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THE UNITED STATES DEPARTMENT OF AGRICULTURE

In the Matter of:)
MILLENNIUM LECTURE SERIES)
SYMPOSIUM ON THE GREAT)
NUTRITION DEBATE)

The Jefferson Auditorium
U.S. Department of Agriculture
14th Street and
Independence Avenue, S.W.
Washington, D.C.
Thursday,
February 24, 2000

The above-entitled matter was convened, pursuant to notice, at 10:10 a.m.

BEFORE: CAROLYN O'NEIL, Moderator

APPEARANCES:

SHIRLEY WATKINS, Under Secretary for Food, Nutrition and Consumer Services

DAN GLICKMAN, Secretary of Agriculture

Presentations:

DR. ROBERT C. ATKINS

DR. BARRY SEARS

DR. MORRISON C. BETHEA

DR. KEITH-THOMAS AYOOB

DR. DENISE C. BRUNER

DR. JOHN MCDOUGALL

DR. DEAN ORNISH

C O N T E N T S

P R O C E E D I N G S

(10:10 a.m.)

MS. WATKINS: Good morning.

ALL: Good morning.

MS. WATKINS: I'm Shirley Watkins, the Under Secretary for Food, Nutrition and Consumer Services here at the Department of Agriculture. We're delighted to see all of you and look forward to an exciting morning.

I know we're going to have a lively two or three hours. This is going to be a wonderful opportunity for us here at the Department of Agriculture, and we hope that you will have as much fun as we're going to have during this session and even afterwards.

I know you're perhaps wondering why did the Department of Agriculture organize something called The Great Nutrition Debate? Well, I'll tell you. This morning about 2:30, my usual wake up time, I thought well, we could have said The Great Nutrition Conversation, but, anyway,

it's going to be a conversation that is long overdue.

The USDA Center for Nutrition Policy and Promotion sponsored a seminar last year, and it was entitled Why We Eat What We Eat. That symposium had followed one we had earlier on childhood obesity prevention, and those seminars were held right here in this room. The rooms were packed, as we had expected, and in the course of the Secretary of

Agriculture's remarks he turned around and looked at me and said Shirley, why don't we get all of these leading doctors together and have a debate?

Now, we did not put that in his remarks, so obviously I was quite flabbergasted, and I said what any loyal person here at USDA would say. Yes, sir, Mr. Secretary. We'll get it done. Yes, sir, Mr. Secretary, we've done exactly what you asked us to do.

Dr. Raj Anand, who is head of the Center for Nutrition Policy and Promotion, and his staff, along with Clyde Williams in the Secretary's office and Dan Dager on my staff, have worked tirelessly putting this together and insuring that we had a distinguished panel of guests. Each one of our panelists here today bring a unique perspective to this whole issue of how and what we eat.

I'm reminded of a joke I heard recently, and I can't help but share it with you. A man goes into his

doctor's office, and there's a banana stuck in one ear and a carrot stuck in another one and a cucumber up his nose. The man said, "Doctor, this is terrible. What's wrong with me?" The doctor simply said, "Well, first of all, you're not eating right."

(Laughter.)

MS. WATKINS: Well, we're all concerned to varying degrees about our nutrition and about our health, and few

subjects occupy the American consciousness as much as dieting, and few issues have as a profound and lifelong effect on health. Here at USDA, good nutrition is the foundation of all of our programs, so it follows that we would want to sponsor a public discussion of diets and eating habits.

Each one of you in the audience today will have an opportunity to submit a question, and I hope you have your cards so you can write your question down as the panelists are speaking. We'll have people in the audience to pick up those cards, and I can't promise you that your question will be asked and answered, but we're going to get as many answered as we possibly can.

So welcome again to all of you, and thanks to our distinguished panel for being with us today, and now I'd like to turn the event over to the mastermind of today's event, our beloved Secretary of Agriculture, Dan Glickman.

Mr. Secretary?

(Applause.)

MR. GLICKMAN: Thank you. Thank you, Shirley. Shirley Watkins and her team does an outstanding job, and I want to thank them plus Clyde Williams of my staff for setting this event up.

I think there were two things that precipitated this. One, we had this couple of forums here on nutrition

and obesity, and I did mention this to Shirley, and then I happened to be at a White House dinner I guess it was a few months ago, and I sat next to Dr. Ornish, and we talked about the fact that how it would be good to bring people together in and further enlighten the public, so out of that came this particular forum.

I'll tell you an interesting story. When I was nominated to be Secretary of Agriculture and I went before the Senate for my confirmation hearings, before the hearings began somebody asked me what were my qualifications to be Secretary of Agriculture, and I responded that when I was young my mother would tell me to eat, eat, eat, and the fact of the matter, however, is that's the problem in this country. We eat too much.

There's so many of us that are overweight and unhealthy, and given the fact that our studies indicate that

as many as one in five children are obese and a lot of these eating patterns start in the earliest stages of life, and consumers are spending millions, hundreds of millions of dollars, maybe even more, to find ways on how to be healthy and particularly how their diet affects their health

I thought this was an appropriate place for us to have a discussion of not only the diets, but of the whole issue of diet and nutrition from the perspective of some of the leaders in the country, at least leading authors and

some nutritionists, and try to give some not only balance, but to give some clarity to the American people as to, you know, what they ought to do and what isn't necessarily appropriate.

We at USDA do a lot of things. In addition, of course, to helping farmers, which is a big part of what we do, we run virtually all federal nutrition programs. The school lunch program was perhaps the greatest social program in modern history started after the second world war by Harry Truman to insure that there was at least one meal a day that everybody in this country would have. Of course, we manage those programs and buy much of the food for them.

We run the food stamp program, the women, infants, children program. Along with the Department of Health and Human Services, we are engaged in periodically updating national dietary guidelines, which is basically information

to consumers about what kinds of foods or food groups, more than foods, that they should eat.

But the fact of the matter is that as a society, I'm convinced that we remain very confused and conflicted about what it is that we should eat. In addition to that, the question is not just losing weight, but the question is how to keep it off and maintain a nutritionally balanced, healthy lifestyle over the long term.

You know, these are factors that I think are

really high priority in the American people's minds, so we decided to hold this forum to try to if not clear up the confusion, at least bring the issues out in an objective way so that the country can make its own mind up because we're not here to endorse any diets, any particular perspective at least at this forum, but it is to give both the public, as well as our own people here at USDA, some opportunities.

We run most of the nutrition laboratories in this country. The two perhaps ones that most people have heard of are the Tufts University Center in Boston and Baylor School of Medicine, School of Nutrition, primarily for children, at the University of Texas Medical Center. Those are USDA laboratories.

Most of the nutrition research done by the government is done by this department, and we know that diet

relates a lot to health, and health we spend billions and billions and billions of dollars a year. One of the things we've found and all of us believe is that we can improve our health by improving our diet, so we want to ask the right questions. That's the purpose of this hearing today.

I want to thank this distinguished panel for being here and giving them the opportunity of presenting their perspective on what we ought to be doing, and at the close after the questions I may have a few comments to try to tie the whole thing up, but again I appreciate everybody being

here very much.

Our moderator we're pleased to have for today's program as Carolyn O'Neil from CNN. In addition to serving as executive producer and senior correspondent for CNN's "On the Menu," she is a registered dietician, holds a Master's degree in Nutrition, is also the chief travel reporter now, and I think that we're very, very honored to have her leading the effort here, so now I'd like to turn things over to Carolyn O'Neil.

(Applause.)

MS. O'NEIL: Good morning, and welcome to Who Wants to Be a Millionaire Diet Doctor.

(Laughter and applause.)

MS. O'NEIL: Welcome to our panel. It's terrific to see you all in one place at one time. I've seen many of

you, met many of you through the years in different places at different times, but this is certainly unprecedented and a great service, I think, to everyone who wants to know about diet and nutrition today.

You know, I think a lot of people will be very interested in the outcome of this debate or the conversation, as Shirley has renamed it, to decide what diet to go on tomorrow, so this is in your hands.

I did tons of research, and I went through all of the descriptions of all of the diets, and just to put you at

ease, too, as you try and find the common ground and see what's different, see where the challenges are, even as a registered dietician with a Master's degree in Nutrition, it is still very complicated, and it is still something that you need to do great study, and that's why this conversation/debate is important today.

But, I did check with some experts in the third grade. I was driving my daughter to school the other day in the car pool, and I said hey, kids. They said why are you going to Washington, and I told them about the debate. They said well, Mom, we sing a song in the third grade that's all about why people are fat.

Well, I'm not going to sing it, but I will tell you the words. It goes like this. All you people can't you

see, can't you see, what happens when you eat too many calories? Every pound we gain, the more you weigh, and that makes you larger than life.

(Laughter.)

MS. O'NEIL: I hope today we can find some common ground because that, of course, is the most helpful thing to the American public and the public of the world to figure out what to eat when.

From time to time, I don't know if you've noticed, but in the past year or so menu print has gotten so much smaller, and I have to use glasses now. This also is an

indication that I've been at CNN for a long time. I've covered a cavalcade of diets over the decades, and I've essentially come out of retirement from the nutrition beat to moderate this significant session on popular diets.

I have not written a diet book. Therefore, I don't have a conflict of interest yet. I now do CNN "Travel Now," and if I'm not surfing I'm snorkeling, and if I'm not snorkeling I'm sightseeing in Sydney, and it's really a whole lot of fun, but it's really about food, culture and discovery, and I think people need to know more about the diets of the world and cultures of the world to understand the foods and the diets that we enjoy wherever we live.

So I wanted to share a secret before we get going, and I have a slide that through the years I've learned how

the media covered health and nutrition.

(Whereupon, a slide was shown.)

MS. O'NEIL: Do you see the slide yet? You do. Now, here we go. There are three wheels that we spin in the news, and the first one is the offending practice or product. Is this the three wheeled slide? Okay. I can't see it.

You spin that, and you figure out what people are eating wrong. Then the second one you spin, and that gives you the cause, whether it's a positive or negative effect, and then the next one you spin gives the affected

population, so you can see you can just do that.

(Whereupon, a slide was shown.)

MS. O'NEIL: Now, here's how the American public sees nutrition information we give them. They just do their own spin. This is how we might integrate what we say today. This gentleman says, you know, it's not fat. It's just that new fat substitute.

(Laughter.)

MS. O'NEIL: So with a sense of humor, and hopefully no bullets will be discovered today, I'm afraid. Well, maybe we will. What will emerge perhaps today again is that common ground.

You know, there's been lots of misinformation

about nutrition. No news to anybody, but, as everyone on this panel will tell you, there's been misinformation and myths about their theories, their beliefs, their thoughts, so that's why this exchange of ideas if very important, too, so if you're going to criticize something, you should really know about it. That's an old line from Steve Martin, who said don't criticize things you don't know about.

So let's get to introducing the panel, and I will start with Dr. Atkins. Dr. Atkins is the author of Dr. Atkins' New Diet Revolution and is the founder and medical director of the Atkins Center for Complementary Medicine in New York City.

A 1951 graduate of the University of Michigan, he received his medical degree from the Cornell University Medical School in 1955 and went on to specialize in cardiology. He's been a practicing physician for 30 years and continues to see patients daily. Dr. Atkins, a modern-day founder of complementary medicine, supports natural healing arts as an alternative to pharmaceutical drugs and surgery. Dr. Atkins?

I wanted to say that Dr. Atkins' diets were popular in the 1970s. They've certainly come back full circle. So have bell bottoms, --

(Laughter.)

MS. O'NEIL: -- so we'll find out why they're both

back in fashion again.

The next panelist I will introduce is Barry Sears. Dr. Sears is author of The Zone and president of Sears Laboratories. He has a Ph.D. in Biochemistry from Indiana University.

A former research scientist at the Boston University School of Medicine and the Massachusetts Institute of Technology, Dr. Sears has dedicated his research efforts over the last 25 years to the study of lipids and in particular over the past 15 years to the development of drug delivery technologies using lipids. He holds 12 U.S. patents in the areas of intravenous drug

delivery systems and hormonal regulation for the treatment of cardiovascular disease.

I don't know why you're not in your villa in the Caribbean.

(Laughter.)

MS. O'NEIL: Next on the panel, Morrison Bethea. Is that correct how you say your last name?

DR. BETHEA: Close enough.

MS. O'NEIL: Welcome from New Orleans. Dr. Bethea, a co-author of Sugar Busters! Cut Sugar to Trim Fat, completed his post-graduate training in thoracic and cardiac surgery at Columbia University Presbyterian Medical Center

in New York. He's a graduate of Davison College and Tulane University School of Medicine.

Currently he practices thoracic, cardiac and vascular surgery in New Orleans. He's an author of many publications in the field of cardiovascular disease and is a diplomate of the American Board of Thoracic Surgery.

New Orleans, of course, world famous for enjoying what they eat in that city, and so it's amazing to find out that Sugar Busters! has taken the city by storm and, of course, the rest of the country. I'm looking forward to that.

Next, Dr. Keith-Thomas Ayoob is director of nutrition sciences as Rose Kennedy Children's Evaluation and

Rehabilitation Center and clinical assistant professor of pediatrics at Albert Einstein College of Medicine in New York. He's a board-certified pediatric nutritionist, and he counsels children and caregivers on issues including oversight and underweight, nutritional deficiencies and eating behavior problems.

He has a Doctorate in Education, Master of Education and Master of Science degree in Human Nutrition from Columbia. He earned his Bachelor's degree in Nutrition Science at the University of California at Davis. We look forward to hearing from you as well.

Dr. Denise Bruner is president of the American

Society of Bariatric Physicians with a medical practice in Arlington, Virginia. Dr. Bruner received her undergraduate education at the University of Southern California and at George Washington University. She received her Doctor of Medicine degree from the Howard University College of Medicine in Washington.

She has been in private practice of bariatric medicine and family medicine since 1981. Recently she has appeared on several television programs discussing a range of topics, including the medical treatment of obesity, so certainly Dr. Bruner has been in the grassroots of working with patients to find out what works and perhaps what doesn't work.

Next, John McDougall, M.D., is a board-certified internist and author of ten national best-selling books. Dr. McDougall is the medical director of the live-in McDougall program at St. Helena Hospital in the Napa Valley.

Do you do diet foods and wine pairings there?

In addition, he's the chairman of "Dr. McDougall's Right Foods" and has a weekly national television show, "McDougall, MD," not to be confused with "Doogie Houser, MD," --

(Laughter.)

MS. O'NEIL: -- along with a monthly newsletter,

"To Your Health."

Dr. McDougall received both his undergraduate and Doctorate in Medicine from Michigan State University, and he did his residency -- smart guy -- in internal medicine at the University of Hawaii, so food and fitness there. Okay.

Dean Ornish. Dr. Dean Ornish received his medical training at Baylor College of Medicine, Harvard Medical School and the Massachusetts General Hospital. He is the founder and president of the non-profit Preventive Medicine Research Institute and clinical professor of medicine at the University of California, San Francisco.

For the past 25 years, Dr. Ornish has directed clinical research demonstrating for the first time that comprehensive lifestyle changes may begin to reverse even

severe coronary heart disease without drugs or surgery, and he got insurance companies to pay for it. That's significant, too.

He has published in many peer-reviewed journals, and he's the author of five best-selling books, including Eat More, Weigh Less, and also, you know, Health Living for Better Intimacy. Maybe we'll get to that later --

(Laughter.)

MS. O'NEIL: -- after we're all skinny and beautiful, you know.

Okay. Here are the ground rules. This is the

tough -- oh, there's Suzanne Somers is calling, I think. Suzanne Somers on the phone.

(Laughter.)

MS. O'NEIL: No 800 numbers, guys, during this presentation.

Anyway, I wanted to set the ground rules. During the session here, each of the presenters will speak about their signature diets, about their program in research, etcetera. There will be no questions, no comments, strictly timed for each of the participants here, so during that period of time write down your questions for the Q&A session.

Don't drink too much coffee or water either because there are no breaks.

I wanted to begin and say, Dr. Atkins, from your seat and each of you from your seats, if you would like to begin? Thank you for setting us off on The Great Nutrition Debate.

DR. ATKINS: Right from my seat. Okay. I've got a lot to say and not a lot of time to say it, so I'm not going to be very sociable.

After analyzing virtually every scientific paper written on the low carbohydrate diet over the last 80 years, beginning with when it was first offered as a treatment for

epilepsy, I am convinced that a diet low enough in carbohydrate to automatically convert our stored fat into the body's primary energy fuel is qualified at present to be considered the treatment of choice for obesity and related conditions such as diabetes, hypertension and atherosclerosis.

I know that to gain mainstream acceptance of this proposal I must first demonstrate that the nutritional program, which I believe can put an end to the lion's share of obesity right now, is both safe and effective over both the short and the long term, so in the brief time allotted let me do just that.

First PowerPoint.

(Whereupon, a slide was shown.)

DR. ATKINS: This is how the Atkins diet works.

Now, I can't see if the PowerPoint is up. Can you put it on the monitor there so I can see that it's there?

Stored fat is, after carbohydrate, the body's backup fuel system. The human body cannot store more than a two day supply of carbohydrate. In the absence of dietary carbohydrate, fat becomes the primary fuel. It's next on the pecking order.

This metabolic changeover is supported by biochemical catalysts which facilitate the steady burning of fat, producing more energy, increased well-being and a

dramatic loss of appetite.

Next?

(Whereupon, a slide was shown.)

DR. ATKINS: What are ketones? They are simply the energy fuels derived from our fat stores. Fat delivers energy via ketones, just as carbohydrate delivers energy by way of glucose. Enzymes are present within all our cells, including our brain cells, to convert ketones into useable fuel.

Next?

(Whereupon, a slide was shown.)

DR. ATKINS: When ketones are used as fuel, the most consistent finding is a decrease in appetite. Insulin is not involved in ketone production. Thus, the consequences of elevated insulin, which are many -- there

are increases in triglycerides, in blood pressure, in adrenaline, in cortisol; all of these are avoided.

Obese individuals and people who are overweight are keto resistant. Pay attention to this term. What it means is that there will be no accumulation of ketones in the blood.

Next?

(Whereupon, a slide was shown.)

DR. ATKINS: The best documentation of keto

resistance was brought to us by two very important researchers, the department heads of London's Middlesex Hospital, Alan Keckwick and Gaston Pawon.

In their documentation they showed that obese subjects given the ketogenic diet that I'll tell you about momentarily produced a flat level of ketones rising from two milligrams to an average of four milligrams, never more than six, whereas the non-obese subjects had their ketones escalate rapidly.

This is one reason why overweight people will never have problems with ketosis, but ketosis is a negative catch word for many people. The only reason can possibly be that they're confusing it with diabetic ketoacidosis.

Next slide?

(Whereupon, a slide was shown.)

DR. ATKINS: But look how diametrically opposed

they are. Ketoacidosis occurs in Type I diabetes, meaning it occurs because of an insulin absence or an insulin deficiency. Benign ketosis is achieved in overweight subjects whose metabolism is characterized by the fact that they put out too much insulin.

Ketoacidosis is caused by an increased intake of carbohydrate, benign ketosis by a decreased intake of carbohydrate. There is, of course, acidosis in ketoacidosis, but in benign dietary ketosis the pH is

normal. There is no acidosis. In ketoacidosis, patients are extremely symptomatic, and in ketosis the subjects describe an improvement in well being. Now, that's pretty different. Don't let anybody confuse it ever again.

Much of the success of the low carbohydrate diet is that it is extremely effective for people with large appetites who enjoy eating, and these are the two main reasons why. First, hunger is eliminated. Hunger is not even allowed. Hunger is eliminated because the biochemical changes I will outline momentarily reduce the appetite.

Secondly, and this is something that bears emphasis. More weight is lost on low carbohydrate diets than on balanced diets identical in calories. This benefit is called metabolic advantage. We're going to look at these two phenomena right now. First we'll look at the hunger aspect.

Next slide?

(Whereupon, a slide was shown.)

DR. ATKINS: The guru of fasting as a weight loss system, Dr. Garfield Duncan, back in the 1960s when fasting was in vogue, he described a dramatic decrease in hunger after the second day of a fast. He attributed this to high levels of ketones. In his words, "In every case, there was a relationship between hyperketonemia and loss of appetite."

Next slide? It's not a slide, but anyway.

(Whereupon, a slide was shown.)

DR. ATKINS: In 1963, Walter Lyons Bloom and Gordon Azar in Atlanta discovered that the same degree of ketosis could be achieved simply by eating protein and fat containing foods and eliminating carbohydrate. There was no need to fast. Instead of a fast, a meat and salad diet would do the trick. Therefore, carbohydrate restriction will suppress the appetite.

Bloom and Azar's paper convinced me to go on the only diet I've ever been on. That was 36 years ago, and I'm still counting, and I'm still on it, but here's the second point.

Is a calorie is a calorie is a calorie really true? This axiom that everyone repeats, is it really true? The truly significant breakthrough came from Keckwick and Pawon. After a series of animal experiments, including the

discovery that rats on a low carbohydrate diet put out a fat mobilizing substance which, when injected into other animals, caused an automatic weight loss, they directed their attention to obese humans.

Two groundbreaking studies were published in 1956. Next?

(Whereupon, a slide was shown.)

DR. ATKINS: First, they studied 1,000 calorie

diets, but it was a research study that they had done on rats, and this is what they did. There were diets 90 percent fat, 90 percent protein, 90 percent carbohydrate. They wanted to see the effect.

One thousand calories of 90 percent carbohydrate produced no weight loss. As a matter of fact, there was a slight weight gain. The 90 percent protein diet produced a weight loss between three and a half and four pounds in the week that people followed it. The 90 percent fat diet did even better. Between five and six pounds of weight were lost. That is a dramatic portrayal of how different foods can lead to different amounts of weight loss.

But, of course, there were all 1,000 calorie diets, and they wanted to look at diets with sufficient calories not to provide guaranteed weight loss.

Next?

(Whereupon, a slide was shown.)

DR. ATKINS: So look at this one. Look at this one. For an average of eight days, six subjects were alternated between a 2,000 calorie balanced diet and a 2,600 low carbohydrate diet.

The 2,000 calorie balanced diet led to a one pound weight gain, as you see on this slide, whereas the 2,600 calorie low carbohydrate diet given to the very same subject

-- it was a cross over study -- produced a three pound weight loss in the same amount of time. Keckwick and Pawon did water balanced studies, and it wasn't water.

The mathematics. A half a pound a day more weight loss is 1,750 calories of advantage plus the 600 in the extra food. This provided an edge totaling 2,350 calories per day. That means they demonstrated for the first time a phenomenon called metabolic advantage, a refutation of the calorie theory where diets of different compositions lead to disproportionate weight loss.

Keckwick and Pawon, despite their important academic position, were met with skepticism, but nine years later Dr. Fred Benwa and his colleagues at Oakland Naval Hospital furthered the concept. Their technology allowed them to measure body fat, and this is what they found.

Next?

(Whereupon, a slide was shown.)

DR. ATKINS: They compared a total fast, which

certainly was in vogue in those days, with a 1,000 calorie, ten grams -- very low -- carbohydrate diet for ten days. They found that the fasting took off 21 pounds, but only seven and a half of those pounds were fat. The other 14 were lean body mass.

The low carbohydrate diet, despite the extra 1,000 calories, took over 14« pounds, all but one-half pound of

which was fat. Virtually none was lean body mass. Again it met with skepticism, but it was quite logical. In starvation, you will start to build your protein for fuel, but when ample fat and protein are included in the diet there will be no need to do so.

More skepticism and more studies. This time the professor of medical nutrition at Cornell, Dr. Charlotte Young, studied eight obese 23-year-old men, undergraduates at Cornell and graduate students at Cornell. They were all overweight, and she used an 1,800 calorie diet.

May I see the next?

(Whereupon, a slide was shown.)

DR. ATKINS: An 1,800 calorie diet of differing amounts of carbohydrate. One was 104, moderate low; one was 60, even lower; and the other was 30 grams of carbohydrate a day. She also did body fat estimations.

This is how much body fat they lost. Two pounds a week for the nine weeks on the 104 gram diet, two and a half

pounds a week on the 60 gram diet, and 3.6 pounds per week on the 30 gram diet. This means that cutting down from 60 to 30 grams, from low to even lower, without cutting calories led to an increase ten and a half pounds of fat being lost in the nine weeks of the study.

I hope I've proven that the diet is effective, so

now let's turn our attention to the safety. Over the years, I've heard myriad concerns, but very little in the way of observed complaints. In fact, in 1973 the AMA requested that its members be on the lookout for adverse effects from my diet and report them to AMA headquarters.

Three years later when we checked, despite the fact that millions had been on my diet, no examples of adverse reactions were in their files. None. Some complaints, by the way, that organs such as the kidneys or the liver are damaged by the diet must be dismissed immediately as being total inventions fashioned out of the whole cloth. Not a single case of kidney or liver damage was ever reported, even as an isolated case history.

The major issue then seems to be the speculation that it would be bad for the heart. I hope you agree that it's not the cholesterol and fat in the diet that leads to heart disease, but rather the cholesterol and fat in the blood. If so, we can review the changes in the lipid profile on low carbohydrate diets. They fall into a common

pattern.

The total cholesterol usually drops a bit, and there is usually a tendency for the HDL to rise and the LDL to fall, much as a recent study out of Wilmington, Delaware, on a modified low carbohydrate diet shows.

Next?

(Whereupon, a slide was shown.)

DR. ATKINS: In this particular study, all the lipid variables moved in the right direction. You will notice that these people lost a lot of weight, and the first group that I'm about to show you the changes were fairly dramatic.

Next one?

(Whereupon, a slide was shown.)

DR. ATKINS: Another group was done with more people who lost very little weight, but they had a major effect on their blood sugar. They were diabetics. However, again every single one of the parameters, the cholesterol, the triglycerides and the LDL, all went down, and the HDL went up.

Okay. Now, most of the other studies throughout the years, and I've reviewed the literature, and it goes back to the 1950s and 1960s -- there are about ten of them -- report a striking improvement in triglycerides particularly.

I want to talk about triglycerides because this is much more important than you might imagine. It's logical, by the way, that it should be beneficial in controlling triglycerides because body fat biochemically in triglyceride, and we know that the diet causes a loss of

body fat.

The first demonstration of this -- Next?

(Whereupon, a slide was shown.)

DR. ATKINS: -- was very dramatic, and it dates back to 1966. It was done at Harvard, P.K. Ressel and his colleagues.

That doesn't look like it. You better do one more.

(Whereupon, a slide was shown.)

DR. ATKINS: Is that it? I can't see it.

The subjects had very high triglycerides in Ressel's study. Their triglycerides ranged from 500 and up, and a typical fall was from 1,300 down to 300.

There were many, many other studies, which I don't have time to show, but you can be sure that high triglycerides are corrected by a low carbohydrate diet.

May I see the next slide?

(Whereupon, a slide was shown.)

DR. ATKINS: All right. We'll leave that one.

The impact of high triglycerides cannot be

underestimated. Let's look at another Harvard study, this one very recent, published in Circulation, October, 1997. Gaziano was the senior author.

He took 340 patients who survived a myocardial infarction and got out of the hospital. They were compared

with age and sex matched controls. Of all the lipids studied, and they studied every lipid there was, they were most fascinated by the elevation of triglycerides combined with a low level of the good cholesterol, the HDL.

This is what the study showed. They divided them into quartiles of this ratio, triglyceride to HDL. The lowest quartile or the most ideal number, so to speak, was given a factor of one. They were assigned that number. Then 4.1 times more of that group in the second quartile were in the heart attack group, 5.8 times in the third quartile, but in the fourth quartile, the upper 25 percent, there was 16 times more likelihood of being in the heart attack group if you had triglycerides combined with low HDL. This is the most powerful risk factor for heart disease ever described.

If you look at what cholesterol does, it's maybe two to one. If you look at what homocystine does maybe five to one, but 16 to one? This is what you must be looking for if you want to reverse heart disease.

Next PowerPoint?

(Whereupon, a slide was shown.)

DR. ATKINS: The importance of high triglycerides then is that they are perhaps the most important cardio risk factor at all, but they are a known surrogate market for

hyperinsulinism. Now, we haven't talked about hyperinsulinism, but a lot of people have. High triglycerides and low HDL are surrogates for this phenomenon.

You do see, by the way, the same incidence of high heart attack rates when you study insulin levels as well. Even more important is that triglycerides are a known responder to carbohydrate restriction.

Next?

(Whereupon, a slide was shown.)

DR. ATKINS: We've done a retrospective study on 319 subjects at the Atkins Center we're going to really skip most of. We don't have time. I just want to point out that in the group of 85 people who had triglycerides of over 150, the value one year later was less than 50 percent of what it was at the beginning of the study.

Go to the next two. Skip the next one, and we'll go on to the next.

(Whereupon, a slide was shown.)

DR. ATKINS: To dismiss the complaint that the Atkins diet skimps on fruits and vegetables, I would like to

point out that it is nutritionally naive to lump fruits and vegetables together. There is a wide variance in their phytochemical content.

In my latest book, Age Defying, I deal with this

issue. Carbohydrates per se are not nutritionally essential, only the phytochemicals that they contain. Future dieters will be instructed to select foods with a high antioxidant to carbohydrate ratio. The best phytochemicals act as antioxidants.

This is a very good study. By the way, it was done out of Tufts, and I wonder if it was done from the USDA. I hope it was because this work is very, very valuable.

Let's look at the PowerPoint that shows it.

(Whereupon, a slide was shown.)

DR. ATKINS: These are the foods that have the highest ratio of antioxidants, done by the Tufts study, per gram of carbohydrate.

Fruits and vegetables were studied. Go to the next one just briefly and then back to this one.

(Whereupon, a slide was shown.)

DR. ATKINS: All right. Now, you see there's a lot of blue in the next one. That's the lower half.

Back to the previous one?

(Whereupon, a slide was shown.)

DR. ATKINS: You see that at the top of the list are foods like garlic, kale, onions, leafy greens, spinach. These are the foods with the highest ratios. The only

fruits on the list were berries.

If we now turn to the next list, you're going to see the bottom of the list.

(Whereupon, a slide was shown.)

DR. ATKINS: You're going see that things like apples and pears and bananas have a reading of 0.2, and yet kale a reading of 6.5, so that if you pick the right green vegetables you will do 30 times better than if you pick the wrong fruits.

One leaf of lettuce has double the antioxidant power as an entire banana, so let's no longer lump fruits and vegetables together. Let's learn to be selective and pick the vegetables that work.

All right. Next? Next PowerPoint?

(Whereupon, a slide was shown.)

DR. ATKINS: Now we have to deal with the accusation that the Atkins diet is low in vitamin and mineral content. Here's an example of a 2,000 calorie version of my strictest diet from the standpoint of carbohydrate. It only has 20 grams. It starts with a three egg omelette of avocado and cheese and tomato and two strips of bacon and so on. You can read the rest. I hope you can.

I can't from here, but maybe you can.

All right. I want to show you it measures up to the RDI, which stands for the recommended daily intake, of

12 different vitamins. Next, please?

(Whereupon, a slide was shown.)

DR. ATKINS: Do you see that black line? That's 100 percent. These are 12 vitamins. Nine of the vitamins go way over that line, two of them are virtually at the line, and only one, pantothenic acid, is at the 50 percent mark, and it's a question of whether we can do better.

Now, I personally believe in nutritional supplements for everyone. I believe that people on the food pyramid diet need nutritional supplements a lot more than people on the Atkins diet, and so if I tell people to take nutritional supplements it's not because my diet is inadequate. It's because they were on an inadequate diet before they started my diet.

Okay. Now the main question about the long-term studies. No one has one. There are no long-term studies showing that any diet for weight reduction is both effective and safe. Mostly it's not hard to show that they're safe, by the way, but none have been shown to be effective. To be effective, they must be followed. They must be easy and pleasant enough to follow.

The recidivism rate of most diets falls into the

95 percent range, which indicates that very few people want to follow them. I predict that my diet will be the first

diet to achieve the long-term effectiveness award, and the reason is -- let's see the next PowerPoint.

(Whereupon, a slide was shown.)

DR. ATKINS: The reason is that it is easy to follow. It's easy to comply with. You're never hungry. You have a metabolic advantage. You can take in more calories than you can on other diets and still lose weight. You can go to restaurants, order from the best of the main courses. You can eat in luxuriously, and you will correct an awful lot of other health problems.

It will correct diabetes, hypertension, most of the risk factors for heart disease, gastritis, esophageal reflux disorder, headaches and a variety of other problems, and for all of these reasons I hope -- the reason I'm here, by the way, is to help the people of our nation and of our nation, and I hope that this misinformation that people have had to abide by, all of the statements that a low carbohydrate diet is scientifically unsupported, I hope we've put an end to that this morning.

I hope that some government official will decide okay, it's pretty clear that long-term studies are going to have to be studied by the government and that they will do that. When they do, they will begin to get some of the

exiting results, much as Dr. Eric Westman has gotten in his short-term studies, and I hope we can hear from him.

Thank you.

(Applause.)

MS. O'NEIL: Thank you, Dr. Atkins. I promise that the rest of the panel will be just as technical. I can't wait to get to panel discussion and some of the questions.

Didn't I see you at Smith and Walensky last night?

DR. ATKINS: No.

(Laughter.)

MS. O'NEIL: Thank you very much.

Our next panelist is Dr. Barry Sears, entering the ring now. Dr. Sears, your time begins now.

DR. SEARS: Thank you. Presently we have an epidemic spreading across our land that threatens to destroy our entire health care system. Currently, 55 percent of all American adults are overweight. Obesity has increased by 50 percent in the last seven years, and more than 300,000 Americans die each year due to excess body fat.

The question is what has caused this epidemic? We've been told for the last 20 years that dietary fat is the villain, and the question is we have basically pulled dietary fat out of our diet, as shown in the first slide, which I hope basically is up there.

(Whereupon, a slide was shown.)

DR. SEARS: It's there? Unfortunately, it's not down here.

As you can see from that slide is that over the last several decades we have reduced the amount of fat in our diet as a percent of calories, but this leads to what I call the American paradox. That is, we are reducing the amount of fat in our diet, yet we are becoming the fattest people on the face of the earth, and this trend is accelerating.

Three of our most renown nutritional researchers looked at this very carefully, reviewed all the long-term studies and wrote a report published two years ago in the New England Journal of Medicine. In this report they came to two conclusions. The first was replacement of fat by carbohydrate has not been shown to reduce the risk of coronary heart disease. They also came to the conclusion that beneficial effects of high carbohydrate diets on the risk of cancer or body weight have also not been substantiated.

In essence, they are quoting that great scientist, Jerry Maguire, saying show me the data because they're saying there is no data that very low fat, high carbohydrate diets have significant health benefits when viewed from a scientific perspective.

Now, if dietary fat is not the villain, what is

the cause of our epidemic of obesity in our land? The answer is it's not excess dietary fat. It's excess levels of the hormone insulin. Dr. Atkins would agree with me, and even Dr. Ornish would agree with me indirectly from a quote that he had published in JAMA stating that, "Insulin also accelerates conversion of calories into triglycerides, stimulates cholesterol synthesis and may enhance the proliferation of arterial smooth muscle cells."

What we have to do to understand this epidemic is now view food from a new perspective. View food no longer as a source of calories, which it is, but really view food as a drug. This is shown on the next slide.

(Whereupon, a slide was shown.)

DR. SEARS: Now we have to view this from the standpoint of not only a powerful drug, but probably the most powerful drug anyone will ever encounter, because we have to look at food now from what will be the hormonal effects on the diet.

Each time you eat, whatever you eat is composed of macronutrients. What are macronutrients? Carbohydrate, protein and fat. The power of nutrition in the twenty-first century is looking at what the appropriate combination of those macronutrients are to give the most ideal hormonal response.

My background, as Carolyn has pointed out, is I'm not a nutritionist. My background is development of intravenous drug delivery systems for cancer patients where you try to keep drugs in therapeutic zones. I began to apply that philosophy to food some 20 years ago to treat food as if it were a drug to maintain a therapeutic zone; in essence primarily for hormone insulin, keeping it within a zone, not too high, but not too low.

Now, from the standpoint we are not all genetically the same when it comes to how we handle carbohydrates -- is that slide up there? I'm guessing.

(Whereupon, a slide was shown.)

DR. SEARS: This is work done at Stanford Medical School nearly 13 years ago taking normal weight individuals who had no disease and giving them the same load of sugar. You can see on the left-hand side of the slide their sugar levels went up, and they came down. Nothing remarkable about that.

But on the right-hand side of the slide, a very different picture emerges. There was about one-quarter of the population whose insulin levels never went up very high, and they came back to baseline very quickly. These are the genetic lucky ones because they can eat a high carbohydrate diet and never have the ill effects of excess insulin production.

However, the other 75 percent of the American population will not be so genetically lucky. As they consume more and more carbohydrates, they will create more and more insulin, and it's excess insulin that makes you fat and keeps you fat.

How can you tell which of those two groups you fall into? A very simple test. Have a big bowl of pasta at noon and see how you feel at 3:00. If you can barely keep your eyes open and you're falling asleep and you're hungry, then you know you fall into that category of the 75 percent of Americans who genetically have a predisposition to make lots of insulin.

But, having a predisposition to make insulin is different than hyperinsulinemia where your insulin levels are chronically elevated. This is shown on the next slide.

(Whereupon, a slide was shown.)

DR. SEARS: Because many of our major disease states, coronary heart disease, the number one killer of males and females in America, are related to hyperinsulinemia, as is Type II diabetes. That's the definition of a Type II diabetes. Somebody who's hyperinsulinemic. Likewise, hyperlipidemia, hypertension, polycystic ovary syndrome, the primary cause of infertility in women, and obesity are all caused by excess insulin.

Now, this is why we're concerned about obesity in

our landscape. If it was simply a cosmetic problem, no one would care, but the fact is a greater number of deaths -- as I said earlier, over 300,000 a year -- can be attributed to excess body fat because of the effect of excess insulin on cardiovascular disease and Type II diabetes.

Let me show you some data that supports my contention that excess insulin is one of our primary predictors. This was published in the New England Journal of Medicine some four years ago, taking patients who had no trace of heart disease and following them for a five year period and then asking what in the blood predicted who would or would not develop heart disease.

It was not high cholesterol. It was not high blood pressure. It was slight elevations of insulin, which could predict with frightening certainty, as you can see by that P factor there, who would and who would not develop heart disease.

Another study has demonstrated, a prospective study looking at individuals who had no trace of heart disease and following them for a five year period and again asking what blood parameters were most predictive of heart disease. It turns out by far and away the most predictive was increased levels of fasting insulin. This is followed by increased levels of triglycerides and even increased levels of LDL cholesterol, the so-called bad cholesterol,

were not nearly as predictive.

If you don't measure insulin levels, are there any other blood parameters that can be markers of insulin? It turns out the ratio of triglycerides to HDL cholesterol is a very good surrogate marker for insulin. As insulin levels increase, triglyceride levels increase. As insulin levels increase, HDL levels decrease.

This is the work that Dr. Atkins had talked about from Harvard Medical School looking at people who had survived heart attacks and matched them with individuals who had not. We can see a dramatic increase in the likelihood of a heart attack the higher the ratio of triglycerides to HDL cholesterol.

If you have high cholesterol, you are twice as likely to get a heart attack. We have made a national war against cholesterol. If you smoke, you are four times more likely to get a heart attack. We have made a national war against smoking.

But according to Harvard Medical School, if you have high levels of triglyceride to HDL, which is really a surrogate marker for insulin, so we can say if you have high levels of insulin you are 16 times more likely to get a heart attack, yet we hear nothing about the war on reducing hyperinsulinemia, and until that war is fought successfully we'll continue to become fatter and more likely to develop

heart disease.

If you do have hyperinsulinemia, how do you treat it? Well, there is one drug that does exist. That drug is called food, but you have to treat food with the same respect you would treat any prescription drug, and part of our trouble, why we have debates like these, we don't have good definitions. We have to have a definition of what diets are, and that's why we talk about putting a mathematical prescription behind the zone diet.

We could call a high carbohydrate diet is any diet that has more than double the amount of grams of carbohydrate relative to the grams of protein. We can call a high protein diet any diet that has more grams of protein compared to grams of carbohydrate.

Between those two extremes lies the zone where looking at balancing protein and carbohydrate, no different than you're balancing a carburetor of a car because if you have high levels of carbohydrate in your diet and you're genetically predisposed to develop high levels of insulin, that will lead to fat accumulation and increased likelihood of cardiovascular disease.

On the other hand, if you're following a high carbohydrate diet -- excuse me; a high protein diet -- you will increase the production of the hormone glucagon, and that will lead to ketosis, so we could call the zone diet is

that diet that stands just beyond ketosis and before you reach hyperinsulinemia, but better to put it on a mathematic format and now look at the literature, the scientific literature, that supports that concept that controlling the ratio of protein to carbohydrate will lower insulin and will decrease heart disease.

The first of these studies actually appeared last year from Harvard Medical School. They took adolescent, overweight boys who were already hyperinsulinemic, and they gave them meals of equal number of calories. The only difference was the ratio of protein to carbohydrate. When they consumed the high carbohydrate meal, their insulin levels for the next four hours were highly elevated. When they consumed the zone meal, their insulin levels had been increased by nearly 50 percent, and again with a high degree of statistical significance.

My work has primarily focused on Type II diabetics because, as I said earlier, they're characterized by high levels of insulin. Is the slide up there? Yes, it is.

(Whereupon, a slide was shown.)

DR. SEARS: This is one study we did for an HMO in Texas taking their elderly Type II diabetic patients and putting them on a zone diet for a six week period of time.

What you can see from the slide is several key factors. One, insulin levels dropped by some 23 percent.

Notice the ratio of triglyceride to HDL cholesterol dropped by almost the equivalent amount. That's why I say that high levels of insulin and high levels of triglycerides to HDL are surrogate markers. Notice they also lost body fat because the only way you can lose excess body fat is to lower insulin. There's nothing magical about this. You have to lower insulin.

Now, the key of science is not whether I do an experiment. It's whether can somebody else do the same experiment someplace else in the world and get the same results. Those results were actually replicated in Australia two years ago when Australian investigators took both hyperinsulinemic overweight individuals and hyperinsulinemic Type II diabetics and put them on a zone diet, and within three days their levels of insulin had dropped dramatically.

Another study published last year looking at long-term effects taking overweight individuals and put them on diets of equal number of calories. The only difference was the ratio of protein to carbohydrate. Those on the high carbohydrate diet lost less fat, actually almost one-half less fat, than those on the zone diet.

Finally, the long-term aspects. We have data gain from Harvard Medical School stating that on a high carbohydrate diet you're more likely to get a heart attack

than on a zone diet. You're 26 percent less likely.

Now, we say it's too hard to follow this program. All you need is your hand because all the rules we need is saying you never, ever eat any more low fat protein in a meal than you put on the palm of your hand. That is three to four ounces. Every nutritionist in America agrees with that.

Now, you take your plate at each meal, divide it into three sectors. On one-third of that plate you put some low fat protein not bigger and no thicker than the palm of your hand. The other two-thirds of the plate you fill it full of fruits of vegetables until it's overflowing. You add a dash of heart healthy monounsaturated fat, and now you have a zone meal to keep insulin controlled for the next four to six hours.

If we put this into a food pyramid, we get the zone food pyramid. Notice the base of this you're eating lots of fruits and vegetables. How many? Ten to 15 servings a day followed by low fat protein, followed by small amounts of heart healthy monounsaturated fat and using grains and rices in moderation.

We compare this to the USDA food pyramid. We see two different pyramids. One is almost guaranteed to increase insulin levels because of the high reliance on high density carbohydrates such as grains and starches.

What about high protein diets? The zone has been accused of that, but, as you can see from this picture, there is really no relation between a high protein diet and a zone diet because in a zone diet you're eating more carbohydrates than protein, and the fat you are eating is heart healthy monounsaturated fat, as opposed to heart unhealthy saturated fat.

Millions of people have lost weight on high protein diets. Unfortunately, the same millions have gained them back. The question is why? I think there are reasons. The longer you stay in ketosis, you turn yourselves into fat magnets, and you accumulate body fat more readily. The more saturated fat you eat, you tend to basically make yourselves more resistant to insulin. Finally, the longer you stay in ketosis, you begin to oxidize lipoproteins, so these are long-term consequences which begin to explain why high protein diets fail.

Now, Dr. Ornish will tell you later today that his diet has cured heart disease, reversed it. Let's say what are the facts? This is the data he presented in 1995. Yes, his patients lost weight, but look. Their HDL levels went down dramatically. Their triglyceride levels increased, and he has said already earlier and been quoted that that is due to basically high levels of insulin, increased triglycerides, and the ratio of triglycerides to HDL

increased. According to Harvard Medical School, that's not good.

The lead author of that study was actually K. Lance Gould, one of the leading cardiologists in our country, saying frequently triglyceride levels and HDL cholesterol levels decrease for individuals on a vegetarian high carbohydrate diet since low HDL cholesterol, particularly with high triglycerides, incurs a substantial risk of coronary events.

I do not recommend a high carbohydrate diet, and the reason why? Because two years later the data came out that those who followed the Ornish diet had twice the number of fatal heart attacks. Perhaps when Dr. Ornish speaks today he can explain how can he reverse heart attack and double the number of fatal heart attacks.

(Whereupon, a slide was shown.)

DR. SEARS: Just one last slide. We want to take this whole debate out of the area of politics and make it a medical statement. The blood will tell you. Your blood will tell you whether you're naughty or nice. You want to keep your blood levels of insulin under ten microunits per ml. If they're more than 15, change your diet. If you don't have insulin levels, it's the ratio of triglycerides to the HDL. Keep that under two.

If your numbers are in the right zone, I don't

care if you're eating Pop Tarts. Keep eating the Pop Tarts. They're working for you.

MS. O'NEIL: Thank you, Dr. Sears. Thank you. The food fight is starting to shape up.

(Applause.)

MS. O'NEIL: Does Dr. Bethea need the slide changer?

DR. BETHEA: Yes.

MS. O'NEIL: You do need it? Okay. Can someone help me with this? I'm not sure, unless there's one on the side of that table. It doesn't seem to extend very far. I don't know if audibly you could just ask them to change.

It's interesting in listening to the comments and concentrating. I guess everyone on this panel understands what the other presenters are saying, and yet they still disagree.

Go ahead, Dr. Bethea. What's happening that took Sugar Busters! from the streets of New Orleans to the rest of the country?

DR. BETHEA: Secretary Glickman, Ms. Watkins, fellow panelists, members of the USDA, guests and press, it's an honor for me to be here today to talk to you about Sugar Busters!

I will get started as soon as my slides come up.

If you'd put it on the monitor, please? Could you put the

slide on the monitor?

(Whereupon, a slide was shown.)

DR. BETHEA: Corn is for cattle, and potatoes are for pigs. So say the French. More specifically, Michaele Montinak. Michaele Montinak wrote Dine Out and Lose Weight, and he's the one who peaked our interest in the way the French have eaten for hundreds of years.

Now, what is the French connection? Is it the wine? No, I really don't think so. Let's look at World Health Organizational data. Age adjusted, the French have less obesity, lower cholesterol and fewer strokes and heart attacks than other westernized people.

Why do we diet? We diet usually because of appearance and/or our health, and when we speak of our health, it's usually the cardiovascular system. You've heard some of the other panelists speak of heart attacks, and that's how I got interested in the Sugar Busters! concept because I am a heart surgeon.

Now let's look at the nutritional industry in the United States. Through 1998, we are spending $33 billion on diets, nutritional aids, additives, supplements, gimmicks, all kinds of ways to lose weight. We're spending another $50 billion on health care costs directly attributable to

obesity, and there's another $23 billion a year being spent annually, or lost, should I say, in wages, compensation and

other forms of remuneration because people are either in a hospital or going to see a doctor. That's over $100 billion a year problem for this country, simply stated, because of fat.

Now let's put things in perspective. I like to play golf. We're only spending $15 billion a year on golf, and that's after Tiger Woods.

Now let's look at what that investment or cost has gotten us. Slide, please?

(Whereupon, a slide was shown.)

DR. BETHEA: In 1970, one in five Americans were overweight; in 1990, one in three; in 1998, one in 2.5; and today over half of our children are overweight. This comes with a 16 percent reduction in fat intake. We're eating less fat, and we're getting fatter.

Let me show you something else even more alarming. Look at the increase in incidence of diabetes over that same period of time in the U.S. population. It has tripled. Look at your chance of becoming diabetic as you become more overweight.

Now, does anybody have any idea why this is happening? Well, let's look at the consumption of refined sugar. You know, we didn't have refined sugar until about

500 A.D. The Persians figured out how to refine it, but it was expensive and not readily available, and not many people

could afford it.

By the 1900s, it became readily available and inexpensive, and look at the graph. Through 1994, Americans were consuming about 150 pounds of added refined sugar a year. That's over a third of a pound a day. Now, that's not broccoli and asparagus and cauliflower. That's added refined sugar. If you don't believe it, start looking at USDA labels that are on foods we eat where it says sugars.

Now, I don't mean to imply that you in Washington are eating that much sugar, but in New York, Philadelphia, and, unfortunately, in New Orleans, my hometown, they definitely are.

Now let's look at what we eat because there's a lot of confusion. No matter who fixes it, where it's prepared or how much it costs, we eat carbohydrates, fats, proteins and fiber. Carbohydrates are broken down to sugars, about 80 percent glucose and the rest fructose and galactose, simple sugars. Fats are broken down to triglycerides, proteins to amino acids, and fiber is cellulose. Our digestive tracts do not absorb fiber, but fiber plays an important role, as we will see, in our digestion.

Now, sugars, amino acids and triglycerides are presented to our metabolic computer. Our metabolic computer is our liver. Our livers as we know them today developed

400,000 years ago. Unfortunately, we can't take our metabolic computer into the computer superstore and have an Intel Pentium chip put in, so when we overload this computer, what happens? We start having medical problems.

Now, this computer is programmed by two important hormones, insulin and glucagon. Insulin is secreted by the beta cells of our pancreas in response to a carbohydrate or sugar meal. We cannot live without insulin, but we can live much better without too much insulin.

What does insulin do? Well, it facilitates the transport of glucose across the cell membrane so that we can get sugar in the cell for an energy source. It promotes the conversion of glucose to glycogen and fatty acids in the liver, and it promotes the storage of free fatty acids as triglycerides in fat cells.

Yes, we start out with sugar, and under the influence of insulin we end up with fat. Insulin also blocks hormone sensitive lipase, which helps us burn fat, and insulin stimulates our livers to produce cholesterol.

High insulin levels do two other things. They act on our blood vessels to produce aging or arteriosclerosis, and they act on the muscle of our hearts, predominantly our

left ventricles, to produce cardiac enlargement or left ventricular hypertrophy. As a heart surgeon, these are two things I can tell you you do not want to have.

Let's look at glucagon. Glucagon is secreted by the alpha cells of our pancreas in response to a protein meal. It helps us break down glycogen, that first storage form of glucose, and it helps us break down triglycerides or fat to fatty acids. This is the form of fat that we can burn as an energy source.

Let's look at what happens to consumed sugar, any sugar, all sugar. A few milligrams maintains our blood sugar, which is always kept within a precise range. Seven hundred grams is converted to glycogen, which is stored in our livers and muscle, but many kilograms is converted to fat. Remember, it's 2.2 pounds to the kilogram.

What is this Sugar Busters! diet concept? We want you to eat in a fashion so that you modulate your insulin secretion downward and you modulate your glucagon secretion upward. If you could do this by eating pecan pie and Haagen-Daas ice cream, so be it, but I can't. Sugar Busters! is not anything new. It is an existing way of eating which we have validated with current medical knowledge of biochemistry and physiology.

Now let's look at what happens to glucose, insulin

and glucagon after you have a high carbohydrate and after you have a high protein meal. As you would expect, after a high carbohydrate meal glucose goes up. After a high protein meal, glucose stays relatively flat. Insulin, after

the high carbohydrate meal, goes up, and you would expect that because insulin tracks glucose. After the high protein meal, insulin moves very little. After a high carbohydrate meal, glucagon, which helps you burn fat, is actually depressed, but after the high protein look what happens to glucagon. It goes up. Glucagon helps you burn fat.

Is there any scientific verification for the harmful effects of high insulin level? Absolutely. The Bogalusa heart study published in Circulation, one of the most prestigious of medical journals, states that the first measurable abnormality in young adults before the onset of hypertension, obesity, diabetes and symptomatic cardiovascular disease was a rising insulin level.

Despres, in the New England Journal of Medicine, has shown that high insulin levels carried the same risk factor for coronary artery disease as hypertension, smoking, heredity and the other accepted risk factors.

So what is the practical application of Sugar Busters!? We want you to reduce your intake of refined sugar products and processed grain products. Processing alters a product to its detriment. Have you ever wondered

why they enrich flour? It's because they have stripped out all the beneficial components, and they have to put it back in.

(Whereupon, a slide was shown.)

DR. BETHEA: Look at what happens to your blood sugar levels with the same gram equivalent amount of whole grain, cracked grain, coarse grain and fine white grain. The only difference is they have been processed, and fiber has been removed. Look how quickly the processed grain or the fine white grain elevates the blood sugar and thus your insulin level.

(Whereupon, a slide was shown.)

DR. BETHEA: Now, the glycemic index is a characteristic of a carbohydrate, which shows how quickly it is absorbed and causes a rise in blood sugar. They're usually broken into three groups, low, intermediate and high. This is a glycemic index showing several different foods. You will notice the new potato and sucrose. Sucrose is table sugar.

If you were to take a baked potato and scoop out the flesh of the potato and fill the skin with table sugar, you get the same glycemic index as if you eat the potato. The blood sugar goes up just as quickly and insulin tracks it, so the next time you eat that baked potato think about

that.

Now, what is the Sugar Busters! lifestyle? High fiber vegetables, stone ground whole grains, lean and trimmed meats, fruits and, if you choose, alcohol responsibly and in moderation.

Now, Sugar Busters! is very concerned about you having too much fat, but we need some fat for the proper function, but try to bake, broil or grill meats rather than deep frying, which involves a fat on oil, and with cooking pick a cooking oil that is high in mono and polyunsaturated fats and low in saturated fats, such as canola oil.

Now, there's some eating patterns you have to follow with Sugar Busters! because if you choose the right foods, you can't eat all you want. You should eat three meals a day. Missing meals does not help you lose weight. You should limit liquids with meals because we only secrete a finite amount of digestive enzymes, and if you drink a lot of liquids with a meal it will dilute these enzymes and make digestion incomplete and indigestion complete.

Moderate portions. We talk in our book about the give a dinner plate. Everybody knows what it looks like. It's got a round bottom, flanged sides. Your meat and vegetables should fit neatly on the bottom of the plate. It should not be on the sides. It shouldn't be stacked, and it shouldn't fall over the sides, and when you fill it up

correctly once, don't go back and fill it up twice. If you do that, and we've run experiments with it, you get the exact amount of foods that you should have, and you don't overeat.

Fruit is a snack because fruit only uses

two-thirds of the insulin that many other carbohydrates use. Drink six to eight glasses of water a day. We need plenty of water. Don't drink it with meals. I said a little earlier avoid potatoes. Add beets, corn and carrots. How can a physician stand up here and tell you not to eat a carrot?

What is it about the carrot that's beneficial? It's the beta carotene, the precursor of Vitamin A. Where's the beta carotene on the carrot? It's the pigment that gives it its color. You can get that same beta carotene from sweet potatoes, from broccoli, from cauliflower, without having to have the flesh of the carrot, which is pure sugar.

Next slide?

(Whereupon, a slide was shown.)

DR. BETHEA: Alcohol does have some benefits. It increases the HDL-2 and -3, the good HDL, and it decreases platelet stickiness and also plasma fibrinogen, which makes the blood less likely to clot. Red wine, having

bioflavonoids, gives you the added value of decreasing the oxidized portion of LDL cholesterol, which is harmful.

But remember, too much alcohol, you have a car accident and an injury, and you're brain dead. You're just as dead as if you had a heart attack, so the risk/reward ratio for alcohol is U Shaped. Responsibly and in

moderation if you use it.

Women have a couple of problems I would like to mention specifically, although our greatest successes have been with women on Sugar Buster! Women are more efficient fat storers because for many of their lives they're feeding an infant or unborn child. They exercise less vigorously, and even if they exercise as vigorously, they don't have as big a muscle mass to burn as much food sources.

The Achilles heel is that they snack more frequently, and they snack on all the wrong things. Women taking high doses of Progesterol will see that they gain weight because progesterone is a vigorous appetite enhancer, as well as enhancing fat storage.

Exercise is a tremendous component to Sugar Busters! because the first measurable effect of exercise, even before you begin to lose weight, is a lowering of the insulin levels and an increase in insulin sensitivity.

I'd like to mention cholesterol. From diet we may take in anywhere from zero to 400 milligrams of cholesterol

a day. We only absorb 40 percent of that from our intestinal tract, so that's only 160 milligrams. From synthesis we manufacture in our livers 500 to 1,000 milligrams of cholesterol a day under the influence of insulin. Insulin activates HMG CoA reductase, which is the rate limiting enzyme in cholesterol manufacture, so with

lower insulin levels you manufacture less cholesterol.

Next slide?

(Whereupon, a slide was shown.)

DR. BETHEA: Some before and after pictures. Again, women have been our greatest success stories. Many have lost over 100 pounds, but Sugar Busters! is not just for people that want to lose weight. It's people that want to eat in a healthy fashion.

As a heart surgeon, I'm very concerned about the cardiac risk factors, and Sugar Busters! has greatly affected those. We haven't done much for heredity, but I've had patients tell me that if they had to do it over again, they would choose different parents, and I've had parents tell me they would choose different children, so that's a wash.

Smoking is obviously bad. Slide, please?

(Whereupon, a slide was shown.)

DR. BETHEA: But high blood pressure, high

cholesterol, triglycerides have been greatly benefitted. Diabetes has been markedly improved. We have many patients that are now off all medications. Obesity, stress, and obviously we're looking right at sugar. Remember, most fat on our bodies comes from sugar, not fat. When you go into your grocery store and see low fat, it usually means high sugar, and high sugar is usually high refined sugar.

How is Sugar Busters! being accepted? With the current magazine, Prevention, out this month, they looked at some of the newer diets, and they picked Sugar Busters! as the best. Sugar Busters! involves no additives or supplements. It is about eating lean and trim meats, high fiber vegetables, whole grains and fruits in an effort to modulate insulin secretion and blood sugar levels downward.

It is a balanced diet of 45 percent carbohydrate, 30 to 35 percent fat, 20 to 25 percent protein with more than 25 grams of fiber. It is logical, practical and reasonable. It does not involve weighing, counting or measuring. Try it. I think you're like it.

MS. O'NEIL: Thank you. Thank you, Dr. Bethea. Thank you.

(Applause.)

MS. O'NEIL: Okay. Let's think about this for a minute. If I was I guess a member of the public right now, I'd come to the conclusion I needed to get on one of those

low insulin diets, and I would want to know what foods had insulin in them.

(Laughter.)

MS. O'NEIL: I'm just using that accent because I'm from Atlanta, too.

You know, that's what I think people are left with. You know, they process the information, which is very

complex and certainly well detailed by each of you so far, but that is where people jump and say which foods have low insulin? We'll move on. I know you explain it in all your books and everything, but I'm just going for the basics here that people grasp immediately.

Our next presenter is Dr. Keith-Thomas Ayoob from the Albert Einstein College of Medicine. I understand you're also speaking on behalf of the American Dietetic Association as a representative today, so if you would go ahead with your presentation? Your time starts now.

DR. AYOOB: Okay. Can you hear me? Okay. Great.

I think probably the best way to lose weight is to listen to a lot of people discussing hormone secretion and platelet aggregation. It doesn't do anything for your appetite. No offense intended, please.

(Laughter.)

DR. AYOOB: It gets really technical, and it

shouldn't. I mean, it really should be a lot more about basics and things, and we're all guilty of that to some degree.

What we've heard so far here are presentations on several popular diets, and actually as different as they all are, they have one thing in common. Okay. They all work. They all work. They can all produce weight loss, and they actually do it all the same way.

Slide, please? Slide? Oh, slide? No. Actually, it's a PowerPoint slide. Well, until they get the slide together, I'll tell you how they work. They all cut calories. Okay.

(Whereupon, a slide was shown.)

(Applause.)

DR. AYOOB: I can hear that. The bottom line is that's the only way anybody is ever going to lose weight. Okay. You cut calories. You have to burn more calories than you eat.

There are also in addition to these diets lots and lots of other studies and diets actually that have been effective at producing weight loss. Ask a dieter. Their bookshelves are probably loaded with them. I wonder how many diet books they've bought after they bought the diet books up here? I wonder sometimes.

Actually, I should say that, you know -- next

slide, please? Okay. Do you know what? It looks like we're having technical problems. I can fill in for the slides. Trust me.

Suppose I told you that I know of a diet that would be absolutely guaranteed to get you to lose weight fast. You can lose weight. You can lower your cholesterol. You can sleep better. Most people say that they feel better, and many have said that they have more energy.

Okay. I can also tell you it's guaranteed to work on absolutely everybody, no matter what your medical profile. It will work every time. It will be 100 percent effective at getting you to lose weight. It's fasting. Books have been written about it.

Do we have a slide now? Okay. Great. There we go. We have our fasting slide.

(Whereupon, a slide was shown.)

DR. AYOOB: Anyway, fasting works. Books have been written about it. It's not just in the 1960s that books were written about it. You know, it's been written about for a long, long time, hundreds of years.

There have been diets. Remember about ten years ago there was the Beverly Hills diet? Whatever happened to that? The one that was going to take us, I think to quote the author, by taking us from hamburgers to hipbones and

cheesecake to cheekbones. Well, that went the way of the wind, probably to chase Manhattan. Who knows.

Also back in the 1960s there was the drinking man's diet. I'm surprised this one didn't catch on. Do you all remember this one? Some of you aren't old enough. I am. I was underage at the time. However, the point is that that's the only way you're going to be able to lose weight is to cut your calories. You can do it in lots of different ways.

We shouldn't be judging these or any other diets based on whether or not they can produce a weight loss because they can all do that. The real issue here is long-term weight management.

Now, I'm here as a representative of the American Dietetic Association, but we don't endorse a diet. Okay. We don't have a diet. I haven't written a book. Maybe someday. I'm not a paid spokesperson. I'm a volunteer spokesperson, so I'm really here in the best interest.

We don't endorse a diet because we look at the scientific evidence and the research, and that tells us that diets don't work. They work in the sense of you can get somebody to lose weight, but do you want to stay on it forever? Diet almost by itself, the word itself, suggests a limitation. It suggests temporary, and controlling weight is a lifelong issue that needs a permanent solution, not a

quick fix.

There is a slide to that effect, if we can get it. If you can't don't worry about it.

(Whereupon, a slide was shown.)

DR. AYOOB: Diets are essentially a quick fix. Managing weight is a long-term issue. It takes a lifetime commitment, and it takes a long-term solution.

How am I doing on time? Okay.

The diets that we've seen here are chiefly about

avoidance and restriction of a group of foods. Consumer surveys about attitudes tell us time and again that people don't want to hear any more about what they can't eat. The more foods you eliminate from the diet, the more likely people are to feel deprived, and the greater the chance that their diets are going to be deficient in the very nutrients that can enhance their health.

Now, another problem with restricting or eliminating whole groups of foods is the risk for the probability of having an unbalanced diet. Now, a diet that's desired for permanence should in and of itself be balanced. If it's not, then the solution is then not to go out and design and sell supplements that the consumer can buy in order to correct the diet's deficiencies. The solution is to get a better diet. You don't supplement a

bad diet. You correct a bad diet.

We've heard a lot of talk about the alleged big, bad carbohydrate villain, and it's amazing to me that the world has managed to survive for thousands of years, you know, eating such things as beans, rice, potatoes and whole wheat bread.

First of all, I want to say on the record that we would have absolutely no problem with Americans consuming less white sugar and white flour. No problem with that at all.

Okay. I would like people to also consume a lot more fruits, a lot more vegetables and lot more whole grains ideal world, but at ADA we make recommendations based on individual needs, and our recommendations have to be based on sound science, and that's the total body of sound science, not an occasional paper from 30 years ago, as was quoted here today, that gives you the results that we want.

We modify our recommendations when research justifies doing so because nutrition is a dynamic field. An example of this is research recently that supports including somewhat more fat into the diets of some heart patients with high triglycerides. Okay. Fair game. But, the same research cautions that the slightly higher fat intake should come from monounsaturated fats, such as olive oil, peanut products, etcetera, not from the saturated fat of pork

rinds.

What's missing from some of the patients here is solid and sustained evidence. You may hear from Dr. Ornish that he may be the exception because while his diet is, you know, low enough in fat that some people have a problem with palatability when the diet goes too low in fat. He does have some good evidence as to the effectiveness in reducing heart disease, and it's sustained.

Now, some of the other presentations here have been offered to consumers as near panaceas without the solid

evidence first, and this is backwards, okay? It runs contrary to good practice. The usual order is to get evidence that can stand up to scientific scrutiny and then present it to the public, not the other way around.

Consumers are entitled to that, and a responsible health professional would consider this necessary. You don't want to make your claims and then go later on and go and try to get a study together that proves what you've been saying for a long time.

Rather than focus on unbalanced or overly restrictive diets that leave out many foods that people enjoy, many basic foods, we need to focus on finding the best ways to help people make long-term, positive dietary change and lifestyle changes, and to do that we need to

study the people who have done exactly that.

The National Weight Control Registry has been very helpful in that. It's out of the University of Pittsburgh, and they study people for -- well, actually it documents thousands of people who have lost at least 60 pounds and kept it off, kept half of that off for at least five years. That's a 30 pound weight loss over five years.

What they did was they had a solid commitment to a low fat diet. They had a solid commitment to exercise, which hasn't been mentioned here per se today. They also included the high calorie foods they liked, but they did it

in moderation. Then they focused on a positive attitude and a balanced lifestyle.

What was interesting is they all lost weight in different ways. It didn't matter. It didn't matter at all whether they did it in groups, individuals, you know, fad diets, whatever. There were no quick fixes.

This isn't a simple thing. The food guide pyramid is only a guide, you know, as was mentioned here before. It's a guide. Individual needs certainly vary. It wasn't meant to be something based on individual, specific needs, but if you eat the minimum number of servings you'll get 1,300 calories a day about, and you'll lose weight.

You'll also have a balanced diet, and balance is the key. I would like that to be the diet word of the new

millennium. Maybe balance. We've gone to all the extremes now. Maybe somewhere in the middle between those two is where we need to go.

A recent Gallup poll found that 86 percent of dieters like the USDA food guide pyramid. They thought it was a common, no nonsense approach to managing weight in the long term, even though 40 percent of those people had at some point tried a high protein/low carbohydrate diet.

Anyway, there's reason that balance has sound scientific backing, as does the pyramid. Lots of it. A mountain of it. Consumers are also advised about the

importance of physical activity. Do what you enjoy, but make it a part of your life. Also remember to take this slow. Slow and steady is what wins. Big changes are temporary changes. Slow, steady changes are going to be more likely to be permanent. We want this to be a lifestyle, not just a temporary thing.

Thank you very much.

(Applause.)

MS. O'NEIL: Thank you, Dr. Ayoob. I think lifestyle is certainly key, and that's something that we hear more and more about because lifestyle indicates long term.

I was investigating the Mediterranean diet in

traveling through Tuscany last year and gained ten pounds. Had a great time. I don't think it was just the pasta. I think I was just having a really good time. I came back and got back to my usual lifestyle program.

Next week I'm going to Vietnam, so I'm sure I'll probably lose ten pounds, but that might be a different gastrointestinal mechanism.

(Laughter.)

MS. O'NEIL: Anyway, now it's time for what I call the photographer check. If the photographers understand what's going on at a press conference or an interview -- I always turn to mine. I've been working with a guy named

Rick Blackburn at CNN for 15 years.

During the time when Nabisco introduced the Snackwell cookies we were dispatched to cover that phenomenon, and we had a box of them in the van. He was eating. He said, "Oh, these are so good. These are really good. These are so good." I said, "Rick, how many have you eaten?" He said, "I've had 12. Am I thin yet?"

(Laughter.)

MS. O'NEIL: I think that was the problem with the fat free foods, and Rick brought it home for me.

Now, our next speaker is Dr. Denise Bruner, and, Denise, obviously with the title American Society of Bariatric Physicians you're very involved in calorie balance

and weight control. Your time starts now.

DR. BRUNER: Thank you very much.

You know, do we all want to just get up and stretch a little? We've been sitting. You know, just get up. We need to stretch. Please, you know. We just do.

Does that count towards my time? I'm just kidding. I'm just kidding.

I represent really a different view, a different perspective, than the presenters you've heard today because I'm a lady and, I'm proud to say, representing the American Society of Bariatric Physicians.

As we start the millennium, you've heard over and

over again that obesity is the number one treatable health epidemic in this country that's killing over 300,000 people each and every year. The annual direct cost of obesity exceeds $70 billion, as it is associated with a myriad of co-morbid diseases, such as diabetes, hypertension, cardiovascular disease, strokes and osteoarthritis.

I am representing this 50-year-old organization, which you all may never have heard of, but I hope you know now. This is a group that are physicians and scientists who are dedicated to the treatment of this chronic disease, obesity, and the associated health problems.

ASBP is the only medical society that provides

continuing medical education for practicing physicians in areas of nutrition, psychology, exercise, physiology, behavior modification and emergent treatment strategies. ASBP's expertise continues to be utilized frequently as a resource for state and federal agencies, along with regional and national media, and that's why we're here today.

We recognize that in our heterogenous, multi-ethnic and multi-cultural society many factors influence the development of obesity. In our fast-paced lives, our quest for quick fixes has led people to seek out simplistic answers or solutions for this complex disease, hence the popularity of the fad diets.

Some of the more popular fad diets have identified

one nutrient as the offending agent, as we've heard today. In the early 1970s and even a hundred years ago it was carbohydrates. Then in the 1980s, fat intake was identified as the obesity producer. Consequently, the food manufacturers, with the government's blessing, starting massive production of low fat and no fat foods.

Over the past 20 years, the overall U.S. fat intake has declined from 40 percent to 34 percent of total calories. However, the incidence of overweight and obesity has risen astronomically from 26 percent to over 50 percent of our adult population. Why?

Well, in part because in order to make these

reduced fat items palatable, people added more sugar to them and really tended to eat them in unlimited quantities because they figured they were going to ignore those calories, but calories still count.

The average daily caloric consumption over this time has increased by about 200 calories per day. In the most recent past, carbohydrates again have been designated as the obesity culprit, but as long as the intake of calories exceeds the caloric requirement, the imbalance in the system results in a net weight gain.

This principle goes back to the first law of thermodynamics, which we learned in basic chemistry, so we as bariatric physicians recognize that one nutrition

prescription for obesity treatment is not appropriate for nor is it going to be successful in each and every patient.

In medicine, no chronic disease has one singular cause, nor one unique treatment protocol. Does a physician treat every stomach ache with a pill, even though this pain may be due to cancer, an ulcer or a variety of other diseases?

Is every person with hypertension treated with the same medication? If that medication does not control the hypertension, does the physician just say keep taking it; your blood pressure will get better?

Would the same exercise program be recommended for each and every patient? The answer is resoundingly no. Therefore, why would I recommend the identical same diet protocol for every patient?

In order to formulate a successful bariatric program for a patient, it is mandatory that the physician first evaluate the patient's medical, psychological, family, nutritional and exercise history, along with the result of a physical examination and laboratory evaluation. After all, the word diet comes from the Greek word dieta, which means way of living.

Collectively, ASBP physicians have treated millions of patients, and many of these patients present challenges as they have experienced failures in other

treatment programs. Our principles of obesity management include identification and treatment of co-morbid diseases, along with psycho-social problems, implementation of lifestyle changes, including physical activities, and customizing a nutritional plan based on inclusion of all food groups.

Pharmacological intervention may be included for specific patients as adjunctive therapy. The most effective treatments are developed and adjusted based on the patient's clinical responses and needs. Diets that are too restrictive become impossible to sustain over the long haul,

and, furthermore, many of the restricted diets that you've heard about are nutritionally imbalanced.

Focusing solely on the diet instead of a lifestyle as a method for maintenance of weight reduction has led to miserable failure in the past. The medical literature documents for the maintenance or for really that the maintenance of a five to ten percent weight loss significantly improves obesity related co-morbidities.

Obesity treatment in the twenty-first century should focus on prevention and not just intervention. Obesity has a clear pattern of genetic inheritance that has remained unchanged over the centuries, yet if we continue at the current pace more than 70 percent of our total population will be overweight or obese in the next 20 years.

The present incidence of obesity and overweight is disproportionately higher in African-Americans, Hispanics, children and adolescents. According to the national health and nutritional education survey that was completed in 1994, the prevalence of obesity or overweight combining males and females in this category is approaching 67 percent and 25 percent. Why?

Well, to answer this question, all one has to do is observe the following. An abundance of fast food stores with their super sized bargains, lack of safe recreational

facilities, latchkey kids watching an average of 32 hours of television per week, elimination of structured physical activity and education classes in public schools, sedentary jobs and lives, increased use of computers.

Despite the paucity of funding for obesity research, scientists are currently investigating the role of neurotransmitters such as serotonin and hormones such as lepton in the development of pharmacologic agents for the obesity treatment.

These new pharmacological interventions or genetic interventions will have little value if we do not address the social and cultural variables that we know are significantly affecting the prevalence of twenty-first century obesity. We will literally be fighting a losing battle.

(Applause.)

MS. O'NEIL: Thank you. Of course, we look forward to hearing more from our panelists during the panel discussion, but, Denise, you were the first to mention diet drugs and, of course, today we have quite an active liposuction business going on around the country, and you mentioned something very serious about the social variables and community support.

I know in New Orleans, Sugar Busters!, there's a lot of community support in the grocery stores and the

supermarkets. That can't hurt. That certainly can help, so again the community support, too, is important for the long term. We can get into that.

Our next presenter is Dr. John McDougall. Dr. McDougall, your time starts now.

DR. MCDOUGALL: Hello? Great. Let's see. Can we have the slide, please?

You know, just as we get the slides going, I wanted to tell you I learned about good diet when I was a plantation doctor in 1973 through 1976. I took care of first, second, third and fourth generation Filipino, Japanese, Chinese and Koreans.

My first generation patients, who lives on rice and vegetables, were always trim. They never had heart disease, rheumatoid arthritis, multiple sclerosis. They

were a very fit people, but as their descendants learned the rich American diet, what happened to them? They got fatter and sicker.

Can I have the first slide, please?

(Whereupon, a slide was shown.)

DR. MCDOUGALL: That's where my background is from is learning it from a practical point of view from my patients 23 years ago. Okay. The plantation was in Hawaii. It was on the big island of Hawaii. It was a sugar

planation in a place called Honokaa, and it was a wonderful experience.

The nice thing I learned as time went on was that if you stopped doing the things to people that make them sick, then they get healthy, and that's the kind of medicine that I've been practicing for many years. Just like somebody who stops smoking cigarettes. What happens? Their cough, their wheezing goes away.

If you stop burdening people with the rich American diet, what happens? We don't quite have the slide. Tell me when.

(Whereupon, a slide was shown.)

DR. MCDOUGALL: Okay. My first question is why are we debating? You know, I thought this was all settled. The Surgeon General of the United States in 1988 issued a report on diet and health in America, and he said five of

the ten leading causes of death are due to our diet, including obesity, and he said very clearly in his conclusions that it's due to the disproportionate consumption of foods high in fats, often at the expense of foods high in complex carbohydrates and fiber. So why are we heading in this other direction? I don't understand.

You've heard that carbohydrates are bad for you, and if that were the case when you looked to Japan you'd see fat, sickly, lethargic people. When those Japanese people

moved to Washington, D.C., they'd get trimmer and healthier as they decrease their rice intake. Is that what you see? No.

I was at a restaurant recently, and to my left at a table sat some first and second generation Japanese people eating rice, looking trim, healthy and young. At the table to my right sat some third and fourth generation Japanese people. What happened? Did they change their genetics? Uh-uh. They now eat less carbohydrate, less rice and more protein, fat, dairy and meat. You can see this. You don't have to be confused. Just look around.

What you see worldwide is that in countries where people eat high carbohydrate diets -- Africa, the Middle East, the Far East -- they are trim. They have low rates of heart disease, breast cancer, colon cancer, prostate cancer. When they move to the United States and western Europe and

they abandon their high carbohydrate diet, they get fat and sick.

You know, the first case of rheumatoid arthritis was described in Africa in 1957, and the first case of lupus was described in Africa in 1960. Today in the United States, the highest instance of lupus and rheumatoid arthritis is among the African-American people. What happened in 40 years?

Now, the high protein diet books are all the rage, aren't they? For the last nine years, that's what it's been, the most popular books. Well, there are some reasons for it. It's easy to follow a high protein diet. You just throw it in a hamburger bun, right?

They have done some good. They've made people aware of the harmful effects of sugar in refined foods, and that's very important. People have lost weight, sometimes quickly, but rarely permanently.

All high protein diet books blame obesity on too much insulin, as you've heard today. That's the culprit, right? That's the evil hormone. Well, do they really? Let's take a look at the research.

Suzanne Holt published in the American Journal of Clinical Nutrition, 1997. She looks at some responses to various foods. Brown pasta produces less insulin than beef, white pasta less insulin than cheese, porridge less insulin

than fish.

Seventy-two people were studied. This is from the Pritikin Institute. They put them on a three week intensive diet and exercise program, 80 percent carbohydrate. They were diabetics, insulin resistant people, normal people. They cut their insulin levels in half. They also cut their triglycerides nearly in half, too.

You say well, that's the exercise. Well, part of

it is, but we've known that low carbohydrate/high fat feeding reduces insulin resistance. That's what the scientific research says. It also says that carbohydrate improves insulin sensitivity. Read the research. It's clear, and it's consistent.

Obesity, as has been mentioned, is caused by too many calories. We're not eating less fat in this country. The research says we're eating about the same, but we're eating a lot more sugar. We're eating more flours. We're going to fast food industries more, snack foods, and we're not exercising as much.

I will further point out in the time that the high protein diets have ruled the last eight to nine years, we've increased obesity from 12 to 18 percent. Something is missing.

Now, the mechanism for short-term weight loss. Dr. Atkins told you that the way his diet works is similar

to fasting. Well, nature has designed us so that if we don't have food and we've starving to death, it doesn't hurt so much to die, so we develop ketosis, which suppresses the hunger drive, a natural mechanism.

Ketosis also occurs when we get severely ill, and the reason is we're not supposed to be gathering and preparing food. We're supposed to be recuperating, so the

natural mechanism that occurs when you get sick is the mechanism utilized in ketogenic diets, and that's why I call them the make yourself sick diets.

The other way that they work, the other kind of diets as recommended by Dr. Sears and Sugar Busters!, is diet that results in semi-starvation. They invoke complicated roles and restrict foods, and, of course, you can't stay on either one of these diets for very long because you can't stay sick forever, and you can't be hungry forever.

The mechanism for long-term weight loss on a high carbohydrate diet is the stomach is filled with fewer calories because this is a low calorie dense diet. Fats are very calorie dense. Excess carbohydrates are not usually converted to fat, contrary to what you've heard today. Carbohydrate provides a high level of satiety, and fat has a weak level of satisfaction of the appetite.

Let me talk about this in a little more detail.

(Whereupon, a slide was shown.)

DR. MCDOUGALL: Each of the stomachs contains 500 calories. The stomachs at the bottom filled with meat, cheese and butter barely make a dent in filling the stomach, whereas the stomachs full of rice, corn and potatoes fill or overfill the stomach with the same 500 calories. When you switch from a high meat, high fat diet to a high

carbohydrate diet, you decrease the calorie concentration by one-fourth. In other words, for the same volume of food you've got one-fourth as many calories.

The fat you eat is the fat you wear. The human body does the most efficient thing possible with everything that you give it, so you give it protein, which it utilizes to build things. You give it carbohydrate, which it utilizes to run the machinery, and you get it fat, which is the metabolic dollar that is saved for when food is no longer available, which never seems to happen.

Multiple studies and reviews have clearly shown that the body does not convert carbohydrate into fat under ordinary circumstances. It's called de novo lipogenesis. And, according to this study in the American Journal of Clinical Nutrition and multiple studies, dietary carbohydrates do not appear to increase an individual's fat content by de novo lipogenesis. It's too wasteful to do that, but it effortlessly stores fat.

In fact, so effortlessly, you know, you could come to somebody, you could stick a needle in their buttocks, thigh or abdomen, suck the fat out, you could take it to the lab, you can analyze, you can tell what they like to eat. If they like cold water marine fish, it will be full of Omega-3 fats. If they like margarines and shortenings, it

will be full of trans fats. The fat you eat is the fat you wear.

As far as satisfaction of appetite, do you know the potato, which has been maligned here today, is among the most satisfying of all foods? It is seven times more satisfying than croissants and twice as satisfying as cheese and beef. Yes.

Fat has a very, very poor effect on satisfying the appetite. This has again been shown in multiple studies. Go to the National Library of Medicine. Read it. It's clear and consistent.

The satiating effect of fat is weak, and a carbohydrate rich breakfast may assist weight control efforts by maintaining fullness. Yes. John Blondell tells us that eating fat results in passive over consumption and a disproportionate effect on satiety.

In my patients -- I run a clinic at St. Helena Hospital where people eat as much as they want. They eat three times a day. They get wonderful meals, and the

average weight loss for overweight men is 5.3 pounds in 11 days, and women is about four pounds in 11 days.

I just finished a one year study for Blue Cross/ Blue Shield of Minnesota, and we found an eight percent reduction of weight in patients at one year. That's a 16.5 pound weight loss.

The National Weight Control Register was mentioned, a very important study. The important thing for you to know is they studied 450 people, and those who were able to keep 30 pounds off for more than a year consistently ate a low fat diet, which is a low energy diet. In fact, 80 percent of them ate less than 30 percent fat, and 30 percent of them ate less than 20 percent fat. There is where the long-term results are.

We also get cholesterol changes that are significant and important. We get a 29 point drop in cholesterol in 11 days at the clinic. If you start with high cholesterol, we get a 65 drop in cholesterol in 11 days. Our triglycerides also drop. There's an average of a ten point drop in triglycerides. If you start with high triglycerides, say over 600, they drop on an average of 311 points.

The diet I recommend is a starch based diet with the addition of fruits and vegetables. It's a traditional diet. It's what most people who have ever walked this

planet have consumed, a diet of rice for Asia, a diet of pasta for southern Europe, a diet of breads for northern Europe, a starch based diet with the addition of fruit and vegetables.

Now, throughout history this is what most people

consumed, except on special days, on holidays, on festival days. Then they celebrated. They danced in the street. They took the day off work, and maybe they would roast a pig and have a feast.

Now, most people could only do this on occasion, but in every society there were some rich people. They had so much fun at that party that they took that idea up the hill and up to their castle, and they feasted three times a day, seven days a week. Do you remember what this aristocrats, kings and queens looked like? They looked like Americans. That's what they looked like.

(Laughter.)

DR. MCDOUGALL: That's how I was raised. I started out every morning with Easter. I went on to Thanksgiving and Christmas for lunch and dinner. Every night after dinner I had a birthday party, and that is the problem.

(Laughter.)

DR. MCDOUGALL: We need to put rich foods back into special occasions. If you're tired of look like a king

and queen, then what you need to do is eat a starch based diet, as the humankind has for millions of years.

Thank you very much.

(Applause.)

MS. O'NEIL: So the pendulum is swinging on the

panel back towards obviously the carbohydrate corner. De novo lipogenesis? Easy for you to say.

DR. MCDOUGALL: That's synthesis of fat from carbohydrate. Thank you.

MS. O'NEIL: Okay. Thank you. Thank you very much.

Okay. Now it's time for Dr. Dean Ornish, and I know you've been feverishly tapping away notes in response to everything that's been said. Your time begins now.

DR. ORNISH: Thank you. Thanks, Carolyn. Can you all hear me okay? Okay. Can you hear me now? Thank you, Carolyn.

Mr. Secretary, Madam Assistant Secretary, distinguished panelists, I just want to say how grateful I am to be here. Not a day goes by these days when I'm having dinner, whether it's with the Secretary of Agriculture or with whomever, and people ask me about the high protein diets. They usually also comment on what I'm eating or apologizing for what they're eating or something like that.

(Laughter.)

DR. ORNISH: I just feel sad that so many people are getting information that's really based on half truths, nutritional half truths. To me, the point of science is to help people sort out conflicting things, and so this morning

I want to go through with you what I think the science is.

I think it's also interesting that to me at least the order of presentation was from the most unhealthful to the most healthful diets so far.

(Laughter.)

DR. ORNISH: Life is like that sometimes. But having seen what a powerful difference changes in diet and lifestyle can make, it makes we want to pull out what's left of my hair when I see these claims that are being made and so many people changing their diets in ways that I think are hazardous to their health.

You know, telling people that pork rinds and sausage is good for you is an appealing way to sell books, but I think it's irresponsible, and I think it's dangerous for people who follow those advice. I know that's strong words, but I want to try to substantiate that.

Let's see here if I can do this. Does that work? Great. So the idea is that high animal protein diets I think are hazardous to your health, and in a way all of my work and my colleagues' work at the non-profit Preventive Medicine Research Institute is based on turning off the

faucet and treating the cause of the problem. You know, sometimes you do have to mop up the floor, but we also need to treat the cause.

(Whereupon, a slide was shown.)

DR. ORNISH: There's a lot of misinformation out there. You know, 7-Up flushes out cholesterol. The cartoon says, "I've got some good news. While your cholesterol has remained the same, the research findings have changed."

(Laughter.)

DR. ORNISH: So people get confused, and it's understandable, whether you're reading the New England Journal of Medicine or coming to a debate like this morning or reading the National Examiner. It's still the same issue. But if you actually look at all of the data, what you find is really not how conflicted, but how consistent it is that a meat-based diet is not as healthful as a plant-based diet, and here are just some of the reasons.

First of all, you only find cholesterol in meat, which tends to be high in saturated fat, total fat and oxidants, whereas a plant-based diet has no cholesterol, low in saturated fat, low in oxidants, high in antioxidants, high in fiber, which we will talk about more in some and some of the panelists have already talked about, and there's literally a thousand substances that Dr. McDougall alluded to earlier that have anti-cancer, anti-heart disease and

even anti-aging properties.

Where do you find them? You find them in a plant-based diet. Phytochemicals, bioflavonoids,

carotenoids, retinols, isoflavums, leucopoines, guanosine, There's a whole alphabet soup of these and they're powerful, so when you switch from a meat-based diet to a plant-based diet, in short you get a double benefit. You stop eating those foods that cause disease, and you also start eating foods that are actually protective.

Now, we've heard that, you know, the Mediterranean diet, the people in France and so on, are healthier than they are here, and that's true, but health better doesn't mean optimal. Optimal is an Asian diet, as Dr. McDougall mentioned, people in Japan and Africa. Heart disease is as rare there as malaria is here until they move here, and they begin eating and living like we do. It's not just heart disease. It's breast cancer in women, prostate cancer, colon cancer. You find the same patterns there as well.

In fact, you can graph intake of dietary fat on the X axis against the incidence of breast and prostate cancer by country, and you find the same patterns. The highest intake of saturated fat and cholesterol like in the United States, in the U.K., the Scandinavian countries, are the highest. The eastern European countries and the Mediterranean diets are in the middle, and on the lowest end

of the spectrum are the Asian countries.

Now that's changing, and there's a globalization of illness that's occurring as people begin to -- you know,

they see the United States as a superpower. They want to live like us, and now they're starting to die like us, and it's all avoidable and really unfortunate. I think we can get a globalization of health instead of a globalization of illness.

(Whereupon, a slide was shown.)

DR. ORNISH: You can look at a number of animal studies. For example, in this one they actually injected carcinogens into rats, and they found when they put them on a typical American high protein diet, the higher the dose of the carcinogen, the more cancer they got. That's what you'd expect.

But look at the rats that were fed a low animal protein diet. They didn't respond to the carcinogens in the same way because there are protective elements in a plant-based diet that help to prevent that. The cartoon says, "My only consolation is that by eating us, they're killing themselves."

(Laughter.)

DR. ORNISH: All right. So I recommend a whole food, low fat, plant-based diet. You can actually lose even more weight, lower your cholesterol even more than on the

high protein diets. You don't get the exaggerated insulin response that we talked about earlier. There's strong

science not only from our work, but from many others, to back it up. As I mentioned, it's low in the substances that cause disease and high in the ones that are protective.

(Whereupon, a slide was shown.)

DR. ORNISH: The cartoon says, "I'm going order a broiled, skinless chicken breast, but I want you to bring me lasagna and garlic bread by mistake."

(Laughter.)

DR. ORNISH: Now, sometimes people say oh, yes, but am I going to live longer, or is it just going to seem longer if I eat a low fat diet if it's not palatable? The answer is you can eat low fat foots that are delicious, and you can eat high fat foods that are awful. It's really how you make the food that's more important than whether it's low fat or not.

Many people have switched from regular milk to skim milk or low fat milk. At first the skim milk tastes like water. After a couple weeks, it tastes fine. You go out to dinner, and they feed you whole milk. It tastes like cream. It's too greasy.

Of course, the cow didn't change, but your palate adapts to fat, and if you move to -- in fact, one of the reasons why I think it's often easier to make big changes

than small ones is that you begin not only to feel better, but your palate begins to adapt, and you begin to prefer low

fat foods.

(Whereupon, a slide was shown.)

DR. ORNISH: It says, "I give smokers a discount because there's not as much to tell." Here again, fear of dying is not a good motivator. The joy of living is.

When you make big changes in your diet and lifestyle all at once, most people feel so much better so quickly it reframes the reason for changing diet and lifestyle from fear of dying to joy of living. You feel better. Your brain gets more blood flow, so you have more -- you can think more clearly.

You've all experienced what it's like to eat a big Thanksgiving high fat, high protein meal. You feel tired or sluggish an hour or two later. It's not the pasta that makes you sluggish. It's the fat. It clogs up your brain. It clogs up the arteries in your heart, so even a single meal -- the American Heart Association has shown even a single meal high in fat and cholesterol makes your arteries constrict and your blood clot faster.

Also, it can cause sexual dysfunction. Viagra was the most popular drug of all time last year because it's a big problem in this country. A number of studies have shown that when you heat a high fat, high animal protein diet,

it's not just your heart that gets less blood flow, and when

you change your diet, it improves other areas as well.

(Laughter.)

DR. ORNISH: For many people, that's a whole lot more meaningful than telling them they're going to live to be 86 instead of 85.

(Laughter.)

DR. ORNISH: Now let me talk about the work that my colleagues and I have done for the last 23 years to see if heart disease could be reversed by changing diet and lifestyle. What did we find?

(Whereupon, a slide was shown.)

DR. ORNISH: The first study I did back in 1977-1978 when I was a medical student at Baylor in Houston. We took ten people, all of whom had bad heart disease, put them in a hotel for a month and put them on this diet and lifestyle program, and we found that their chest pain went away in most cases. There was over a 91 percent reduction in angina or chest pain.

They not only felt better. In most cases they were better in ways we could actually measure. We weren't talking about risk factors. We were talking about the disease itself, and I'll come back to that point because it's a really important one.

On the left you see a picture of a man's heart,

the different -- the more bright it is, the more blood flow

the heart is getting, so around 10:00 where it's dark you see there's not any blood flow there. In the picture on the right, just a month later, that area that wasn't getting enough blood flow was more normal.

That was just ten patients, no control group, but it got me interested in doing this. So I went back to school and after finishing medical school did a second study in 1980, and this is with Dr. McClanahan and other people who are here tonight, and we found that using a randomized control study, using a test that measured how well the heart was pumping blood, it actually got better in the month in the experimental group, got a little worse in the control group. The differences were highly significant, and we published that in the Journal of the AMA in January of 1983.

After finishing that I moved to Boston to do my medical training, then moved to San Francisco when I finished that, and we did a third study called the lifestyle heart trial. We wanted to know, first of all, could people do this in the real world; not just when you had them in a hotel? What happened over a year? Then we got funding from the NIH to extent it for four more years.

What happened to the blockages in the arteries? We used these high-tech, state-of-the-art, twenty-first century diagnostic technologies like quantitative

arteriography and cardiac PET scan to prove the power of this very ancient and low tech and low cost diet and lifestyle program.

Overall, we found that there was almost a 40 percent reduction in LDL cholesterol, not the three to five percent reductions that you find on the high protein diets. We found a 91 percent reduction in the frequency of chest pain in the first month, and we found again that they got better and better over time.

The control group was following a 30 percent fat Step II diet. Their arteries got worse after one year and even worse four years later, whereas the experimental group got better and better. Not every patient got better. Not every lesion got better, but overall the more people changed, the better they got, and overall they got better and better instead of worse and worse.

(Whereupon, a slide was shown.)

DR. ORNISH: This is an example of one man who at the time was 73, had severe heart disease in all three of his major coronary arteries, was told he needed to undergo bypass surgery. I'm sure Dr. Bethea would have done a great job if he had gone to him.

I want to make that clear. I'm not against bypass surgery or angioplasty. They can be life saving, but even then we have to treat the cause. We have to turn off the

faucet.

(Whereupon, a slide was shown.)

DR. ORNISH: Now, here's a picture from his angiogram. On the left you can see where it's narrowed, and on the right, a year later, it's less narrowed. Now, those aren't huge changes, but even moderate changes in the blockages can cause dramatic improvements in the blood flow.

On the PET scan, as you can see here on the bottom left-hand, blue and black means no blood flow, and, on the right, orange and white is maximum blood flow. Clinically he literally could not walk across the street without getting severe chest pain; by the end of the first month was completely pain free, by the end of the year was climbing more than 100 floors a day on a Stairmaster, and that's not unusual. It's really part of why it's easier for people to stay on a program like this because you make big changes, but the improvements are correspondingly big.

The more people changed, the better they got, both at one year and also four years later. I thought the younger patients with milder disease would be more likely to show reversal, but I was wrong. The oldest people did as well as the younger ones.

(Whereupon, a slide was shown.)

DR. ORNISH: I got this as a holiday card two years ago from two of the patients in one of our programs on

the east coast. These are two brothers. The younger brother is 85, and the older one on the right is 96. They wanted to show me how much more flexible they were.

(Whereupon, a slide was shown.)

DR. ORNISH: Then the following year they sent me this one just to show me how much better they got.

(Laughter.)

DR. ORNISH: You just never know what's possible.

Barry Sears mentioned that Dr. Gould doesn't believe in this diet. We have some minor differences, but, by Dr. Gould's own analysis, 99 percent of the patients stopped or reversed the progression of their heart disease, so I don't think that's so shabby.

We also found that eight of eight patients who were on the heart transplant list showed enough improvement that they were able to get off of it, and again the rejection fractions improved by echocardiography. Their blood flow to the heart improved by PET scan, and their myocardial viability -- in other words, how many of the cells in the heart were actually functioning -- got better.

(Whereupon, a slide was shown.)

DR. ORNISH: You can see on the -- well, there's really not time, but just the more red means better, so you can see how much better these people have gotten.

Now, that's only eight patients and on a control

study. We were planning a randomized control study, but it's indicative of how powerful. You know, on the one extreme of the spectrum someone is waiting for a heart transplant. They were able to avoid it.

(Whereupon, a slide was shown.)

DR. ORNISH: The cartoon says, "I can operate, or you can go on a strict diet." He says, "Well, you better operate because my insurance doesn't cover a strict diet."

We've been working with insurance companies. Through our non-profit institute, we have training sites around the country. Mutual of Omaha was the first to cover it. There are 42 companies that are covering our program in the sites that we've trained.

Hi-Mark, which is western Pennsylvania Blue Cross/ Blue Shield, is both providing it, as well as covering it, and not just in San Francisco, but in Omaha and DesMoines and Columbia, South Carolina, where they told me gravy is a beverage. This will be a big change in our diet.

We found that they were able to follow it. The program was a year long, but we followed them for three years, and we found that almost 80 percent of the people who were told they needed a bypass or an angioplasty were safely able to avoid it, and because of that the insurance companies saved almost $30,000 per patient. We published this in the American Journal of Cardiology a little over a

year ago.

Now, we also found that the LDL levels stayed down. There wasn't a transient phenomenon. Again, the program was only a year long, but we followed them for three years, and the LDL stayed down during that whole time.

(Whereupon, a slide was shown.)

DR. ORNISH: Now, a number of the panelists have made reference to the fact, and this is to me where it becomes a dangerous half truth, that HDL levels may go down on a diet like I recommend. Indeed, they do go down initially, but look what happens over a longer period of time. That's why it's important to do studies for more than eight weeks or more than ten weeks, as most of these studies that they were quoting, but to follow people for longer period of time.

Conversely, the triglycerides in some patients do go up a little, but again over a longer period of time they also go down.

Now, this has particular implications for women. Dr. Susan Blumenthal, the Assistant Surgeon General who is here, had a conference a year and a half ago on women and heart disease, and what came out of that is that, of course, heart disease is by far the leading cause of death in women. They're much less likely to get operated on. When they do, they don't do as well, but, if anything, women seem to be

able to reverse heart disease even easier than men, so this has particular implications and benefits for women.

We're doing a study in collaboration with Dr. Peter Carroll at UCSF and Dr. Bill Fair at Sloane Kettering to see whether prostate cancer might be affected through a similar kind of intervention. See, I'm a scientist, and the people I work with are scientists because science can help us say okay, this sounds good in theory. What happens when you actually do this in a randomized trial, which is the most rigorous approach.

(Whereupon, a slide was shown.)

DR. ORNISH: Well, Dr. Fair, who was chief of urology at Sloane Kettering, did a study, and he injected prostate tumor cells into rats, actually into mice, and they grew very quickly on a typical American diet.

You can see on the blue line those mice that were kept on a 40 percent fat typical American diet. The tumors just kept getting bigger and bigger, but when they got the fat intake down around ten or 11 percent or below, the tumors stopped growing, or they even shrank in some of the mice.

So what we're taking is men who have, and this, by the way, is not something that I want reported in the media because we're still in the middle of the study, but I thought it was important to show here just to show how

important these things are.

I know, but we're in the middle of a study, so it's not really ready for prime time, you might say, but we're taking men who have biopsy proven prostate cancer who have elected not to be treated conventionally. Half of them go on our program. Half of them don't. Overall, the PSA levels are going up in the control group. They're going down in the experimental group. PSA is a marker of prostate cancer, considered the best available.

We found the same pattern; that the more closely they followed the diet and lifestyle program, the lower their PSAs went. In order for the PSAs to start going down instead of up, they had to make big changes, just like to reverse heart disease you have to make big changes.

Now, I have a reversal diet and a prevention diet. You know, the old saying about an ounce of prevention is true. You don't have to make changes this big to prevent disease, but once you have it the reason why we're able to show you can reverse heart disease is that we went further than most people did along the lines of what Dr. McDougall recommends and others.

We have one patient, as an example, who not only his PSA went down, but his MRI and his spectroscopy seems to show that his tumor activity is improving.

(Whereupon, a slide was shown.)

DR. ORNISH: Now let's talk about weight because clearly that's a big issue here. This is one way to lose weight. It's very effective. What's wrong with this picture? I don't know if you can see, but she's sitting on a chair while standing on a scale.

The problem with most approaches to weight loss is that they all work in the short run, and virtually none of them work in the long run. In fact, the government, the NIH Nutrition Coordinating Committee, about seven years ago found that within a year, two-thirds of the people who lost weight gained it all back. Within five years, 97 percent gained it all back, so it's no big deal to get people to lose weight in the short run.

That's why I saw show me, as Barry Sears would say. Show me the data. Show me the long-term data that these approaches can help people lose weight and keep it off.

Now, the half truth here, the big lie that gets repeated over and over again in all of these books, is that carbohydrates are bad. Carbohydrates are bad because they get absorbed easily. They make your blood sugar go up. Your pancreas makes insulin to bring it back down, and the insulin has other effects that aren't so good, which, you know, in some cases can accelerate the conversion of calories into fat if you get enough carbohydrate, can

stimulate HMG CoA reductase and make your liver make your cholesterol.

That's all true, but then the goal then is not to say, and that's what makes it so dangerous is that it's a half true. The goal is not then to say okay, so go eat pork rinds and pork chops because it won't provoke an insulin response. Insulin is only one of many factors that affect your health. It's not the key to everything. It's just one factor.

The goal is to go from eating simple carbohydrates to complex carbohydrates. As Dr. Bethea very clearly showed, when you refine carbohydrates when you go from whole wheat flour to white flour or brown rice to white rice, you remove the fiber and the bran that slow their absorption so they get absorbed quickly, but fruits and vegetables and grains and beans and soy products are rich in fiber, which slows the absorption.

You don't get that rapid rise. You don't provoke an insulin response, and so you don't have to go away from carbohydrates, but you want to eat a diet that's predominantly whole foods and, as Dr. Bethea said, avoid sugar, white flour, white rice, moderate alcohol and so on.

Again, from the American Journal of Clinical Nutrition, as Dr. McDougall mentioned, it's not just the glucose response. It's also the insulin response that

they're all talking about. Now, it turns out that beef protein is as potent as glucose in stimulating insulin production, so it doesn't make sense to eat a high animal protein diet even from within the own frame of reference that people are talking about.

Now, calories do count, but, as Dr. McDougall mentioned, fat has over twice as many calories as protein and carbohydrate, so if you go from a 40 percent fat to a ten percent fat diet, even if you eat the same amount of food, you're getting a third fewer calories.

Most weight loss diets don't work because they're based on counting calories, restricting portion sizes. Sooner or later people get tired of feeling hungry and deprived. They get off the diet. They gain the weight back, and then they blame themselves because they didn't have enough willpower discipline when they were just going about it in the wrong way.

If you change the type of food, if you eat predominantly whole foods low in fat, you don't have to reduce the amount of food. You can eat whenever you're hungry. You can eat until you're full, and you can lose weight safely and simply and easily without hunger and without deprivation.

(Whereupon, a slide was shown.)

DR. ORNISH: Now, here's a patient who read Eat

More, Weigh Less and came to my office about two months ago, and he lost 190 pounds from reading the book, and so it's not just minor weight losses that you can get. We did find the average person in our heart disease study lost 25 pounds in the first year. They kept off half that weight five years later.

I forget to mention earlier that we've very grateful to the Health Care Financing Administration because they've recently agreed to begin a demonstration project to see whether we can show that we can avoid bypasses and angioplasties in people in the medicare in the various sites that we've trained.

Anyway, this is this man's before picture, and this is his after picture. He's the one on the right.

(Laughter.)

DR. ORNISH: It's an example that people actually really can lose a lot of weight on a diet like I recommend.

Now, the problem with high animal protein diets is that even if you can lose weight, you're mortgaging your health in the process. They're high in the disease causing substances and low in the disease preventing substances. So why do some people lose weight? Everybody has known someone who has lost weight on an Atkins type diet, and the reason is that people eat so many simple carbohydrates in this

country. You know, a study two months ago showed that a

third of the vegetables eaten in the United States are either French fries or potato chips.

Consumption of sugar, white flour and processed foods have significantly increased in the past 20 years, along with obesity. Again, you can eat a lot of meat instead of the simple carbohydrates to lower your insulin response, but even then it may not lower it was much as people think, and people are mortgaging their health in the process.

Also, because you can eat a ridiculous amount of calories, as Dr. Bethea indicated, by eating a lot of sugar, it doesn't fill you up. You can only eat so many fruits and vegetables. You get full before you get too many calories.

Now, the study that Dr. Atkins made reference to that Dr. Westman did at Duke, which he was kind enough to share with me, showed some pretty adverse side effects by his own study. Constipation, bad breath, headache, hair loss are not unusual when you go on a diet like this. If you've been around someone on an Atkins kind of diet, it's not a fun thing necessarily because how does your body excrete toxic substances? Through your breath, through your perspiration and through your bowels, and so all three of them don't do well on a high protein diet for that reason

because it's toxic. It's not good for you.

Going into a ketonic state is not a healthful way

to eat. It may make you so sick that you don't feel like eating, but that's not the most healthful way to lose weight.

(Whereupon, a slide was shown.)

DR. ORNISH: I do agree with Dr. Atkins and others that some supplements are beneficial, particularly things like antioxidants, fish oil and so on. These are all on our website at ornish.com if you don't have time to copy these down now. It's the easiest way to restrict calories by eating foods that are less dense in calories, which can also help reduce tumors in many studies.

Now, HDL does go down on a diet initially that's like the one I recommend, but it's a confusion. Again, it's another half truth or half lie, if you will. Your body makes HDL to get rid of excessive fat and cholesterol. If you're eating a lot of fat and cholesterol, like most Americans do, and your body can't make much HDL to get rid of it, you're at higher risk than someone who can make more of it.

If you reduce your intake of fat and cholesterol to the levels that we're talking about, it's like your body goes well, there's not as much garbage. I don't need as many garbage men. Your body may make less HDL initially,

but that's not a mark of something bad. It means that you're doing something good.

(Whereupon, a slide was shown.)

DR. ORNISH: This was a study where Jan Bresler at Rockefeller University said again, it's inappropriate to include that diet induced decreases in HDL are the same as people who can't make much HDL when they're eating the typical American diet.

There are no data. This is from the New England Journal of Medicine. There are no data showing that reducing HDL in a low fat diet is detrimental, and it does not give you the same risk. They are only risk factors at best. Even if you accept that HDL goes down, these are risk factors.

They're not diseases. The disease is heart disease. When we actually measure the disease, people get better and better over time, as we've found, and we found a two and a half times reduction in cardiac events in people who went through our program, contrary to what Dr. Sears mentioned.

When we measured the actual severity of heart disease, the patients showed continued improvement, even those patients who initially their HDL went down or their triglycerides went up. Again, if you look at populations

that have low rates of heart disease like Asia, they have low HDLs, but they also have low incidents of heart disease.

You can lose weight in lots of ways that aren't

very healthy. You can take chemotherapy or get cancer or AIDS or be an alcoholic and lose weight, but losing weight per se is not necessarily the only thing we need to keep in mind.

(Whereupon, a slide was shown.)

DR. ORNISH: I think I'm out of time, so I'm going to just go through the last slide here, which is that I think we also need to take into account that there are environmental consequences of eating a lot of meat. This is from Time magazine two months ago.

To produce a pound of beef requires 7,000 pounds of water, and there's increasing evidence that the deforestation, the global warning last week, that is occurring even more frequently than it did, these things are all interrelated, and it's not just weight loss that we need to be concerned about.

MS. O'NEIL: Thank you very much, Dr. Ornish. Thank you very much.

(Applause.)

MS. O'NEIL: We are now entering the panel discussion zone. Would you like to stand up again and stretch a little bit? Look, you're getting a standing

ovation already.

A new study, something new on the plate, to support your diet. Why don't we start with that?

Pass your questions towards the front. That would be great.

DR. ATKINS: Just very simply, --

MS. O'NEIL: Just towards the sides. Pass them towards the sides. They'll be collected.

DR. ATKINS: -- we have been concerned over the fact that nobody has done a study, so when Dr. Westman called us and volunteered to do a study, we were very, very cooperative and said we'll give all the help we can.

He first published the first results I think last week, and he can tell a little bit about the early returns. I'd like to have that started so we can go on.

MS. O'NEIL: We won't have time to do a complete presentation on that study, but that's why I said if you wanted to --

DR. ATKINS: I know that.

MS. O'NEIL: -- summarize that?

DR. ATKINS: Well, let him do it because he's the one that knows.

MS. O'NEIL: Thank you very much. Thank you. Just briefly. One minute.

DR. WESTMAN: Can I have the slides, please?

AUDIENCE MEMBER: Can we have your name, please?

DR. ATKINS: Dr. Eric Westman. Go ahead. Tell your name.

DR. WESTMAN: My name is Dr. Eric Westman. I saw many patients doing this diet, the Atkins diet, in my practice.

AUDIENCE MEMBER: Where are you from?

DR. WESTMAN: I'm from the Durham VA Medical Center in Durham, North Carolina, and it's my pleasure to tell you some early results of the study that's going on. This is a four month result interim analysis.

Are the slides up yet? Okay. Thank you.

(Whereupon, a slide was shown.)

DR. WESTMAN: These are unpublished, published in abstract form.

The next slide, please?

(Whereupon, a slide was shown.)

DR. WESTMAN: I'm going to hustle through these slides.

Next slide, please?

(Whereupon, a slide was shown.)

DR. WESTMAN: Our research question was what is the effect of a very low carbohydrate program on body weight, serum chemistries and serum lipids over a 16 week

period.

This was a single arm, prospective clinical trial. The subjects were overweight, otherwise healthy, motivated community volunteers, and the setting was an outpatient

research clinic. Like setting a new drug, we first wanted to assess the effects of this program in a healthy population.

Intervention consisted of dietary recommendation. We consulted the Atkins Center for their recommendation for nutritional supplements. We recommended exercise and followed them in group meetings. The diet recommendation was to consume fewer than 20 grams of carbohydrate per day.

The outcome measures included body weight and body mass index measured at each visit, and we found, after four months, that the program consisting of the nutritional supplements, the Atkins diet and exercise resulted in a weight loss of 22 pounds after four months.

The diet composition was a carbohydrate intake of six grams per day. Excuse me. Six percent per day. That's 22 grams per day, so they followed the diet fairly closely as we recommended. The percent change in body weight after four months was 11 percent in their percent change of body weight.

You saw a slide earlier that showed the adverse

effects of the diet, which were constipation and halitosis for the main side effects. We did find a significant increase in BUN and a significant decrease in bicarbonate. Most interestingly, we did find a reduction in total cholesterol. We did find an increase in HDL cholesterol of

nine percent and a reduction in triglycerides of approximately 40 percent. There was no significant change in LDL over the four month period.

There was individual variability such that not everyone's total cholesterol improved. Seventy-six percent of patients had an improvement in their cholesterol, but 23 percent did not. I've heard people say the cholesterol goes up on this diet. The cholesterol goes down on this diet. In reality, both are right.

There were no clinically serious adverse effects in this four month trial, a sample of 41 subjects who were healthy. Even though this is the largest study to date, the sample of 41 healthy volunteers may not apply to our other populations so we're encouraged by these results, but cautiously optimistic.

There was no control group in this trial. We recommend a randomized control trial to give higher confidence in these results. We enrolled only healthy subjects, so the effects we saw may not apply to subjects with medical conditions. Closer monitoring for metabolic

changes and side effects may be necessary in patients with medical conditions.

While this is the longest study of this dietary approach, the four month duration and follow up limits its long-term generalizability, but we were able to conclude in

an uncontrolled trial a very low carbohydrate diet program was efficacious for short-term weight loss and motivated healthy, mildly overweight individuals, leading to an average weight loss of 22 pounds over four months. The amount of weight loss correlated with the amount of urinary ketones that were talked about today.

Due to the limited number of subjects in clinical trials, we believe it is too preliminary to make a definitive statement about safety at this time. Further research is needed with more sensitive monitoring to determine possible immediate adverse effects and long-term effects of this dietary program.

Thank you very much.

MS. O'NEIL: Thank you. Thank you very much.

(Applause.)

MS. O'NEIL: Thank you for sharing that.

DR. ORNISH: Can we comment on that?

MS. O'NEIL: Yes. This is a panel discussion. Of course, we can comment on anything. Go ahead, Dr. Ornish.

DR. ORNISH: Well, first of all, the last time I debated Dr. Atkins I chided him for not publishing any research anywhere, so I think this is a good start. It's not a particularly good study, but it's a good start. I'm just glad to see that he's doing research.

In that there's no control group, we don't know

what these patients were eating when they started. I mean, they could have been eating a diet even higher in fat when they started. There's no baseline data at all.

There was no change in the LDL, and the only published study that was done of an Atkins diet was done in 1980 by John Larosa in the Journal of the American Dietetic Association, and they found that the LDL did go up and the cholesterol levels did go up, and so I think that while I applaud the beginning of doing research, I think that we need to evaluate research based on the standards of good science.

MS. O'NEIL: Okay. Thank you very much.

I'm going to go to -- certainly. Go ahead.

DR. BETHEA: I wanted to make one comment. All of the panelists have said that, you know, we want to give the best information available. I think there are two points that need to be made.

Dr. Ornish's presentation was superb, and I applaud what he's doing, but I want everyone to realize that

atherosclerotic coronary disease or vascular disease or hardening of the arteries, whatever term you want to apply to it, is an aging process.

While Ponce de Leon failed to find the fountain of youth, we can't reverse aging. What Dr. Ornish and I think all of us are trying to do is slow down the process, but

don't go home thinking that if you do this or this you can prevent coronary artery disease. If you live long enough, you will get it.

The second misconception. The comment was made that calories produce fat. Calories don't produce fat. A calorie is a unit of heat. Fat produces fat, protein produces fat, and carbohydrates produce fat. The key is moderation. Don't eat so much of them that you become fat.

Thank you.

MS. O'NEIL: I think what's emerging here, too, is I think when people listen to all of your comments, very intelligent, obviously well thought, and it's interesting. Again, the man on the street might say well, if they're all so smart and they all know so much about nutrition, why do they not agree?

I think that is the question that emerges in my mind. Maybe, Denise, that might be a good question for you. I'm sure your patients come to you with that question. I

read all these things from smart people, and they don't agree.

DR. BRUNER: Well, it really is true. One of the things that I wanted to point out is that there is certainly that diversity of opinion. What we need to understand is most of the people are consuming too many units of unhealthy foods, and what we need to do is really modify the

consumption.

We certainly endorse a high complex carbohydrate ingestion, moderating the proteins and fat, but what we all lose sight of is with the study, Dr. Ornish, in your study of reversal of coronary artery disease people were physically active on a regular basis. They had five, six hours a week of physical activity.

DR. ORNISH: Three hours of walking.

DR. BRUNER: Okay. In the lifestyle heart study?

DR. ORNISH: They were asked to walk for an hour three times a week.

MS. O'NEIL: How about a show of hands? How many people on this panel believe that exercise is an important component?

(Whereupon, a show of hands.)

MS. O'NEIL: Wow.

DR. ORNISH: We all agree.

MS. O'NEIL: We've got a point of agreement.

DR. BRUNER: Yes. Absolutely. But what I wanted to stress is that without putting together multiple things, we've all heard people diet. They do diet. They do lose weight. I can put them on a Twinkie diet. When it's restricted enough they will lose weight, but the question is to what cost metabolically? What things are you doing to people when you're putting them on very stringent diets?

You know, a skinny person can have a heart attack and can diet, but what are we doing in the long run? Through what we're doing, are we improving their health parameters in general, not just their weight? We need to look at that other global issue.

DR. ORNISH: Yes, and I want to just say I agree with everything that you said. I applaud, Dr. Bethea, your helping people become more aware of the importance of limiting the intake of simple sugars, but I do strongly disagree with your statement that heart disease is an inevitable fact of aging.

It's an inevitable fact of aging when people eat a diet like people in this country have eaten, but in other cultures heart disease is quite rare, even when people get older, so I think we can give people a more healthful message that there actually is a lot they can do, and if you can stop or reverse heart disease then you can probably

prevent it. It's not such a leap of faith.

MS. O'NEIL: Let me ask the protein folks. One thing I think, Dr. Sears, is very important. Can you explain how your diet is specifically different from Atkins?

DR. SEARS: Well, as I tried to point out in the presentation, the diet is based on two words most Americans hate to hear, balance and moderation.

When you're eating ten to 15 servings of fruits

and vegetables per day, I don't think anybody could disagree with that. If you're never eating any more than three to four ounces of low fat protein at a meal, I don't think anyone can disagree with that. If you're adding small amounts of heart healthy monounsaturated fat to your diet, I don't think anyone could disagree with that.

What we have is from the standpoint we have again a misconception here. We have to basically, as I said earlier, get back and look at the epidemic of obesity from a different perspective, treat it as a disease and find the most appropriate blood parameter that predicts it, and that is excess insulin. If you're following Dr. Ornish's diet and your insulin levels are under control, keep following it. If you're follow Dr. Atkins' diet and your insulin levels are under control, keep following it on a lifetime basis.

But, if both of those extremes are not working for

you, then begin to moderate your diet and eat the things that we are genetically designed to eat. We're designed to eat fruits and vegetables. We are not designed to eat grains. They did not exist on the face of the early 10,000 years ago.

MS. O'NEIL: Thank you for that.

You know, Dr. Atkins, following up on let's say the severe, which you're usually put in that category, would

you have a patient that would come to you, because I think about the importance today about treating the individual and everybody's individual lifestyles, food preferences. Have you had people come to you and you'd say to them I don't think this is for you?

DR. ATKINS: Fifty percent of my patients I don't think it's for them because 50 percent of my patients don't have a weight problem.

MS. O'NEIL: Okay. Of the people who do have a weight problem.

DR. ATKINS: Well, that rarely happens. If the weight problem is serious, then I'm going to work on restricting carbohydrates. They may have some other problems.

I never put any two people on the same diet because we do food allergy testing so we know right from the

very beginning which foods certain people have to avoid, and that's not the same in other people, and then they come in with a different problem.

I don't want people to think that most people come to me with a weight problem. Only about ten percent of the people come to me. It's because I am a cardiologist. Most of the time they come to me because they were told the same thing that David Letterman heard. You've got to have a bypass; only these people weren't intimidated enough to get

it right away. They came to see me, and 85 percent of those people didn't need a bypass after they went on our program.

This is why I sort of resent the idea that people are saying my diet is not heart healthy. If it were not heart healthy, we wouldn't be reversing heart disease and getting these people who were having chest pain on a little bit of exertion out there running and jogging a few months later.

MS. O'NEIL: This brings me to Dr. Ornish to follow up on that. Dr. Ornish, would you then, and this is a question from someone in the audience. Tiny handwriting, by the way.

With your focus being on disease prevention diet and reversal diet, would you at any time recommend a high protein diet for severely obese individuals? I mean high protein fasting.

DR. ORNISH: First of all, let me say that I would love to see some data from Dr. Atkins showing that he can actually get reversal of heart disease, measuring the underlying disease process.

DR. ATKINS: We're working on it.

DR. ORNISH: Well good. I'd love to see it.

DR. ATKINS: We're not as good a fundraiser as you are. We have to dig into our own pockets. That's the problem.

DR. ORNISH: Carolyn, could I address that issue?

MS. O'NEIL: Yes.

DR. ORNISH: I think with the number of books you've sold, you could probably fund your own studies, but --

(Applause.)

MS. O'NEIL: These are the different numbers.

DR. ORNISH: I recommend a -- most people, unfortunately, when they think about the diet I recommend think about the reversal diet, and it is a strict diet, and I'd love to be able to tell people that more moderate changes can reverse heart disease, but they don't.

Every study that's been done where they looked at arteriography has found that a 30 percent fat diet the majority of people continue to get worse, but there is a

genetic variability in how efficiently your body can handle fat and cholesterol. It's a bell curve. In fact, the Nobel prize in 1975 went to Brown and Goldstein, who discovered the LDL receptors.

On one end of the spectrum are the 95-year-old men or women, and you say what do you eat? They say I have 12 eggs for breakfast and a steak for lunch, and you kind of go well, maybe a diet isn't that important. Look what they're eating. But, they're so efficient at getting rid of fat and cholesterol it almost doesn't matter what they eat. Those

people who weren't so efficient at getting rid of it never made it to 95, so you have a selective group.

So what I tell people is that if your cholesterol level is below 150 consistently or your ratio of total to HDL is below four, then either you're not eating much fat and cholesterol or your body is very good at getting rid of it. Either way, your risk of disease is so low. Whatever you're doing is probably fine.

MS. O'NEIL: Thank you.

DR. ORNISH: Most people don't fall into that category, and they can begin by making more moderate changes until they get to that point.

MS. O'NEIL: Okay. Which reminds me when I went to a mechanic and they said I think your microtuner is maladjusted. I didn't know what it meant.

Sometimes the explanations are long, they're complicated, but they're very important obviously in educating, especially when most of the American public has no baseline of nutrition knowledge.

You wanted to make a comment, Dr. Ayoob?

DR. AYOOB: Just because it was brought out about Dr. Atkins' claim to reverse heart disease, and he said he's working on the data, but he's been making this claim for a long time, and that's what I --

DR. ATKINS: No, I haven't.

DR. AYOOB: Excuse me.

DR. ATKINS: I haven't been --

DR. AYOOB: Excuse me.

DR. ATKINS: -- making that claim.

DR. AYOOB: You just did, and you don't have the evidence --

DR. ATKINS: Before.

DR. AYOOB: -- to back it up. Now, this diet has been out there for 30 years or close to 30 years.

DR. ATKINS: And I haven't been able to fund the study.

DR. AYOOB: Excuse me. Excuse me. Ten million books in print, and you can't fund the study?

(Applause.)

DR. ATKINS: Now I can, and I will be the first doctor to dig into his own pocket to do a study, and it will be me, but it was the first time I had any money left.

DR. AYOOB: Ten million books. You market the vitamins. You sell the vitamins --

DR. ATKINS: Now.

DR. AYOOB: -- to correct the nutritional deficiencies.

DR. ATKINS: That's true. That's why I'm doing the study now.

DR. AYOOB: You market them. I keep saying --

DR. ATKINS: That's why I couldn't do it before.

DR. AYOOB: You market this. I say this is not for the public good. This is marketed. This is a money making proposition.

MS. O'NEIL: Yes. Also, I think what happens with tests and research and studies, which is what we've all been talking about. I even wonder, too, what the level playing field is in presenting information.

We have found. We have shown. Certainly all of us in the press want to know where those statements come from, what they're based on, and is there in fact a level playing field when people go and give their presentations?

Dr. McDougall, you haven't said anything. Also, we'll bring you in. In terms of presenting, you know,

everybody can throw up, you know, their Journal of the American this, that and the other thing. Does it matter how many you have piled up there to make your diet the best?

DR. MCDOUGALL: This is why I gave an example that no one can deny, and that is you look around the world. What do you see? If I asked you to design a diet and I gave you the world and the populations of people, design a diet where people would be thin for a lifetime, what populations would you pick? China, Korea, Japan, African countries.

It's obvious. They live on starch based diets with the addition of fruits and vegetables, and rich foods

are kept to a minimum. When these people move to the United States or change their diet in their own land, they consistently get fat, heart disease, rheumatoid arthritis, diabetes and on and on. This is a no brainer.

DR. SEARS: Can I speak on that also for one second?

MS. O'NEIL: Yes, quickly.

DR. SEARS: Yes.

MS. O'NEIL: Remember, this is not a long period of time.

DR. SEARS: What we're looking at is saying there are so few long-term intervention studies. There are only two to my knowledge. One is Dr. Ornish's lifestyle trial.

He did not address the point I brought out of how to explain why he had twice the number of fatal heart attacks -- not cardiovascular or hospitalizations, but fatal heart attacks -- in comparison to another recently published long-term intervention trial, the Leone diet heart study, that had four times as much fat, but on that arm, those following that diet eating more fruits and vegetables and eating more Omega-3 fatty acids --

DR. ORNISH: Well, let me respond to that.

DR. SEARS: -- in a very controlled diet, they had 70 percent fewer fatal heart attacks.

DR. ORNISH: We're talking about --

MS. O'NEIL: Keep it brief, Dr. Ornish, if you can.

DR. ORNISH: Sure. We were talking about one versus two deaths, and in both deaths Nova actually did a one-hour documentary where they followed one of the people who died, and he died while greatly exceeding the exercise recommendations.

He was on a rowing machine competing against a video game of other rowers, got his heart rate up way past what we told him to and died while on the rowing machine. You know, what can you do? It wasn't following the program.

The other person who died had gotten off the program completely, was eating the kind of diet that Dr.

Atkins and Dr. Sears might recommend and died while on that, so we have to report all of the data, including the people who didn't follow it.

DR. SEARS: But, Dr. Ornish, you had down here in your paper in JAMA, you had both people in the experimental program who were dying.

DR. ORNISH: Well, of course they're in the experimental program because if they were in the control group we wouldn't be asking them to follow the program. That's by definition.

MS. O'NEIL: Dr. Bethea?

DR. BETHEA: Still on the cardiovascular disease,

keep in perspective that the greatest risk factor to any of us is heredity, and in the Asian countries it's true that there's a little lower incidence of cardiovascular disease, but remember this country has the greatest medical capability of the world, and a lot of the other countries in Asia do not have the diagnostic capabilities that we have, so we really don't know.

I have been a consultant to the Jakarta Heart Institute, and I can tell you now we're finding that the incidence of coronary artery disease in Indonesia is just as high and maybe higher than in the country of the United States.

MS. O'NEIL: I think I'm going to go to a question, please, from the participants here to the panel. Here we go.

When will it become common medical practice to measure serum insulin levels in people who are at risk for development of high insulin level related diseases and perhaps say they have a risk that should be addressed in nutrition counseling? I mean, is that part of the plan maybe, Dr. Bruner?

DR. BRUNER: Well, I will say this. Currently that's what we do in our practice, and many of the bariatricians do do that because the whole issue of science and discovery and documentation is constantly evolving.

By the way, I must say that in my random and routine measurements of serum insulin levels in people, contrary to what was said, not every obese person has a high serum insulin level nor a high two hour post prandial insulin level.

MS. O'NEIL: There are a number of questions about children. Who would like to address that? Dr. Atkins, for instance, would you put a child on this diet?

DR. ATKINS: An overweight child should be on this diet --

MS. O'NEIL: Okay.

DR. ATKINS: -- because this is going to really

keep them away from attention deficit disorder and all the other problems which are associated with unstable blood sugar.

It also prevents the craving of sweets, which is the one thing which makes it impossible to get a child thin as he grows up. Once they become a sugar addict, you have a real problem.

MS. O'NEIL: I don't think anyone on the panel is disagreeing that too much refined sugar -- I mean, again, is this common ground that we seem to be sharing that perhaps --

DR. ATKINS: Yes. I think we can all agree on that.

DR. BRUNER: Yes.

MS. O'NEIL: -- too much refined sugar, too much refined carbohydrates is a health problem, but it's just in the --

DR. ATKINS: Well --

MS. O'NEIL: So where's the difference? Let me ask you this. Why does it matter that there is diet disagreement between you? Why would you care that Ornish doesn't agree with you, and why would you care that he doesn't agree with you?

DR. ORNISH: Well, I do care that a lot of people

are believing what Dr. Atkins is saying and making choices that I think are harmful to them.

To go back to your earlier question, I think that the way that people can help to reconcile different points of view is to say what is the science? Are these published in peer reviewed journals? The whole point of science is to help people resolve conflicting claims by saying what is the evidence? What is the experimental design?

Now, I'm not aware of any studies that Dr. Atkins or Dr. Sears have published in any peer reviewed journal about anything ever. You know, that's important.

Now, we also found that we had a two and a half times reduction in cardiac events, and the reason why a control group is important is so you know what would have

happened anyway.

MS. O'NEIL: Why do you care that Dr. Ornish doesn't agree with you, or do you?

DR. ATKINS: Well, I really care because I care about the people who are suffering because of all of the misinformation they've heard about obesity and its consequences. These people are being told something which is quite different from the experience that we have in treating people.

The experience that we have is one of consistent improvements in health and in cardiac symptoms, as well as

cardiac risk factors, and we see major improvements in diabetes. We see people who come to us taking insulin, yet 80 percent of them, if they're Type II diabetics taking insulin, get off their insulin.

MS. O'NEIL: Well, let me respond, too, to something of the criticism about the body odor and the bad breath and all these things that go with, because I know you want to respond to that.

DR. ATKINS: Well, there's nothing to respond. That's just --

MS. O'NEIL: Also, this anecdote. Can I just repeat this anecdote because I have, of course, interviewed people on the diet who perhaps weren't too thrilled with it, and they would say, you know, I was on the Atkins diet. I

was on a high protein diet. I was cranky. I was miserable. I lost a lot of weight. I look great, but nobody wanted to talk to me.

(Laughter.)

MALE VOICE: So what's the point?

DR. ATKINS: Well, I think that's minor. The number of people who actually present that as a complaint to me is so rare.

It really doesn't happen, and it's quite possible that these people are not taking vitamins or something

because the people in my office simply don't have that problem, and if they did it would be so minor compared to the major problems that they're confronted with. They're confronted with a need to have a bypass. They're confronted with --

MS. O'NEIL: Okay. Well, you didn't really answer the question, but --

DR. ATKINS: -- diabetes. They're on six or seven high blood pressure medicines and other medications, and we get them off their medications.

This is serious stuff. Whether the sweet smell of ketones is considered bad breath or just sweet breath is a matter of opinion.

MS. O'NEIL: Smells like money.

Dr. McDougall?

DR. MCDOUGALL: Yes. I want you to know that I'm concerned about the recommendations for high protein diets because the foods that are emphasized are the very foods the Heart Association has condemned as causing heart disease, the Cancer Society has condemned as causing cancer and the Surgeon General has condemned for being the leading cause of death and disability in this country. I'm concerned.

DR. ATKINS: I am concerned about the American --

MS. O'NEIL: Dr. Bethea?

DR. ATKINS: -- Heart Association's

recommendations of Fruit Loops and Pop Tarts having their seal of approval. If that's their recommendation, I'm certainly happy that they're not in my camp. I wouldn't want them there.

(Applause.)

MS. O'NEIL: We'll check on that.

DR. BETHEA: Carolyn, I think if we can give the audience and the press something to take away that we all agree on that would be a start, and I think we all agree that the United States, this country, is eating too much refined sugar and too much processed grain. If you can take that away, I think most everyone here will agree with that.

MALE VOICE: I agree with that.

MS. O'NEIL: How do you eat carbohydrates then? You're saying eat the ones that are less processed?

DR. BETHEA: I'm saying --

MS. O'NEIL: Somebody is saying don't eat carrots.

DR. BETHEA: I'm saying eat the ones that are the higher fiber. Eat the ones that are -- in the grains, eat the whole grains, not the processed and enriched grains.

We at Sugar Busters! are not against carbohydrates. We need carbohydrates. We can't live without them. We're not restrictive. We're selective. You can make a better choice, and that's what we want each of

you to do.

MS. O'NEIL: One more comment.

DR. AYOOB: Also, we've heard a lot today about insulin and insulin resistance, etcetera, and how it goes down on all of the diets. Do you know what? It does, because when you lose weight your insulin resistance goes down. Okay. That's the bottom line. Any diet. Lose weight. The insulin resistance comes better under control.

Insulin resistance is not due to a diet. It is not due to the carbohydrate. It is not due to the protein or the fat. It is due to obesity. Reduce weight. Insulin becomes less of a problem. That wasn't really cleared up.

MS. O'NEIL: I'd like to just wrap up my comments before I bring Secretary Glickman back up, and that is this. One thing I think that's very important, and I'm sure everyone here with their signature diets and representing

their viewpoints would agree that enjoying what we eat is certainly foremost today.

I mean, personally I couldn't eat a cheese omelette every morning, you know, and that kind of a thing. Do you know what I'm saying? The varied diet. The enjoyment.

You may say people love your diet. You say people love, you know, your restrictive diet, Dr. Ornish. The Sugar Buster! people are loving, the American Dietetic

Association with the dieticians. People say yes, you can enjoy it.

Let's not forget the individual approach. What works for somebody might not work for somebody else, and certainly sound science is the backbone, but then it goes to the pleasures of eating. Let's not forget that.

Ladies and gentlemen, let's bring up Secretary Dan Glickman.

(Applause.)

MR. GLICKMAN: Carolyn did a great job. Let's give her a hand for what a fine job she did.

(Applause.)

MR. GLICKMAN: I want to thank each member of our panel. Again, the purpose of this was to provide additional information.

I do recall last year I went to a dinner, and I

happened to be the speaker of the dinner. The master of ceremonies was Cokie Roberts of ABC. Of course, as you know, we're the food agency, the food safety agency, and all she says is watch what Glickman eats. Whatever he eats, you should eat. I've never written a book on anything, and I want you to know that I got that recommendation from her.

Let me just make a couple of points. I'm reminded I think it was H.L. Menken who once said for every

complicated problem there is a simple and a wrong solution, and I think that these are complicated problems here, and the science changes.

I saw the one cartoon Dr. Ornish did that said wait until the results change. The fact is that there is a lot of evolution of the science in these basic areas, and we have to be cognizant of that.

I think it was Dr. Bethea. That's how we pronounce your name, right?

DR. BETHEA: Yes.

MR. GLICKMAN: You made the comment about the costs of health care, which are monumental, and how much of these cost are related to lifestyle and the old expression you are what you eat.

Food and food intake is probably the biggest single contribution of most Americans as to their lifestyle and then what it will affect in terms of their health, and

there's no question that billions of that health care cost you talked about are related to improper diet and lack of exercise, which was agreed to here.

There was some commonality here, which I think was important. We didn't get any unanimity, and I was glad to see the comments on children because you see a lot of these diets are geared towards middle aged, heavy set people like me, but the fact is that we have a special obligation to

deal with the formative years of life to provide the kinds of standards and patterns so that kids will take them with them and perhaps change their families as well, which kids can do.

What is USDA and the Department of Health and Human Services and the government's role? One is to help to provide some clarity and information. We do provide the dietary guidelines, which we're working on right now, the revised guidelines, along with Secretary Shalala and the Department of Health and Human Services.

We have, of course, the pyramid here, which we've seen both the original and variations thereof, and I think that's useful because imitation is the best form of flattery, and we continue to work on those things as well.

I also think, given our role in the science process, that I think we do have an obligation to investigate the science as it relates to all of the claims

here because the fact is each person here who's been involved in this issue obviously has a perspective, is an advocate and has I'm not saying an ax to grind, but certainly has a perspective and an advocacy role.

We in the government can provide, particularly with our nutrition labs, with NIH, with all of the health related facilities, we ought to be able to help calibrate

some of this science without being an advocate and see that there is some rigorous review of some of the claims that are being made here.

I'm not sure exactly how to do it. I know that there are some people in the science community who resist doing anything like this. They want to see the science done on the most basic level, but the fact is millions and millions of people want to lose weight, read your books, hear what you're saying, and they do look for something or somebody to give them some degree of perspective, or calibration and sometimes truth as to the claims that are being made.

I don't know whether we can totally do that, but we have a lot of very, very bright people who work both directly through various institutions of government, as well as through private institutions, that have relationships with this as well.

I just want to close by thanking everybody. I

think this is very important for us as Americans who want greater information about how we can live longer and healthier lives. It also is very important for the producers of food.

I have to make my final point here. Food does not just come from a grocery store. People work very hard to grow and raise their food, and safe food and healthy food

sells, so what you eat and those who work very hard to produce the food have a lot in common, and I think that's the tie that makes our department so useful in dealing with these issues.

Again, I want to thank the panel for your excellent presentations. I thank you for being here, and everybody eat well and eat healthy.

Thank you all very much.

(Applause.)

(Whereupon, at 1:05 p.m. the symposium was concluded.)

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