

About Health TV with Jeanne Blake
Dr. Thomas Moore, Author, *DASH Diet*
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JEANNE BLAKE: Welcome to *About Health TV*. I'm Jeanne Blake. Are you one of 50 million Americans with high blood pressure, or hypertension, as it's known? Left untreated, high blood pressure can be deadly. Our guest on this edition of *About Health TV* is the author of this book, *The DASH Diet for Hypertension: Lower Your Blood Pressure in 14 Days Without Drugs*. Dr. Thomas Moore is a professor of medicine at Boston University. Dr. Moore, thanks for coming in to talk with us about the DASH diet. So many books about dieting and it's a billion-dollar industry in this country. What's different about this?

DR. MOORE: I think a lot of the books that are out there about dieting are about weight loss diets, and certainly that's a popular thing, and there are lots of people in the United States who would like to lose weight. The DASH diet isn't so much about weight loss. In fact, it was a diet that we developed and then tested to see if we could figure out a way to advise people to eat to help lower their blood pressure. So that's what the DASH diet is.

JEANNE BLAKE: It grew out of a study, and I was fascinated to read in the book about how you conducted that. You chose 500 people, and why don't you pick it up from there? I was just thinking that I wish I could have been part of that study, to go someplace and eat lunch every day, that's all I could take.

DR. MOORE: Well, the notion actually was originated by the National Heart–Lung–Blood Institute and it came out of the idea that we've known for a long time that people who eat a vegetarian type of a diet tend to have lower blood pressure, and if you would take someone like me who eats meat and give me a vegetarian diet, my blood pressure would drop. So out of that arose hundreds of studies in the last 20 years trying to figure out what is the active ingredient in a vegetarian diet and if there's some magic mineral that if we gave enough of it we could lower blood pressure. So potassium, magnesium, calcium, lots of individual minerals were tested as supplements mostly, either alone or in combination, to see if we could capture the benefit of a vegetarian diet, and it turned out that we didn't even come close. So finally the NIH did a retro study, if you will, it went back and said, Maybe we should go back to whole foods, maybe we should not look at minerals and individual molecules, but rather what is it about whole foods. So they said, Who wants to try to find the dietary approach based

on whole foods that might help lower blood pressure? That was the genesis of all this.

JEANNE BLAKE: But can you, before we go on, what is a whole food? I mean, I think that we do so many programs about nutrition, and if we've got 100 million overweight people in the country I bet a lot of people don't know what a whole food is.

DR. MOORE: Whole foods to us meant real foods, things that you recognize in the supermarket, an apple, a loaf of bread, as opposed to minerals that would be extracted out of foods.

JEANNE BLAKE: Okay, great. So tell us how the study, so that folks that are listening can really understand how this was tested, to the point that you so strongly believe in it that you've written a book about it.

DR. MOORE: Yes. I think there were four medical centers who actually engaged research, Harvard, where I was at the time, Johns Hopkins, Duke, and the Pennington Institute in Baton Rouge, Louisiana. And all four centers studied the exact same foods, so that every week we screened 8,000 people to find the 450 who participated in the study. They agreed to come into our medical center and have one meal with us every day, and for the rest of the time, for all their other meals we gave them their bag when they left with the rest of the food they would eat that day. So that's what's called a feeding study. We actually gave them all the food during the entire 11 weeks of the study. We tested three different diets. At the end of the study, one diet, which has come to be called the DASH diet, which was rich in fruits and vegetables and low-fat dairy foods, turned out to lower blood pressure very, very effectively and in fact far more effectively than we ever suspected.

JEANNE BLAKE: And so that folks at home who haven't seen the DASH diet, hopefully they'll want to buy your book, but what are some of the basic principles? I mean, you said fruits, vegetables, and low-fat dairy products, but what about chicken or fish? Help us understand more as we approach our daily living what a DASH diet is. I mean, we're certainly not going to get food handed to us in a pouch to go home and cook with. Now, how can we adopt these principles?

DR. MOORE: Well, the number of servings that someone would be advised to eat in a day, of course, depends a little bit on how big they are, how many calories they need. But let's say for a person who weighs 160 pounds and is moderately active, the DASH diet would recommend that they would eat four servings of fruit, four servings of vegetables, three servings of low-fat dairy foods, but also two and a half servings of meat. Meat could be either fish or poultry or red meat. And then seven or eight

servings of grain products, like bread or pasta, and we encourage people to use more whole grain products as opposed to refined flour grain products.

JEANNE BLAKE: A lot of people hear the word hypertension and immediately think of salt. What role ... did you completely eliminate salt from the diet, or how does that weigh in?

DR. MOORE: Well, in the original DASH study, which is what we've been talking about so far, we actually tried to keep everything else other than the diet that we know about that would lower blood pressure. We tried to keep that equivalent across the three diets that we tested. So each of the three diets had the same amount of salt in it, and it was sort of a modest salt intake, but also in each of the three diets the amount of food that we gave people was carefully adjusted on a day-to-day basis so that they didn't lose weight, because we know that weight loss also lowers blood pressure. A lot of people who applied for the study said, "Oh, great, this is a diet study, I'm finally going to be able to lose weight," and they were disappointed when we told them that during this trial their weight was going to be more stable than it was at any time in their lives. Later we did test the DASH diet and a reduced sodium intake and found the two worked very, very well together. In fact, the two together worked better than either one alone.

JEANNE BLAKE: What were the other two diets that you compared it against?

DR. MOORE: One diet was what we called the typical American diet, relatively rich in animal products and red meats, the way most of us eat, and the other diet was just enriched in fruits and vegetables but not particularly enriched in dairy products, and then the DASH diet was the combination that I mentioned.

JEANNE BLAKE: And the overall goal was to reduce high blood pressure?

DR. MOORE: Right.

JEANNE BLAKE: So I guess I already know this, because I read the book, but you don't know why it works?

DR. MOORE: Right.

JEANNE BLAKE: But it's clearly probably something that's found in the dairy product that does contribute to the lowering of high blood pressure? Is that too simple?

DR. MOORE: I think so. When we designed the DASH diet we tried to combine all of the factors that we thought might contribute to the blood pressure-lowering effective diets. So high potassium intake had been suggested, high magnesium, high calcium, relatively low in fat, high in fiber, and all those things were incorporated into the DASH diet. All that's been done in the background, so when I tell you to eat four servings of fruit and four servings of vegetables, all of that sort of mineral calculation has already been done in the background. You don't need to worry about that. But the diet itself, because whole foods are complex, there's a whole lot more in an apple than just potassium, and we don't really know, there could be other things in these foods that we are serving that lower blood pressure. Or on the other side of it, it may be that the foods that people are no longer eating had contributed to their blood pressure and now, without those things ... and we don't know the answer to any of that.

JEANNE BLAKE: What's it like for a scientist to say, Well, we know it works but we don't know why. I mean, scientists like definitive proof. What's it like for you to now espouse this but not really know why it works?

DR. MOORE: Yes, I have to say it's a little weird, because all of the research that I had done in my entire career before this had been designed to try to find specific answers to things like why is blood pressure high, why does this drug or mineral lower blood pressure? So I think with this one we have to just content ourselves with the fact that it works and that proof is definitive enough to satisfy most of us.

JEANNE BLAKE: It is interesting that it does go back to some basic principles. We have been hearing all our lives, eat fruits and vegetables and whole grains and less meat and low-fat dairy products, and it really does embrace, sort of, those basic principles that we know are good for us.

DR. MOORE: Right. I think when these results first came out they were published in the New England Journal in 1997, and I think that a lot of the reaction from the public was, Didn't we already know this? I mean, isn't this the way people have been telling us to eat? What we didn't know was that a diet like that would lower blood pressure. And then we, also in the same people, measured their cholesterol levels, and it also helps to lower cholesterol. Although it was designed to treat high blood pressure, I think we've all come to the conclusion that it actually has a much broader application than

just that.

JEANNE BLAKE: Let's shift gears and talk about why this is so important and why it's so important to lower blood pressure, known as hypertension. Do you think people underestimate how damaging it can be to one's health and well-being, high blood pressure, I mean?

DR. MOORE: I think they do. The trouble with high blood pressure is that it is a long-term condition and it largely doesn't cause people to feel sick. People walk around with high blood pressure for years and never even know it. And because it doesn't have any symptoms, it's not the kind of thing that drives you back to your doctor for better care. Of the 50 million Americans who have high blood pressure, only about half are actually on medications to treat it, and only about half of those that are on medications really have their blood pressure lowered to what we would think of as being an ideal goal. So it's a huge public health concern.

JEANNE BLAKE: And I imagine a large percentage of the people who aren't on medicine don't even know they have hypertension, correct?

DR. MOORE: Yes. Despite 20 years of public awareness campaigns and blood pressure screenings ...

JEANNE BLAKE: Yes, I know. It's a mystery to me too. Could you review for us, Doctor, the people who are at most risk for high blood pressure?

DR. MOORE: High blood pressure is most common in elderly people in this country who are over 65. Almost half of them have high blood pressure. African-Americans have a higher frequency of high blood pressure and they suffer more heart attacks and strokes from it than non-African-Americans. In addition, people who are overweight and people who eat too much salt tend to have higher blood pressures. Those would be the major risk factors. Some we can change and some we can't.

JEANNE BLAKE: The first one that you mentioned was the elderly, and it's a known fact that as we get older our blood pressure does get higher. Why is that?

DR. MOORE: We don't know exactly why it is, but it probably has an important connection to the way we eat, because in other countries that we think of as being less civilized, societies who eat

maybe more natural kinds of diets, their blood pressure actually tends to fall as people get older. So in a way the rising blood pressure of age seems to be a benefit of our society.

JEANNE BLAKE: We do on this program a lot of programs about nutrition, and it does seem to be frustrating to a lot of people in the field and people who care about overall health and well-being of people in this country that it's so difficult to change behavior and change dietary habits, and indeed we're fatter now than we were 10 or 20 years ago, and we are exercising less, despite the fact that I think most people kind of have a sense that we need to be taking care of ourselves by eating well and exercising more. You've got an exciting program, Dr. Moore, that's going into the workplace, which is great, because people say they don't have enough time to sort of do what you're asking them to do. Can you tell us about the program with EMC and on the Internet?

DR. MOORE: Well, I think you really put your finger on the most important issue about getting people to change their nutrition. It's very, very hard. Every year I think the single most common new year's resolution is, This year I'm definitely going to lose weight, or at least improve my nutrition, and as you say, every year we get fatter. So the resolution thing, the notion that you can just turn it on and then turn it off, is false. It's hard to change any kind of habit or behavior. So the notion that we have in this program that you're talking about is that in order to really change behaviors, you need to have regular, frequent contact with people, and in the usual sort of healthcare model, where people come into a doctor's office and talk to the doctor or a nutritionist, there's no way ... we don't have enough healthcare providers to provide that kind of ongoing, regular booster shot of good information or motivation to the number of people who are out there who need it. So the program that I'm working on now, for the few people that don't try the book, is to try to deliver these messages over the Internet. The Internet is ideal for this because it allows you to send messages out to people in a very easy and very low-cost kind of a way. There's not a whole lot of face time with physicians, it doesn't cost them very much, and they can go to the Internet and take up the information at their convenience. So the program that you're talking about is, over the course of the next year, it's just beginning as of right now, over the next year we're going to be delivering regular weekly messages to a group of people that sign up for this program. There's about several thousand who have signed up already. And we'll try to help them with their behaviors and measure the impact of the program on their weight change, 75 percent of the people who have enrolled would like to lose weight, on changing their dietary patterns, some of them are going to be monitoring their blood pressure and entering their blood pressures on the website. So at the end of the year I hope we'll be able to tell whether this has potential as being a way that we can change behavior, and if we can, we can expand the program and really offer it to lots of people.

JEANNE BLAKE: Oh, fantastic. It's the EMC Corporation we're talking about, and this is nationally for their employees?

DR. MOORE: It's a corporation that's based here in eastern Massachusetts. Most of their employees are here, but because the Internet is everywhere we can offer it to all their employees.

JEANNE BLAKE: I just want to clear up one thing that you said. I don't want to be leaving folks that are leaving with the misperception, when you did the study, you told people that were partaking in the study that they wouldn't lose weight in the study, but that has nothing to do with the actual diet. People could go on the DASH diet and lose weight.

DR. MOORE: Right.

JEANNE BLAKE: I read in the book the reason that you didn't let people lose weight on this study is that it would screw up the results. You needed to really know why their blood pressure was dropping. But I thought that was an important point to make, because you said the folks, 75 percent of the people at EMC who signed up for it do want to lose weight. Do they also want their blood pressure to drop?

DR. MOORE: About 30 percent of the people who have enrolled so far have high blood pressure. They're very interested in their blood pressure. About another 30 percent have high cholesterol, and they're very interested in the cholesterol benefits, but some of the people would just like to learn how to eat better.

JEANNE BLAKE: And this book will certainly do that. The messages that you say that you're going to send via computer every week, I'm sure it's not just eat less today than you did yesterday. I mean, they're designed to help people change their behavior and their eating patterns and to eat more of the foods that you say can actually be healthier. Can you give us a better picture of what your interaction with these employees will look like?

DR. MOORE: Well, the book intends to do the same thing. Basically, so many of us eat without really thinking very much about what it is that we are eating. We eat because we're walking by it, we eat because it's in the front of the refrigerator when we open it, and a lot of changing eating behaviors is helping people be more attentive to what they eat. The DASH diet, and I think one of the reasons it's become so popular so quickly is that it's easy for people to understand. It deals with real foods, and it says in a day you should eat four servings of fruit. Well, it's not that hard to teach somebody what a

serving of fruit is. It's a piece of fruit, it's six ounces of pure fruit juice. So it's fairly easy for people to understand that, and the book does this, and the website too, tries to get people to think about that and sort of keep track of what it is that they are eating. and often keeping track of it is the very first step in modifying. They say, "Oh my God, I had no idea I was eating that much candy," or butter, or whatever it is.

JEANNE BLAKE: So will they be reporting back to you or keeping a journal for themselves about what they're eating? What are the components? What's the proactive part that they'll be doing?

DR. MOORE: Well, the website offers a questionnaire that takes about five minutes to fill out, and basically it says, What did you eat yesterday. They click off the foods, the servings that they ate yesterday, and we, the website itself, the data management behind it, keeps track of what they ate and shows them in terms of a visual progress report whenever they care to check it, this is what you were eating when you started this program, this is what your goal is according to the DASH diet that you should be following, and this is where you stand right now. Same thing for blood pressure. It allows them to measure their blood pressure at home, enter it on the website, and gives them the visual printout of what's happening to their blood pressure and their weight.

JEANNE BLAKE: So a year down the road, presuming that a lot of the people that have signed up will continue to be part of the program, I'm assuming that this is a study that you're doing, right? What are you looking to measure?

DR. MOORE: We're looking at three primary things. We're looking at blood pressure change in the people that have high blood pressure. We're looking at changes in what they eat based upon their responses to this questionnaire, what did you eat yesterday. And the third thing, and this has never actually been done before, we're actually going to look at what they buy at the supermarket. One of our corporate partners in this EMC program is Stop and Shop supermarkets, and people who use their Stop and Shop cards when they check out and have given us permission for Stop and Shop to share those purchase data, we can analyze those purchase data and look at over time, are these families buying more fruit, are they buying less soft drinks, are they buying more low-fat dairy foods?

JEANNE BLAKE: That's like one big huge behavior modification program.

DR. MOORE: It's huge.

JEANNE BLAKE: I think it will be interesting. I'm curious about the results. I hope you'll publish them and we'll be able to read about it.

DR. MOORE: Thanks.

JEANNE BLAKE: But other corporations or workplaces that are interested in this program, are they going to have to wait? Are you just doing this at EMC right now?

DR. MOORE: I think, to me, it's more comfortable to get a sense for whether there's potential in this approach rather than go out and try to get 15 different companies to sign on for it. So we may not wait a whole year before we look for where we might be able to do this next, but I think we need to get a little bit of information.

JEANNE BLAKE: Multitasking like mad. Three thousand people is a lot to keep track of. And one last question about this program. Within the book also, and of course its application through the Internet, what role are you telling folks that exercise plays in both lowering your blood pressure but overall well-being? What are you proposing?

DR. MOORE: We think it's critical, and so many people are put off by the idea of exercise because they have the notion of jogging or Richard Simmons or showing up in a gym suit. Now, that's intimidating for people, especially people who are overweight or maybe feel particularly out of shape. For us, exercise is every step counts. Park at the far end of the parking lot and walk into the building instead of looking for the closest space you can. Walk up a flight of stairs instead of waiting for the elevator. And the science behind this is, of course, clear. Every step does count. Whatever you do to increase your physical activity both helps maintain fitness, it maintains strength, and it also helps keep your weight stable.

JEANNE BLAKE: Will the employees at EMC be getting those messages as well?

DR. MOORE: Right.

JEANNE BLAKE: The stairwells at EMC will be busy over the next 12 months. Dr. Moore, thank you for coming in to talk with us. I wish you the best of luck. This book has just come out. I always hope that one more tool in the arsenal to change the eating habits and the exercise habits of Americans is a really good thing. Again, Dr. Moore's book is called *The DASH Diet for Hypertension*. And we

didn't talk about it. It really can lower your blood pressure in 14 days?

DR. MOORE: It did in the study.

JEANNE BLAKE: It sure did. Truth in advertising, it says right here. And by the way, the DASH diet is recommended by the American Heart Association, so it's for real. This book will be at your local bookstore soon, or on Amazon.com, I presume. So thanks again for coming in. Good luck, and we hope that you'll come back and share some of the results of the EMC study.

DR. MOORE: I look forward to it.

JEANNE BLAKE: Thanks so much for joining us. I'm Jeanne Blake and I'll see you next time.

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