studies reported that a high-fat diet, smoking, chronic emotional stress, and lack of exercise could cause coronary heart disease in animals, whereas changing these same factors could reverse heart disease. If heart disease could be reversed in dogs, cats, pigs, rabbits, and monkeys, then why not in humans? That didn’t seem like such a stretch, but most people at that time said it was impossible.

We’re back to what we were talking about earlier, seeing the world with fewer preconceptions. If you don’t have the preconception that it’s impossible to reverse heart disease, then when you look at the data, it seemed clear that it wasn’t impossible. It was like when it was believed that the Earth is the center of the Universe and everything revolved around it. How do you know? Let’s find out.

I talked to my advisor at the time and I told him I wanted to do a study. He thought it was a really dumb idea. He said, “I don’t expect it to work, but you’ll learn something.” To me, even if we showed that diet and lifestyle had no effect at all on the progression of coronary heart disease, that would be useful information to know. I defined success as conducting good science, whatever the results came out to be. He agreed, and he supported it.

Dr. Tony Gatto, who was chief of medicine at the time, donated the testing. Dr. Richard Miller, who was chief of cardiology, encouraged other cardiologists to refer patients. Dr. David Mumford, who is now the chief of continuing education at Baylor, was my mentor and really encouraged me. He let me use his office at night, his copy machine, and his typewriter—things I didn’t have. It was really great. I received a $5,000 grant from the Franzheim Trust and that was enough to do the study. I went to every hotel in Houston and asked them if they would donate space to us so we could house the patients for a month. The last one I approached, The Plaza Hotel, said they would. I might not have tried the study if I had waited until I finished my training. There’s something to be said for not knowing enough to know what’s feasible.

WCR: Did the hotel donate those rooms to you?
DO: They did.

WCR: How many patients were involved?
DO: There were just 10 patients with no control group.

WCR: Exactly what did you do?
DO: The diet and lifestyle program was very sim-
ilar to what we do now. A combination of didactic and experiential. I gave them lectures about the scientific rationale for what I was recommending. We exercised together. We had support groups. I taught them yoga and meditation. I hired a chef who made all their meals. It was basically just the cook and I for a month in the hotel with this group of heart patients (men and women).

They began to feel better within a few days. These were people who were considered inoperable because they had such bad disease. In Houston in 1977, you had to have very severe disease to be considered inoperable, usually because the disease was so diffuse that there were no good distal vessels to graft onto. Most of them were having 7 to 10 episodes of angina a day. By the end of the month, most of them were pain free and their thallium scans showed improvement in myocardial perfusion. It got me interested in doing more research later.

WCR: What diet did you put them on? This was a study for 1 month only?
DO: It was a low fat vegetarian diet. It was essentially the same diet that we give people now.
WCR: Is that about 10% calories from fat?
DO: Yes.
WCR: The one you do now is 10% too?
DO: Yes. It’s more than just low fat. The diet is predominantly fruits, vegetables, grains, beans (including soy products), in their natural forms. When a person goes from a typical American diet to a diet like this, there is a double benefit. They are decreasing their intake of disease-promoting substances such as saturated fat, cholesterol, and oxidants while increasing their intake of protective substances such as phytochemicals, bioflavonoids, retinols, isoflavones, gensenst, lycopene, and hundreds of others.

WCR: You were a sophomore in medical school when you did this study.
WCR: Did you spend the entire day with these patients?
DO: Yes. I lived in the hotel with them night and day for a month.
WCR: What kind of mental therapy did you do at that time?
DO: We did yoga and meditation and we had a support group. The support group started out to be a place for them to stay on the diet, but it quickly evolved into something much more.

WCR: “Support group” means what?
DO: We sat around in a circle. Initially, it was designed to be a place where they would talk about how they could stay on the diet better, how they could exchange recipes and shopping tips. Instead, we ended up creating a community.

I had brought a group of people together who were very different from each other in all the ways we categorize people—different ages, races, religions, sex, sexual preferences, socioeconomics, demographics, education, etc. At first it seemed like all they had in common was heart disease, but then they began to open up to each other and talk to each other. They began to realize that they also had in common a lot of feelings of depression, loneliness, unhappiness, fear, concern, being driven, etc. When you bring a group of people together and they start talking about their feelings, as opposed to their thoughts, it connects them in a very deep and powerful way, even in just a few weeks, particularly if they don’t have anywhere else to talk about these things.

For many years, we have been offering weeklong retreats, and by the end of the week people are often sharing things with each other that their friends don’t even know about them. We’ve learned how to create a safe environment for people to open up. The need for connection, community, and intimacy is a fundamental need that many people don’t get. In the past 50 years, there has been a radical shift in our culture. Many people don’t have an extended family or even a nuclear family that they see regularly. They don’t have a neighborhood where they know their neighbors, a church or synagogue that they attend regularly, or a job that feels stable and secure.

The places people used to get that sense of community many people don’t have any more, so it becomes very meaningful to them when they get it. It’s part of what enables us to get high levels of adherence. This need for community can be exploited in a dark way by cults to the point that they can sometimes get people to do horrible things. It’s the dark side of that.

Really good physicians know that if you can spend a few minutes and really talk with their patients and connect with them, ask them what is going on in their marriage or with the kid who is on drugs or the problems at work, and all the things that many people don’t have any place to talk about, even for just a few minutes, you create a bond with that patient that’s very deep. Then, when you ask them to take their statin drug or to eat a better diet or quit smoking, they
are much more likely to do it because there’s a sense of meaning that surrounds it.

That sense of meaning is absent in a lot of people’s lives these days. They’ve forgotten how to access it. That is part of what we can offer our patients if we can first find it in ourselves. The more work you do on yourself, the more you have to give to others.

I’ve been seeing a psychotherapist off and on for many years, since I was profoundly depressed when aged 19 while in college. Does that mean I am a mess? Some people might think so. I prefer to think of it as the more I understand myself, what really drives me, my own dark places, the more comfortable I am working with other people when they talk about theirs and, therefore, the more I can be of service to them. The more aware I become, the less need I have to project my stuff onto other people. I think these are things we need to give voice to because we don’t talk about this much in our profession.

WCR: You were 24 when you did this study with 10 people. They probably averaged 60 years of age. Would you describe a day with these 10 people?

DO: It wasn’t so different from our retreats now. We would have a yoga class from 7 to 8 A.M. and breakfast from 8 to 9:30 A.M. I gave lectures from 9:30 to 11:00. We’d have an exercise class from 11 to 12. Lunch was at 12 or 12:30 and there was a break after lunch. Then another lecture, another yoga class, exercise, dinner, and a support group. That was their day.

WCR: That went on for 30 days. Did these patients overall lose weight during that period of time? Were they much happier when they left? Did their chest pain disappear?

DO: There was a 91% reduction in the frequency of angina. They lost weight. They felt better. The difference was like night and day to many of these patients. They’d say things like, “I feel like I’ve been walking around in a fog and I’m waking up. I’m thinking more clearly. I have more energy. I feel better, I sleep better, and my angina is gone.” Their myocardial perfusion was better, too.

There was no control group, but the improvements were so striking, I was surprised at the level of resistance we got to the data because they were so exciting to me. Because this study didn’t fit the paradigm, and people didn’t quite know what to make of it. I went back to medical school and finished my next 2 years, graduating in 1980.

Before moving to Boston for internship, I took another year off in 1980 to do a second study. It was a randomized control trial with 48 patients randomly assigned to an experimental group or a non-intervention control group. Instead of putting them in a hotel, we got a place in the Hill Country near Austin, called Horseshoe Bay, because we found in an earlier study that a couple of the patients were going down to the bar and having pepperoni pizza and drinks in the middle of the night. We wanted a more isolated environment. This time, I had a staff of 5 people working with me.

We found again that the angina frequency fell by about 90%; serum total cholesterol fell about 30% within that month; blood pressure decreased; medications decreased, and the ejection fraction response improved in the experimental group and got a little worse in the control group. The differences between groups were statistically significant. We published the results of that study in the JAMA in January 1983.

Dr. Alexander Leaf, the chairman of medicine at Harvard Medical School and the MGH was interested in our work, so I invited him to visit. Dr. Leaf flew to Houston at his own expense and saw what we were doing. He later became a mentor to me. He later shared with me that he was so bemused by the fact that no medical student had ever been presumptuous enough to invite the chief of medicine at Harvard to visit, so he decided out of curiosity to come.

WCR: Your meeting Alexander Leaf in Houston I presume was the thing that led to your internship in medicine at the MGH?

DO: Yes. He invited me to give medical grand rounds at the MGH as a medical student. Tony Gotto, the Chief of Medicine at Baylor then, was not inclined for me to go because apparently that had not been done before. He didn’t want me to go to Boston and embarrass him. I said, “I don’t want to embarrass myself either. Let me give grand rounds at Baylor first. If I do OK, you can give me your blessing; if not, I won’t go.” I did, and he did, so I gave medical grand rounds at the MGH. This created its own set of problems for me at MGH later as an intern when I first began. It was like, “Who the hell are you?”

WCR: During medical school you must have been incredibly busy doing these studies. You took a year off for your second study before internship?

DO: I took a year off also for the first study. I took a year off between my second and third years of medical school, and another year off between medical school and internship.

WCR: How did medical school strike you in general? When you first entered, what were some surprises for you?

DO: It was harder for me during the first year because I didn’t have the science background that most of my classmates had. The first lectures were about esoteric aspects of immunology and I had no concept of the big picture. It took me a while to have enough of a perspective of how everything fits together that I could then go back into the details and make sense of it. It was a little overwhelming at first.
I loved the camaraderie of medical school and learning new information. What disappointed me was the lack of integration in the basic sciences. It was everybody talking about his or her particular research interests but not about how it all interacted.

I went to Boston and did my internship and residency and then moved to San Francisco in 1984. The first patient enrolled in the Lifestyle Heart Trial in 1986. We used quantitative coronary arteriography and cardiac PET scans as the major measurements. We published the 1-year PET and arteriographic data in The Lancet and the 5-year data in the JAMA. The experimental group patients got better and better, whereas the control group patients worsened.

We flew the patients from San Francisco to Texas for cardiac PET scans, which was a major logistical challenge. Continental Airlines donated the airfare. Both the PET scans and quantitative coronary arteriograms were blindly read. Arteriography revealed that minimum diameters of the coronary arteries got a little better. These moderate changes in coronary atherosclerosis caused marked improvements in myocardial perfusion, in part because perfusion is a fourth-power function of the diameter and also because plaque size is only one of many mechanisms that affects perfusion.

Many patients had dramatic improvements in clinical status and quality of life. We found that the primary determinant of improvement was neither age nor disease severity but adherence. When I began the study, I thought the older people who had more severe disease would be less likely to show improvement, but I was wrong. Even with the limitations of self-reported data, both at 1 year and after 5 years, we found that the more people changed, the better they got. According to the PET scans, 99% of the patients stopped or reversed the progression of coronary heart disease. That study was published in JAMA in 1995.

WCR: Was it an easy choice for you to choose internal medicine? You mentioned rotating through surgery, etc. How did that evolve?

DO: If the research hadn’t been successful, I might have gone into surgery or been an interventional cardiologist. I liked internal medicine, the discipline and the rigor of it.

WCR: Who had a major impact on you while in medical school?

DO: Dr. David Mumford. His training was in OB/GYN but he was, and is, a broad thinking Renaissance man. He was interested in the same kinds of things I was—how to take things that are seemingly unrelated and find common ground and understand the interactions between them. I had many long discussions with him about that and our discussions influenced my thinking.

It was very helpful to me, not only because of the information I gained from talking with him, but the validation that this process, which was different than the reductionistic process I was learning in medical school, had value and was worth nurturing and encouraging, which he did. It also meant a lot to me that he would let me use his office at night. He enabled me to do the studies that I wouldn’t have been able to do otherwise.

WCR: Did you have much contact with Dr. Michael DeBakey? You mentioned that you rotated through his service, and that he was an incredibly busy man.

DO: No. I didn’t have much contact with him.

WCR: What about Dr. Tony Gotto?

DO: I had some contact with him and he was very supportive, always a little skeptical, but appropriately so. For me, good science is skeptical and yet he was always very encouraging.

WCR: Did you apply to several places for internship or was that sort of automatic after Dr. Leaf came to Houston?

DO: It wasn’t automatic. I did apply to several other places but MGH was my first choice. That is where I was accepted and that is where I went.

WCR: In college, you were the top student I gather at the University of Texas when you graduated. Did you do as well in medical school from a grade standpoint as in college? You mentioned that your background wasn’t quite as good in the sciences as you may have wanted it to be when you entered Baylor.

DO: Baylor was pass/fail. It wasn’t an issue there. I didn’t fail, so I was OK.

WCR: How did Boston and the MGH strike you beginning an internship there?

DO: I loved being there, but it was terrifying when I first started. First of all, I didn’t have the clinical experience that a lot of interns did because I had spent a lot of my clinical rotation time doing research. I’d been out of the hospital for a year doing research, so
I was rusty. The system at the MGH (I don’t know if it’s still that way) was a team system so that you were on call every third night and the 2 interns and 1 resident shared all the patients. You didn’t divide them up.

On my first night on call, there were 45 ward patients and 6 others in the critical care unit. I was on call my first night. It was an adjustment, to say the least. I went to the nurses and said, “I don’t really know very much. I need your help.” That was so refreshing to them, they really saved my butt on more than one occasion. It took me a while to get my grounding and to get my confidence. By the time I was a second-year resident, I was doing pretty well.

**WCR:** Who had major impact on you at the MGH?

**DO:** Dr. Leaf did and Dr. Roman DeSanctis. It was amazing to me that the people who wrote the textbooks were working with us one on one or in small groups of people. We would read a chapter in *Harrison’s Textbook of Internal Medicine* that Roman had written and he would talk with us about it. To me, he really embodied what a good clinician should be. I learned a lot from him. I still admire him greatly.

**WCR:** What made him such a good physician?

**DO:** Besides having tremendous clinical experience and an amazing fund of knowledge, he loved his patients and they loved him. He really integrated and embodied both good science and a loving, compassionate physician. That’s why a lot of people respected and loved him so much and still do. Of course, not everybody there was like him.

I felt deeply grateful to be there, but I still had some old issues from college that came up around my own perceived capacity to function in that kind of environment. When I was a second-year resident, somebody had the Harvard Medical School course catalog and I started reading it. One course was “Advanced Internal Medicine.” I thought, “That sounds like a scary course. I’m probably not smart enough to take a class like that.” And then I realized I was teaching the class. It was just Harvard medical students rotating with second-year residents at the MGH. It was still easy to get intimidated by things. For me, part of the benefit of being there was to realize that people are similar just about anywhere you go.

**WCR:** This was 1981. How many fellow interns were there when you were there?

**DO:** Approximately 20.

**WCR:** In the first-year residency you were down to how many?

**DO:** Most of the people stayed for 3 years.

**WCR:** You decided not to take training in a sub-specialty?

**DO:** I knew I didn’t want to be a cardiologist because I knew I was going to be doing research in areas besides cardiology. I focused on cardiology studies initially, but I thought the benefits might extend beyond that.

**WCR:** How did it come about that you went to California in 1984?

**DO:** I wanted to live in San Francisco. A couple of people I had worked with on the earlier studies in Texas had moved to San Francisco. I got tired of the Boston winters, among other things.

Originally, in San Francisco, the plan was to administer the grant money that we’d raised through one of the hospitals in San Francisco. Before I left Boston, the hospital said it would do it for 10% indirect costs. When I got there, however, the hospital wanted 79% of the grant for indirect costs. (If it’s an National Institutes of Health grant you get that in addition, but if its private funding it comes out of your funds.) I realized I needed to start my own institute as an administrative vehicle so that we could keep the indirect costs monies to use for the research rather than giving a large amount of it to the hospital.

For a while, the Preventive Medicine Research Institute was just a file folder in my desk. It was a 501(c)(3) non-profit public foundation that allowed us to begin the study and to use every penny of the money for the research rather than indirect costs. Later on, it became a full-fledged institute.

**WCR:** What are your goals now? What do you want to do?

**DO:** I’m trying to have a life first of all. I’m trying to be a good father and a good husband. My priorities have shifted since our son was born in November 2000.

**WCR:** When did you get married?

**DO:** Married 3½ years ago. My wife is Molly.

**WCR:** Is this the first marriage for you?

**DO:** We married for her, second for me.

**WCR:** When did you marry the first time?

**DO:** In 1991, for a very short time. No children.

**WCR:** What is your child’s name?

**DO:** His name is Lucas, which means, “one who brings light,” which he does. I’m trying to spend as much time as possible with him and Molly. When traveling, I try to be away no more than a night. I turn down a lot of invitations that I would have accepted before.

**WCR:** How is the Institute going now? How many patients do you see? How many are in your studies?

**DO:** I thought the Lifestyle Heart Trial was going to help change medical practice, but I was wrong and naïve. Most people accepted the validity of the science and our data. Still, it was not the standard of care for most people. I realized that it wasn’t enough to have good science; we also had to have reimbursement. We doctors do what we get paid to do, and we get trained to do what we get paid to do. Thus, if we change reimbursement, then we could help change medical practice and, ultimately, medical education. We showed that comprehensive lifestyle changes were medically effective; now, we needed to show that they were also cost effective.

Initially, I went to insurance companies and asked if they would pay for this program. Initially, they said, “No, we won’t. We don’t pay for diet and lifestyle because that’s prevention.” I asked, “What’s wrong with prevention?” They said, “20-30% of people change insurance companies every year, and it may take 5 years or more to see the benefits. Why should...
we spend money today for future benefits that, even if they occur, another company is likely to get?" I said, "Because it's the right thing to do." That wasn't the most persuasive argument.

So, I tried a different approach. "It is not just prevention but also an alternative treatment. For every man or woman who would have undergone bypass surgery but can avoid it by changing diet and lifestyle, you save $30,000 or $40,000 immediately. Real dollars today, not just theoretical dollars years later." They replied, "That's great, but most people can't follow your program because it's too hard. If we pay for your program, but most people can't follow it because it's too difficult, then we will end up paying for bypass or angioplasty anyway and then our costs would go up because now we'd be paying for both."

I showed them our data from our earlier studies in which adherence to the program was high. They responded, "Yes, but you live in California. They'll do anything there. California is an altered state; no one else can do it..."

I went back to the National Heart, Lung, and Blood Institute because they had funded the extension of the Lifestyle Heart Trial from 1 year to 5 years. I proposed to do a multicenter demonstration project. They said, "After the Multiple Risk Factor Intervention Trial (MRFIT) where we spent $200,000,000 and didn't show much, we're not going to do any more multisite/multifactoral interventions."

So, we took an entrepreneurial non-profit approach. We went to hospitals in different parts of the country and licensed the program to them in return for the data. We used the money to pay for our research costs. (I didn't personally make any money from this.) They were a diverse group geographically—Omaha, Nebraska; Des Moines, Iowa; Columbia, South Carolina (where one of the cardiologists told me, "Dean, here in South Carolina, gravy is a beverage, so this will be a big change in their diet"); Fort Lauderdale, Florida; Boston, Massachusetts; San Diego and San Francisco, California; and New York City.

Dr. Leaf chaired our data-coordinating center at the MGH and Mutual of Omaha funded it. Mutual of Omaha was the first insurance company to pay for the program; since then, about 40 others are covering it as a defined benefit or on a case-by-case basis.

We found that we were able to train other teams of people to intervene as well as we did, if not better. The program was only a year long but we followed patients for 3 years. Almost 80% of the patients who were eligible for coronary bypass surgery or angioplasty were able to safely avoid revascularization for at least 3 years. As a result, Mutual of Omaha calculated that they saved almost $30,000 a patient. These data were published in the American Journal of Cardiology in 1998.

Based on those data, Highmark Blue Cross Blue Shield of Pennsylvania, which was covering the program, also began to provide the program in 3 sites. In the first 350 patients, 348 avoided surgery, saving >$17,000 a patient.

Medicare is now conducting a demonstration project of 1,800 patients in the sites that we've trained and are continuing to train. Our research institute turned over the hospital programs to Highmark and they created a new company called Lifestyle Advantage to continue to make the program available through hospitals and other sites around the country (www.lifestyleadvantage.org). I don't personally benefit financially from that arrangement, but I can focus my time at the Preventive Medicine Research Institute on doing new research, like a study to determine if comprehensive lifestyle changes can affect the progression of prostate cancer.

WCR: Dean, could you describe your institute?
DO: It's located in Sausalito in a 4-story wood-framed building. We have about 25 to 30 employees. About half of them are working on the Lifestyle Advantage side with the cardiac programs and the Medicare demonstration project and the rest are working on the prostate cancer study and new research we are planning.

WCR: How many patients do you see there and how do you get your patients?
DO: We don't see patients at the clinic; we just do research there. The hospital programs see patients if people want to go through the program and Lifestyle
Advantage offers weekend and weeklong retreats in different parts of the country.

For the past 5 years, we've been focusing primarily on a study to see if comprehensive lifestyle changes can affect the progression of prostate cancer. I think on a study to see if comprehensive lifestyle changes might have an effect on the progression of these cancers, but no one has done randomized trials with an intensive-enough intervention. Whatever we find will be useful because a lot of men have prostate cancer. The study is being conducted in collaboration with Dr. Peter Carroll from the University of California San Francisco and the late Dr. William Fair from Memorial Sloan-Kettering Cancer Center in New York. Dr. Fair took mice and injected them with prostate tumor cells and found that within a few weeks the tumors began to grow when they ate a typical American diet. Then, he randomly divided them into 40%, 11%, and 2% fat diets. On the higher fat diet the tumors kept growing, but when the fat was down to about 10% the tumors stopped growing and even shrank. I said, "Why don't we do a study?"

We enrolled men who have biopsy-proven prostate cancer but who haven't been treated ("watchful waiting"). This design allows us to randomize patients and to have a true non-intervention control group, which couldn't be done with breast cancer or colon cancer, since almost everyone undergoes conventional treatment. The experimental group is asked to make comprehensive lifestyle changes similar to the intervention that we found could reverse the progression of heart disease. The primary end-point measure is prostate-specific antigen. Other tests include magnetic resonance imaging, magnetic resonance spectroscopy, ultrasound, number of patients undergoing conventional treatment, and effects on apoptosis and growth of LNCaP cell lines. So far, the data are very encouraging.

Another study we are planning is with men and women who have ischemic cardiomyopathy who are waiting for heart transplants. As you know, there is a 6- to 12-month wait for a donor, and a significant percentage of these patients die before a donor becomes available. They are all on maximal medical therapy. We have worked with a few patients who said, in effect, "I'm just waiting around anyway, let me give this a try." One patient moved from St. Louis to Omaha to go through our program. Cardiac PET scans showed that his ischemic perfusion defect and his myocardial viability were significantly better 1 year later. His ejection fraction and his clinical status also improved, so he got off the heart transplant list. Several other patients have gotten off the heart transplant list. We're planning to do a randomized study of a larger group. In a way, it's the ultimate high-tech/low-tech juxtaposition; after all, what's the more radical intervention?

WCR: Let me get a better feel of your institute. You don't see patients there. This is purely a research operation.

DO: We see research patients there, but only those who are in research protocols. We refer other patients to our hospital programs and residential retreats.

WCR: The prostate study is being done only in your place?

DO: Now that it's working, other hospitals we trained will offer more clinical programs.

WCR: Who is supporting your research? Is this mainly the National Institutes of Health?

DO: We've gotten funding from the National Institutes of Health, from the Department of Defense, and from individuals and private foundations.

WCR: You spend a lot of time raising money.

DO: I do.

WCR: Is it true for most of us that if we lived on a 10% of calories from fat diet, it is likely that cancer of the breast, cancer of the prostate gland, cancer of the colon, type 2 diabetes mellitus, gallbladder disease, obesity, hemorrhoids, hiatal hernia, kidney stones, gall stones, osteoarthritis, and osteoporosis would essentially vanish?

DO: I think that may be an overstatement. Clearly, lifestyle plays a major role in each of those diseases. How much for each disease is going to vary and how much for each individual is going to differ. Our prostate data are very encouraging. Most people with heart disease do get better, and much more quickly than people once thought possible. That is part of what makes the adherence so high. Many doctors are skeptical that patients can make comprehensive lifestyle changes, but this belief often becomes self-fulfilling.

If the doctor says, "Mr. Jones, I know you wouldn't want to change your diet and lifestyle, and why would you want to anyway when I can just prescribe a statin drug?" The patient doesn't change, and when the patient comes back, the doctor says, "I knew you wouldn't change." It becomes self-fulfilling.

If you have only 7 or 8 minutes to see a patient and you don't have much training in diet and lifestyle, then it becomes all too easy to just prescribe a statin drug instead of counseling patients about diet and lifestyle. Statin drugs don't improve diabetes, hypertension, obesity, rheumatoid arthritis, osteoarthritis, gallstones, etc. They don't improve angina, or if they do, not by much. Again, we're missing an opportunity to be more than just treating lab values if we don't also help people change their lives. It goes back to: What is the fundamental cause of these conditions? It's not glamorous, it doesn't always reimburse, and it's hard. It is all of that, but it's worth doing.

Part of what has made me so passionate about doing this work for almost 25 years is that over and over, just as you have, I've seen how powerful these simple changes can be. People think it has to be a new stent or a new laser or something really high tech to be worth doing. They may have a hard time believing that these simple choices that people make in diet and lifestyle can make such a powerful difference, but they often do.

In our studies, we've been using very high-tech, expensive, state of the art measures to try to prove how powerful these very simple, ancient, low-cost,
and low-tech interventions can be. They are not only medically effective; they are also cost effective. If we can show this with the Medicare demonstration project and Medicare covers it, then it becomes a standard of care.

I have no illusions that most people are going to choose to make these changes, but a lot of people are if they understand the benefits and how quickly they occur, and if they understand the limitations of conventional approaches. Again, I support the use of statins, bypasses, and angioplasties when appropriate. Mostly, I’m a big supporter of truly informed consent and evidence-based medicine. Unfortunately, many patients don’t receive all of the facts.

Many people are told, “Mr. or Ms. Jones, we need to do an angioplasty or you are going to die.” The evidence doesn’t usually support that. There have been no randomized control trials showing that angioplasty prolongs life or prevents cardiac events. The only randomized trial that was done was the ATorvastatin Versus Revascularization Treatments (AVERT) study by Bertram Pitt and others that, if anything, showed that statin drugs did as well, if not better, than angioplasty. Yet this study hasn’t changed the rate of utilization of these technologies (1,300,000 coronary angioplasties and 600,000 coronary bypass operations annually at a cost of $30 billion/year).

Several randomized controlled trials of bypass surgery (including the Coronary Artery Surgery Study, the European Collaborative Study, and the Veteran Administration study) showed that unless you have left main disease and poor left ventricular function, which is a small minority of people who get revascularized, bypass surgery neither prolongs life nor prevents cardiac events.

These facts have not reduced the number of coronary angioplasties or bypass operations. To me, the major legitimate reason to be revascularized is to reduce angina, not to prolong survival or prevent cardiac events, since these have not yet been proven. If you can consistently get a 91% reduction in angina within weeks simply by making more intensive changes in diet and lifestyle, then this option should be given to patients along with the option of revascularization. Not that every patient is going to make comprehensive lifestyle changes, but at least each should know about it. Those undergoing revascularization may also benefit from making comprehensive lifestyle changes to reduce the likelihood of restenosis or reocclusion.

What concerned me and what I wrote about in the editorial for the American Journal of Cardiology (Statins and the Soul of Medicine, June 1, 2002, page 1286–1290) about the recent National Cholesterol Education Program/Adult Treatment Panel III guidelines is that they didn’t even provide more intensive diet and lifestyle changes as an option for people because they assumed nobody was going to do it. The National Cholesterol Education Program/Adult Treatment Panel III guidelines said that if your low-density lipoprotein (LDL) is >130 mg/dl you should be on a statin, because they know that a 30% diet alone is not going to sufficiently lower LDL for most people. Several studies have shown that a step 1 or step 2 or Adult Treatment Panel III therapeutic lifestyle change diet will lower LDL cholesterol by only 5% to 10%, if that.

In clinical practice, Mr. Jones and Ms. Smith have been diagnosed with hypercholesterolemia. They go to their doctor and are prescribed a step 2 or Therapeutic Lifestyle Changes diet. When they return on their next visit, their LDL cholesterol usually has not declined very much. Patients are then often told that they “failed diet,” when, in actuality, they just didn’t go far enough. Most patients are not told that if they had gone on a more restrictive diet, they could achieve a 40% reduction in LDL on average without drugs in a free-living population over a year. We published that
in JAMA in 1998.1 Also, we found that most patients with coronary heart disease who followed a step 1 or a step 2 diet showed overall regression of atherosclerosis when measured by serial arteriography, whereas patients who made more intensive changes in diet and lifestyle showed overall regression of coronary atherosclerosis.

What I tell my own patients is that you have a range of options—bypass surgery, angioplasty, lipid-lowering drugs, diet, and lifestyle changes. We go through the risks, benefits, costs, and side effects of each approach and whatever they choose is okay with me. I don’t try to pressure them to change their lifestyle. I learned a long time ago that even more than being healthy, people want to feel free and in control. As soon as I try to get them to do something, they immediately want to do the opposite. That’s just human nature. That goes back to the very first dietary intervention that failed: when God said, “Don’t eat the apple.” That didn’t work and God was talking. People need to have informed choices.

Not everybody needs to be on a 10% fat diet. There is biologic variability in how efficiently a person can metabolize dietary fat and cholesterol, as you know from Brown & Goldstein’s work. The more LDL receptors you have, the more efficiently your body can do that. Like many things in biology, it’s a bell-shaped curve. On one end of the spectrum you’ve got a 95-year-old man or woman and you ask, “What do you eat?” They say, “I have 12 eggs for breakfast, a steak for lunch, and a cheeseburger for dinner.” You think, “Maybe diet isn’t that important. Look what they are eating and they’re 95.” Of course, everyone else eating that way wasn’t so efficient at metabolizing dietary fat and cholesterol and never made it to 95. On the other end of the bell-shaped curve you’ve got people with hypercholesterolemia and heart disease because they have fewer receptors. Reducing your intake of fat from 40% to 30% and your dietary cholesterol intake from 500 mg to 300 mg for people at the other end of the spectrum is not enough. It doesn’t lower LDL very much and it doesn’t affect coronary atherosclerosis.

I’ve been in an ongoing debate with the American Heart Association about this for years. I’m a long-standing member of the American Heart Association, help raise money for them, work on their committees, present at their scientific meetings, and love what they are doing in most areas. In this area, however, I think they are mistaken. They say, “We’re not even going to tell people about a more intensive, ‘step 3’ diet because we don’t think people will do it.” It’s like telling people who smoke, “We’re not going to tell you to quit because it’s too hard. Just smoke less.” Whether it’s hard is not the issue. People need to know what the facts are so they can make informed and intelligent choices.

There is so much resistance to meaningful changes. I don’t understand where it’s coming from. Even if they believe that only a handful of people are motivated, why not at least tell people about that as an option?
One prevalent myth is that low-fat diets are bad because they lower your HDL. In fact, they’re not bad, they’re beneficial. If you’re eating a typical American diet and your body can’t make as much HDL to get rid of the excessive fat and cholesterol, then you are at higher risk than someone who can make more HDL. However, if you substantially reduce your intake of fat and cholesterol, then, teleologically, it’s almost like your body says, “There’s not as much garbage, so I don’t need as many garbage men.” It has a very different prognostic significance to have a low HDL in the context of a low-fat diet than in the context of a high-fat diet. Populations eating low-fat diets and having low HDL cholesterol levels do not have an increased incidence of coronary artery disease.

Lowering HDL cholesterol levels by the consumption of a low-fat diet results in more rapid clearance of HDL and decreased transport of HDL apoproteins. There are no data showing that the physiologic reduction of HDL cholesterol levels by a low-fat diet is detrimental. Diet-induced lowering of HDL cholesterol does not confer the same risk of atherosclerosis as do low HDL cholesterol levels in Americans consuming a high-fat diet. Dr. Jan Breslow’s group from Rockefeller University (New York City) said, “In assessing coronary heart disease risk it may be inappropriate to conclude that diet-induced decreases in HDL are equivalent to low HDL within a given diet.”

We found in our studies that HDL levels initially fall, but over a longer period of time, they increase, whereas LDL goes down and stays down. Triglycerides that initially increased went down over a longer period of time.

There are some patients (“syndrome X”) who are more sensitive to the effects of simple carbohydrates. It’s important for them to reduce their intake of simple carbohydrates (sugar, white flour, white rice, alcohol) and increase consumption of complex carbohydrates because the fiber in complex carbohydrates slows their absorption. If you reduce the intake of simple carbohydrates and increase the intake of whole foods or complex carbohydrates, increase exercise, reduce alcohol intake, and add fish oil, which we’ve been doing for many years now, then triglycerides levels don’t increase. Even in our earlier studies when the HDL went down and the triglycerides went up, these patients still showed regression.

What concerns me is people who say that it’s dangerous to go on a low-fat diet because your HDL goes down and your triglycerides go up. They may discourage people from making changes in diet that otherwise might have been very beneficial. HDL and triglycerides are risk factors; they are not diseases. In our study, even in patients whose HDL went down and triglycerides went up, they still showed some regression of their coronary atherosclerosis after 1 year, even more regression after 5 years, improvements in myocardial perfusion, and 2½ times fewer cardiac events. I’m aware of no studies, looking at actual cardiac end points, that show that lowering HDL in this context is harmful.

WCR: I know that probably 2 days in your life are not the same. You are on a lot of advisory boards. You give a lot of talks in various cities in the world. When working in your hometown, what would a day look like? What time do you get up in the morning? What time do you leave your home? What time do you get home at night? What time do you go to bed? What is your day-to-day, hour-to-hour situation?

DO: It varies a lot. When I’m with our baby boy (my wife and I alternate taking care of him), I might be up with him a lot during the night. Having a baby a little later in life than some people has been a real blessing for me, as I cherish every moment with him. I turn down about 90% of invitations to speak as I would rather be at home with them, so this is a big change for me.

I’m usually up by 6:00 A.M. I’ll do some meditation, yoga, and exercise and have breakfast. It used to be that I’d go to work around 8:00 A.M. Since the baby was born, I try to do as much work as I can from home. It’s a lot easier now with e-mail, fax, voice mail, and cell phones. I used to work 90 hours/week. Now I do a lot of work at home and go to the office for a few hours for meetings. Then I’ll come back and work from home. The advantage of working from home is that I can be close to my wife and baby. The disadvantage of working from home is that I can work all the time if I’m not careful. Interspersed with spending some time with the baby or with my wife, taking a break, or eating meals, I sometimes still work until around 8:00 or 9:00 P.M. I usually go to bed around 11:00 or 11:30 P.M and get up at 6:00 A.M.

WCR: What about weekends?

DO: I used to work on weekends, but now weekends are precious. I work a few hours when the baby or my wife is taking a nap. The rest of the time I try to spend with them.

WCR: How have you worked in travel? You mentioned earlier that you now decrease your days away from home. But in the past you’ve been on the road an awful lot. How do you work travel into your other activities?

DO: It is part of what I do. I’m not an “ivory tower” scientist. I want to get my message out to people who can benefit from it. It’s really all about service, and science is one form of service. It is equally important to educate people so they can take advantage of what we’re learning. Having seen what a powerful difference changes in diet and lifestyle can make, I want to make sure people know about these findings, which really can give many people new hope and new choices that they didn’t have before. Not to push them to change, but to empower them with information so they can make a truly informed choice. Interviews like this one, publishing in scientific journals, talking to newspaper, radio, television, lectures to scientific meetings, public lectures, now training hospitals through Lifestyle Advantage, doing new studies, working with the Medicare demonstration project, or doing new research are all part of service as well as the broader context of just being a curious guy.

There is a lot of pleasure in finding things out, as
well as in trying to make a difference. It sounds corny to try to help people, but these clichés are true.

You and I both had enough public exposure and success to know that those things are nice as tools to be able to do service, but they don’t really bring lasting happiness. Like the Swami said years ago, as a tool, it can be incredibly meaningful to be able to know that we can leverage our time to reach many people with information that can help them—you as the editor of a major journal or me doing the kinds of things that I’m doing.

That really brings a sense of meaning and gratitude to my life. When I was 19, I felt like saying, “Hey! Look what I’m doing, I’m worthy of your love and respect,” but those intentions and motivations are what almost killed me. The paradox is that the less invested I am in needing to do things for my own sense of who I am, the more I’m able to accomplish, because I don’t have the anxiety that I might have had before about doing those kinds of things.

**WCR:** How and when do you do your writing?

**DO:** For a journal article, airplanes are really a great place for me to write because nobody calls me. For a book, I have a place at home where I write and where I try not to be interrupted. I can’t work with music or television on because I get too distracted; music is so interesting I’d rather focus on that. I turn the phones off and close the door. I tell associates that unless it’s something really urgent, please call at another time. I don’t write at the office because it’s too distracting with people coming in and out. I need protected time. I’ll spend 4 or 5 hours at a time writing.

**WCR:** How do you make a living? You don’t make a living via your research work. You have your books and your speeches.

**DO:** Right. In a way I’ve got the worst of both worlds from a perceptual standpoint because people think that I’m making a lot of money from licensing our program to hospitals and residential retreats, whereas I don’t make anything from that. I make a living from my books, lectures, and the Internet site with WebMD. Also, I do some consulting with food companies.

**WCR:** How much time does the WebMD site take?

**DO:** It varies. The Internet is another great tool for leveraging my time and reaching a lot of people with free information that can be useful for them. They can log into WebMD anywhere in the world at www.WebMD.com or www.ornish.com, which is a shortcut to get to our site at WebMD. I also spend a few hours a week online answering questions and participating in dialogues and chats.

**WCR:** Do you have a lot of resistance to your efforts in California? I expect you did initially. I know Ken Cooper did when he came to Dallas, but he’s built a magnificent institution here.

**DO:** I agree; Ken’s been a real pioneer and is doing great work. It wasn’t just in California; it was in Texas where I first started in 1977. The first 2 studies were done in Texas. There was resistance in the sense of people’s being appropriately skeptical, but I actually got a lot of support. As I mentioned earlier, one of the great things about Texas is that if you’ve got an idea and you want to do it, you’re encouraged to go for it.

**WCR:** Could you talk about your wife a bit? Where did you meet? You are obviously a devoted husband and father.

**DO:** That’s true. We met in a restaurant in Mill Valley, California. I was with my friend Phillip Moffitt and she was with a girlfriend. We met the old fashioned way. She was at the bar drinking a glass of wine and I was having dinner. I worked up my courage and walked up to her and asked if I could buy her a glass of wine. She said, “Who are you?” I told her my name and it meant nothing to her, but she let me buy her a glass of wine, and we started dating.

One of the nice things about having a baby at the age of 47 is that I’m really clear about what my priorities are. I can’t tell myself, “If I just wrote another book, I’d be happier than I am now.” The time I spend with our little guy is the most precious time imaginable. It probably sounds insipid to talk to people about it, but it’s true. You know, being a father yourself. I’ve done a lot of interesting things in my life and nothing has brought me a greater sense of joy than just spending time with my wife and son. I’m trying to practice what I preach a little better and actually live those things I’ve been writing about for so many years. I’ve become quite the doting father.

**WCR:** That’s great! Do you have time for nonmedical activities in addition to your family? Do you read much in the nonmedical sphere?

**DO:** Yes, I do. I love listening to music, and I love playing music. My little boy loves music. His godfather is Quincy Jones, the musician, and he has a great musical ear. He has very strong preferences about what he likes and what he doesn’t like. He likes good music, good jazz. I like playing my guitar with him a lot and teaching him to play and also to play the piano. A lot of what we do is around music. I like reading books that have nothing to do with medicine, although, in a way, all books have something to do with medicine.

**WCR:** You’ve been here now for just over 3 hours and I suspect that you’ve had 10 telephone calls since you’ve been here. Is this a typical day? How many phone calls do you get (I’m not talking about from your wife) from all activities you are involved with?

**DO:** How many do I get or how many do I return? I spend a lot of time on the phone.

**WCR:** Tell me about your relation with former President Bill Clinton and members of Congress.

**DO:** A mutual friend introduced me to Hillary Clinton in 1993 when she was working on health reform. We spent an hour together and talked about the research that my colleagues and I have been conducting. She’s very smart and understood the concepts immediately. She then said, “We’d also like you to work with the chefs who cook for us.” I said, “Excuse me?” She said, “We’d like you to spend some time with the chefs at the White House so they can cook healthier meals for us.” I said, “Of course.”

I brought with me Jean-Marc Fullsack, who has
been working with me for >10 years as a chef and Hubert Keller from Fleur de Lys restaurant in San Francisco. Previously, Jean-Marc was at Lutece, L’Ermitage, and the California Culinary Academy. Over the years, I learned that the best way to make low-fat food taste good was to work with great chefs, even if they were not used to cooking that way, and ask them to work within certain nutritional parameters. Great chefs know how to make great food. Hubert is one of the best chefs in the country. I brought them with me to the White House several times and worked with the White House chefs. The White House chef in 1993 didn’t want to cook low-fat foods, so they found a new executive chef. Over time, we have also worked with the chefs on Air Force One, at Camp David, and the Navy mess. All of them are great chefs.

When the President had his first few annual physicals, they asked me to participate, which was a real privilege. Whatever your politics, when the President of the United States and his family make a commitment to exercise and eating more healthfully, it sets a great example for all Americans.

I also ended up working with a number of members of Congress on both sides of the aisle, including conservative Republicans Dan Burton and Arlen Specter, and liberal Democrats Charles Rangel and Alcee Hastings. In a Washington Post article, Mr. Rangel said, “This is the only thing Dan Burton and I ever agreed on.” This is part of what makes this kind of work fun, bringing people together. We did a daylong workshop on diet and lifestyle changes for the members of Congress.

Former Speaker of the House Newt Gingrich and former President Bill Clinton don’t have a lot in common, yet they both became very strong supporters of our research and the Medicare demonstration project, and they both became good friends. The same with Dan Burton and Charlie Rangel—even though their politics are completely on opposite ends of the spectrum, I also consider them friends. I still stay in touch with them, and it’s a real privilege to work with people like that. Because of their positions, they can also help inspire other people to make lifestyle changes.

WCR: What kind of exercise do you do now?
DO: We’ve been renting a house with a pool, which we’ve never had before. I’ve been swimming a lot while we remodel our other house to make room for the baby. We don’t have a pool at our regular house. I have a treadmill and I work out on that and then I go to a trainer at World Gym who I see once or twice a week to do strength resistance training (weight lifting).

WCR: Do you still play tennis?
DO: No, not since the baby was born. I love tennis. I do walk a lot, especially with the baby now. That for me now is almost my favorite exercise because I get to spend time with the baby. We have a backpack we put the baby in so he is on my back. I’ll walk for an hour or an hour and a half. It’s fun for both of us. He loves being outdoors, it’s bonding, and it’s good exercise.

WCR: If President Bush asked you to be Surgeon General, would you do it?
DO: Not until my son is much older, since he is my first priority, but maybe when I’m older, if I were asked. I have had discussions about it before.

WCR: What study will follow the prostate gland study?
DO: Our team has learned how to motivate many people to make intensive changes in diet and lifestyle. Our cardiac studies, and now our prostate cancer research, indicate that moderate changes may not be enough to stop or reverse the progression of disease, but more intensive changes may have an effect. Since we are able to motivate patients to make lifestyle changes to the degree that may be necessary to have this impact, it makes the work very meaningful for all of us who do it. This allows us to conduct studies and test hypotheses that others may not be able to do.

We may extend our prostate cancer research for another 4 years to look at more definitive measures such as survival, metastases, number of patients undergoing conventional treatment, and time to recurrence in those who do, along with surrogate measures such as prostate-specific antigen, magnetic resonance imaging, magnetic resonance spectroscopy, and ultrasound. Eventually, we may study breast cancer, since what affects prostate cancer is likely to affect breast cancer as well, and perhaps colon cancer. We plan to conduct a study of men and women with ischemic cardiomyopathies as we discussed earlier, and we are in the midst of the Medicare demonstration project.

WCR: Why do you think the medical profession, when it comes to “atherosclerotic risk factors,” is so hung up on “family history”?
DO: Family history is important, but it’s only one of many risk factors. Too much emphasis on family history can become an excuse not to do much about diet and lifestyle. It becomes nihilistic and fatalistic: “It’s all in your genes.” There is a predisposition, but it’s not a death sentence. It just means that some people have to make bigger changes in diet and lifestyle than others. Of course, nothing works all the time for everyone—not drugs, not surgery, and not lifestyle—and there is an element of mystery to all of this. But the value of our research is to empower people with information that can make a difference in their lives. Most people improve if they make big enough changes in diet and lifestyle.

WCR: Our population is getting heavier and heavier. The average American gained 9 pounds in the last decade. Diabetes mellitus frequency is skyrocketing. Now, we’re treating patients with congestive heart failure with a very expensive device. Patients with ventricular arrhythmias after an acute myocardial infarct have a defibrillator. The expense of all this stuff is mind-boggling. How many people in government who are in positions of major influence have you gotten to see your way? You’re in an economic situation here. The milk and meat industries fight you. So many people don’t want to change their habits. It’s not a popular campaign you are waging.

DO: I think there is a growing awareness among
both Democrats and Republicans that our health care system (which is really a disease care system) is in serious trouble. As the population continues to age, we simply can’t continue as we have been doing. Something has to change. Like a patient who has had a heart attack, the medical system is in crisis. In any crisis, there is an opportunity for change and transformation for the better, but there is also the possibility that things can get much worse.

The conventional approaches to lowering health care costs do not address the more fundamental reasons why many people get sick and die prematurely. Shortening hospital stays, limiting capitation, forcing doctors to see more and more patients in less and less time—these are profoundly unsatisfying for both doctors and patients. As you know, many physicians are leaving the profession.

Also, 48 million Americans don’t have health insurance. If we simply put them into our current system and do business as usual, then health care costs will increase exponentially. This leaves us with painful choices: do we raise taxes, let the deficit increase, or ration? None are politically appealing. So, the 48 million Americans who have the least political power and influence are effectively excluded from the health care system. This is not right.

In our own small way, my colleagues and I are trying to create a new model of health care, one that addresses many of the lifestyle causes of illness rather than just literally or figuratively bypassing them. This model is both more caring and compassionate as well as cost effective and competent. It is a conspiracy of love, so to speak, because the medical and cost-effectiveness data justify reimbursement for our program. This new model would help people open their hearts to themselves and to others.

Cardiology today is a good microcosm of what’s going on in medicine in general. As I mentioned earlier, $30 billion was spent last year on statin drugs, and the number is projected to rise to >$100 billion in the near future. Another $30 billion was spent on revascularization, yet as we discussed earlier, you can accomplish the same reduction in angina pectoris for most people by changing diet and lifestyle without having to worry about graft closing or restenosis, and regression of coronary atherosclerosis continues over time. Much of this expense could be avoided if people were to make bigger changes in diet and lifestyle. I think statin drugs are great, and revascularization sometimes can be beneficial. But the same benefits can be accomplished at a fraction of the cost simply by making comprehensive lifestyle changes. If only 10% of people were willing to make these changes, billions of dollars could be saved.

I hesitate to criticize our colleagues because I’m trying to build bridges and not polarize. Yet, how did we get to a point in medicine where interventions such as radioactive stents, coronary angioplasty, and bypass surgery are considered conventional, whereas eating vegetables, walking, meditating, and participating in support groups are considered radical?

I used to think that science was the primary driver of medical practice. Now, I believe economics has a lot more to do with it. We doctors do what we’re reimbursed to do, and we’re trained to do what we’re reimbursed to do. So, if we can help to change reimbursement, then we may help to help change medical practice and medical education.

Interventional cardiologists, who were so critical of bypass surgeons for doing bypass surgery before they had the evidence to support it, still don’t have the evidence to support that angioplasty prevents cardiac events or prolongs life. Several of our hospital programs closed down because they didn’t have appropriate reimbursement. They would say that it’s a great program, the patients are doing great, but because it’s losing money we can’t support it because so much of our revenue derives from doing these interventions. It puts people in an inherent conflict of interest position.

All of the physicians that I know are doing what they genuinely believe is in the best interest of their patients. But, as Abraham Maslow once said, “If the only tool you have is a hammer you see everything as a nail.” If you are trained to use drugs and surgery, if you get reimbursed for using drugs and surgery, if you don’t have time to spend with people doing things other than drugs and surgery, if your education only emphasizes drugs and surgery, and medical journals derive most of their advertising revenue from drugs and surgery, then it’s not surprising that so much of medicine emphasizes drugs and surgery.

It’s not that drugs and surgery are bad; it’s just that they are incomplete. Using only drugs and surgery misses the deeper opportunity of helping people really transform their lives in ways that go beyond just living longer.

In some ways, there is more resistance now than there has been in the past from the more conventional groups because what we are doing has proven to be medically effective and cost effective. Before, it was easier to just ignore. So, it’s easier because the science behind our work is well accepted, but it’s harder because it becomes more threatening to powerful interests.

WCR: At my hospital 40% of the profit is from cardiovascular disease.

DO: How much of the cardiovascular disease profit is from devices and procedures?

WCR: Most of it. How do you handle the Atkins diet, sugar busters, and these god-awful diets?

DO: I’ve debated them several times, although I have grown a little weary of doing so. The first debate occurred because of a dinner I had with Dan Glickman, who was then the Secretary of Agriculture, on New Year’s Eve in 1999, just before the millennium. He asked, “What do you think of the Atkins’ Diet?” I thought, “Oh, goodness, even the Secretary of Agriculture is thinking about going on the Atkins’ Diet.” I told him what I thought, and he proposed a debate. I told him that would be fine, not thinking that anything would ever come of it.

A couple of months later, I found myself debating Dr. Atkins at the Department of Agriculture in Washington, DC. The Secretary of Agriculture’s son,
People often mortgage their health when they go on these high protein diets. Dr. Richard Fleming in Omaha published a study in the journal Angiology in which he performed myocardial perfusion scans on patients before and after a low-fat diet similar to one I recommended, and before and after an Atkins-type diet. After 1 year, myocardial perfusion improved on the low-fat diet but worsened on the high animal protein diet.

I also debated Dr. Atkins last year at an American College of Cardiology meeting before a large audience of cardiologists and before a large group of dietitians at the American Dietetic Association annual meeting, and on various television programs.

It is true that one can lose weight on just about any diet if calories are restricted and/or energy expenditure is increased (i.e., exercise). There are 3 major ways of eating fewer calories. One is to eat less food. Most weight loss plans are based on deprivation: counting calories, restricting portion sizes, and eating less food. Sooner or later, most people get tired of feeling hungry and deprived, get off the diet, gain the weight back, and blame themselves for not having enough discipline or motivation or willpower—which is why most diets work in the short run but not in the long run. Also, when you restrict the amount of food, then metabolic rate decreases as well since your body thinks you are starving. If you really are in a famine, then you want to burn calories more slowly, as this gives you a survival advantage. But if you are trying to lose weight, then this can be frustrating.

Another way to reduce calories is to eat foods that are less dense in calories (i.e., lower fat) and higher in fiber (i.e., avoid sugar and other simple carbohydrates). When you eat less fat, you eat fewer calories without having to eat less food. Fat, of course, has over twice as many calories/serving as protein or carbohydrates. So, when you go from a high-fat to a low-fat diet, even if you eat the same amount of food, you consume fewer calories without feeling hungry and deprived. Also, because the food is high in fiber, you get full before you consume too many calories. You can eat whenever you’re hungry and still lose weight. And since you are not restricting the amount of food, metabolic rate does not decrease.

Also, it’s important to eat less sugar. When you eat a lot of sugar and other simple carbohydrates, you consume a lot of calories without feeling full. Also, you provoke an insulin response that helps convert those calories into fat. However, a diet high in fiber and complex carbohydrates doesn’t cause a spike in blood glucose because fiber slows the rate of absorption, and the fiber fills you up before you get too many calories. You can only eat so many apples or pears before you get full, but you can consume virtually unlimited amounts of sugar without feeling full.

To me, the real issue is not only losing weight but also enhancing health. When you go from a meat-based diet to a plant-based diet, there is a double benefit: reducing the intake of disease-promoting substances (cholesterol, saturated fat, oxidants) and increasing the intake of disease-protecting substances such as phytochemicals, bioflavonoids, retinols, isoflavones, etc.

You can lose weight on just about any diet. Keeping it off is a lot harder. A few years ago, the government reviewed all the different weight loss plans. They found that two thirds of people gained back all the weight they lost within 1 year, and 97% gained it all back within 5 years.

However, we found in our research that the average person lost 24 pounds in the first year and kept off more than half that weight 5 years later, even though they were eating more food, and more frequently than before, without hunger or deprivation, simply, safely, and easily.

I am distressed that people are more overweight than ever. A recent study by the Centers for Disease Control and Prevention found that the number of Americans considered obese—defined as being >30% over their ideal body weight—soared from about 1 in 8 in 1991 to nearly 1 in 5 last year. Diabetes mellitus in 30-year-old persons has increased 70% in the past decade.

None of the high-protein diet authors has ever published any studies in any peer-reviewed journals documenting that their approach can help people lose weight safely and keep it off. Telling people that pork rinds and sausage are good for you is a great way to sell books, but it is irresponsible and dangerous for those who follow their advice. I would like to be able to tell you that these are health foods, but they’re not.

There is a large body of scientific evidence from epidemiologic studies, animal research, and randomized controlled trials in humans showing that high protein foods, particularly excessive animal protein, increase the risk of breast cancer, prostate cancer, heart disease, and many other illnesses. In the short run, they may also cause kidney problems, loss of calcium in the bones, and an unhealthy metabolic state called ketosis in many people. The American Dietetic Association recently condemned high-protein diets as being dangerous, “a nightmare of a diet.” Yet many people do lose weight on high-protein diets. You can lose weight on chemotherapy, but that doesn’t mean it’s a good way to do it.

The important distinction to make is between simple carbohydrates and whole foods, also called complex carbohydrates. Simple carbohydrates may cause you to gain weight, but complex carbohydrates help you lose weight. The goal is not to switch from simple carbohydrates to a diet consisting mainly of high-protein foods like meat but from simple carbohydrates to whole foods, while reducing your intake of high-protein animal foods.

Simple carbohydrates—sugar and other concentrated sweeteners, and alcohol, which your body converts to sugar—are absorbed quickly, causing your
beans, and soy products in their natural form—are rich in protein foods, because these are less likely to provoke elevated insulin levels also accelerate the conversion of calories into fat, raise your cholesterol level, and have other harmful effects. Over time, this can cause insulin resistance. The high-protein authors advise us to avoid all carbohydrates and eat high-protein foods, because these are less likely to provoke an insulin response. Instead of going from simple carbohydrates to pork rinds, a better choice is to go from simple carbohydrates to complex carbohydrates, or whole foods.

Whole foods (complex carbohydrates)—including whole wheat, brown rice, fruits, vegetables, grains, beans, and soy products in their natural form—are rich in fiber, which slows their absorption. Since they are absorbed slowly, your blood sugar does not spike, and so your body does not need to produce elevated levels of insulin. Instead of the rapid swings in blood sugar, you experience a more constant feeling of energy throughout the day. You become more sensitive to insulin rather than resistant to it; diabetics often are able to reduce or discontinue insulin under their doctor’s supervision when they eat a low-fat, whole foods diet.

Why do some people lose weight on the high protein diets? Most people in this country eat a lot of simple carbohydrates, so there is a lot of room for improvement when they switch to a high protein diet. A recent study showed that one third of the vegetables eaten in the USA are either French fries or potato chips. And consumption of sugar, white flour, and processed foods has increased significantly in the past 2 decades, along with obesity. Eating a lot of meat instead of all those simple carbohydrates will help lower their insulin response, causing them to lose weight. But they may be damaging their health in the process.

There is a better way. If you switch from simple carbohydrates to a whole food, low-fat, plant-based diet, then you don’t provoke an exaggerated insulin response—so you get the insulin benefit similar to being on a diet high in animal protein without the many harmful effects. Also, you are eating whole foods that are much lower in fat and cholesterol, so you lose even more weight than on a high-protein diet and your cholesterol levels come down even further.

If you change the type of food, you don’t have to reduce the amount of food. When you eat less fat, you eat fewer calories even if you eat the same amount of food—because low-fat foods are less dense in calories. If you go from a 40% fat diet to a 10% fat diet, even if you eat the same amount of food, you consume almost one third fewer calories. Excess calories of any kind—whether they come from carbohydrates, fat, or protein—will eventually be converted by insulin into body fat. The easiest way to reduce your intake of calories is to reduce your intake of fat and simple carbohydrates.

When you go from a high-fat, animal, high cholesterol, high animal protein diet to a low-fat, whole food, plant-based diet, you’re getting a double benefit. You not only reduce the intake of disease-promoting substances—such as fat, cholesterol, oxidants, and animal protein—you consume many protective substances. Also, caloric restriction extends life span and consistently reduces tumor formation in animals. It’s hard to reduce calories by simply reducing the amount of food eaten because one gets hungry. Eating foods less dense in calories is a much better way to lose weight.

**WCR:** What would be a typical breakfast, lunch, and dinner you would eat at home?

**DO:** For breakfast I usually have a bowl of whole-wheat cereal and some non-fat soymilk. I used to drink skim milk but I drink soymilk now because I think it’s protective and I like it.

**WCR:** It lasts longer.

**DO:** Yes, it lasts longer and it probably has benefits for both prostate cancer and heart disease. Even non-fat dairy may have problems, and has been linked with an increased risk of prostate cancer. I’ll usually put some fresh fruit (bananas or berries) on the cereal. I usually have decaffeinated tea, like Earl Grey tea, or herbal tea, and whole-wheat toast.

Lunch and dinner vary. Usually they consist of some combination of fruits, vegetables, grains, and beans. Occasionally, I have fish. Sometimes, I have leftovers from one to the other. I will usually make enough dinner that I can have it for lunch the next day.

**WCR:** You rarely eat between meals and before you go to bed at night?

**DO:** I almost always eat between meals. You have to eat between meals if you eat a low-fat diet because you get hungry sooner.

**WCR:** What do you eat between meals?

**DO:** Either fruit or a snack. If you eat more frequently, it reduces insulin surges. One advantage of eating low fat is that you have to eat >3 meals a day because you get hungry faster. I graze, particularly when working, throughout the day on a piece of fruit (apple), vegetable, a smoothie, occasionally chocolate.

**WCR:** You cook?

**DO:** I’m not a very good cook. I eat pretty simply when I’m at home, usually just fruits, vegetables, grains, and beans.

**WCR:** How can you get the food producers to reduce the quantity of salt in their processed foods?

**DO:** A nice thing about living in the USA is that we live in a market-driven economy. It’s supply and demand. If customers want these things, manufacturers will start making them. Look at the rise in whole foods and organic foods. That was unheard of 20 or 30 years ago and now it’s a major industry. It comes down to education. If we educate the general public about the desirability and importance of these changes, not just to reduce the fear of dying or risk factors but that these alternatives really improve the quality of life, not years down the road but weeks down the road, then more people may choose products that fit these guidelines and then they will be manu-

INTERVIEW/DEAN ORNISH 297
factured. In some ways that's already happening, but there is a long way to go.

WCR: Are most of your presentations to lay public or to physicians?
DO: About half and half.

WCR: You get invitations from some of our major companies?
DO: Sometimes. It’s an opportunity to reach a lot of people; it’s a way to make a living, and it’s a way to help influence companies to make more healthful options available. I’ve been consulting with McDonald’s and other companies. It’s part of the larger context of trying to find ways to be useful to people.

WCR: Fast foods produce quick plagues! How can you make headway with McDonald’s, for example, to produce some healthier foods? The lower economic echelon in this country eats a high percentage of their meals at these fast food chains. The food tastes good, but it is disastrous for our health.

DO: I’m helping them to see that making healthier foods may provide them a competitive advantage, that there is a market for it, that it has a lot of public relations value, and that it can make a big difference in the health of our country.

WCR: You are doing virtually all of your work outside of the university environs?
DO: No, I’m a clinical professor of medicine at the University of California San Francisco.

WCR: Do you spend much time there?
DO: Some. I gave medical grand rounds there recently. When I first moved to San Francisco, I attended on the wards. I realized that a lot of people can do that as well or better than I can, but the kinds of things that my colleagues and I are doing are unusual. It makes more sense for students and trainees to spend time with us in our facility. We almost always have medical students, nursing students, house staff, sometimes attending physicians, who spend a week or a month or even 6 months with us. I love to teach and we have some unique opportunities for teaching that aren’t available in most places.

WCR: Twenty five to 30 people in a 4-story building is a big payroll. You must spend a lot of your time recruiting financial support for your operation.
DO: I do, but it’s worth it to have the freedom to pursue new areas of interest without the politics, turf battles, and bureaucracy found in many large institutions. Our studies still go through the internal review board and cancer protocols committees at the university and I work with faculty closely. In our current research on prostate cancer, we are collaborating with Dr. Peter Carroll, who is chair of urology at the University of California, San Francisco, and Dr. William Fair, who was Chief of Urology at Memorial Sloan-Kettering Cancer Center until he died recently.

WCR: Do you take much time off each year for a vacation uninvolved with a presentation?
DO: My wife and I, and now our baby, go to Kauai every year for the month of June. I do some work there. I still check my e-mail from time to time.

WCR: Is there anything else Dean you would like to discuss?
DO: The obstacles I’ve encountered make me appreciate what you’re doing and how unique that is, especially in the cardiology world. No one else in your position in another journal has your visionary perspective, which makes what you’re doing so important.

WCR: That’s very generous.
DO: That’s the truth. Being here is a tangible gesture of my respect for you and my appreciation for all that you do.

WCR: That’s very kind. I appreciate that more than you can imagine.

DO: You must get your own share of resistance by taking positions that are not so different from what we’re talking about. How do you do it?

WCR: When I went to the Baylor University Medical Center in Dallas and started talking about flesh, a relatively raw word obviously, I think the administration was a bit concerned because we have on the board 1 or 2 ranchers, and most people, of course, do eat the muscles of cows, pigs, sheep, goats, and chickens.

DO: Are you a vegetarian?
WCR: No. I eat fish. I was a vegetarian once for almost 2 years. Since I’m on my own, I open cans of vegetarian beans too often. One little can of Bush’s Vegetarian Baked Beans contains “3½ servings,” a very annoying presentation of its contents.

DO: You know why they do that?
WCR: So your sodium per serving seems small. The amount of sodium per serving is 800 mg. The sodium content in the entire little can is 2,800 mg!

DO: That’s right. You know what they do with cholesterol? If they can put <5 mg per serving, they can say its zero cholesterol. They will make the serving so small that they’ll get it down to 4 mg and say they have no cholesterol when in fact it has some. Because the serving is so small you can actually get a good bit of cholesterol. How do you deal with the criticisms that you get?

WCR: People say, “Oh, that’s just Roberts.” It really doesn’t matter. Do you ever eat eggs?
DO: I eat egg whites. I almost never eat egg yolks, at least intentionally.

WCR: Dean, on behalf of The American Journal of Cardiology thank you for allowing its readers to peer into your life and your accomplishments a bit.

DO: Thank you. I’m very grateful for the opportunity to be of service in this way. I hope it’s been useful.
