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Diabetes in Children: Refocusing our Practices

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Diabetes so named by a second century Cappadocian physician meaning siphon referring to the polyuria that involved, but it's really a modern siphon through, which patients quality of life will drain if we don't focus on it in our practices.

Welcome to the Clinician's Roundtable. I am Dr. Michael Greenberg, your host, and with us today is Dr. John Buse, the President of Medicine and Science of the American Diabetes Association.

# DR. MICHAEL GREENBERG:

Welcome John.

### DR. JOHN BUSE:

Hello.

# DR. MICHAEL GREENBERG:

John, we are so honored to have you here. We are talking today about diabetes and how it affects practices. Pediatricians, for instance, they are more aware today of diabetes and what's being done to encourage pediatricians to look further.

## DR. JOHN BUSE:

I think it's just that we have recognized this epidemic of obesity and diabetes is occurring in children and pediatricians have noticed this as well, and frankly I think they are horrified that there are so many children, who are very overweight and developing these diseases that from their history with diabetes were exclusively the diseases of parents and grandparents and not the disease of children, so type 2





diabetes I think has really gotten into the forefront of people's thinking. Now, that said, there are a fair number of kids, who have diabetes and don't know it, so we are encouraging pediatricians to screen more aggressively for diabetes so the recommendations are now for any pubertal child or older who is overweight and has an additional risk factor for diabetes, that would include ethnicity, so basically all overweight minority group children, all overweight children with a family history of diabetes, there are a lot of kids who need to be screened.

### DR. MICHAEL GREENBERG:

Absolutely. Does the ADA have a public outreach program for this too?

#### DR. JOHN BUSE:

You know the ADA doesn't actually conduct screenings, it provides recommendations. It has questionnaires that patients can use to determine whether they are at risk. There is a diabetes alert day held in November which is really focussed on raising people's awareness about the need to be screened.

#### DR. MICHAEL GREENBERG:

That I was talking about raising public awareness about this. Now, you are involved in something, we'll switch subjects for a second, something which I love the name of, The Healthy Study, and I have some information on that from the NIH from their news, can you tell us what's going on here in this study?

### DR. JOHN BUSE:

Yeah, The Healthy Study is one of two parts of a program at the National Institutes of Diabetes, Digestive, and Kidney Diseases, which is looking at this issue of type 2 diabetes in kids. There is one-half called today, which is looking for the optimal treatment strategy for kids with a new diagnosis of diabetes and the other half is called healthy. Healthy involves randomizing schools across the country; I think it's 72 schools that are being randomized to either a sort of standard program where they are provided some resources and basically we are just sort of monitoring blood sugars, insulin levels, weight, waist circumferences in kids and the intensive schools and the intensive schools get very specialized PE programs where basically the kids you know run out of the locker room, never stop moving until it's time to go shower up and get down to the next class so not the milling around and gym that we used to do when we were kids in the cafeteria trying to increase the amount of consumption of water, of vegetables and fruits and reduce the amount of consumption of chips and hot dogs and pizza, sort of high fat foods, and a behavioral program where students work together to understand and explore, you know, what does it mean to drink soda, you know, how many calories is that, how far would you have to walk to burn off big gulp drink and also the messages that go home to try and get some support at home for a more helpful living.

### DR. MICHAEL GREENBERG:

Now, I am just going to ask you if the parents are involved in that too?

# DR. JOHN BUSE:





The parents were involved, but to be honest, it turns out that that's, you know, the great thing about school as a vehicle to improve the health of children is that children spend 6 hours a day or 8 hours a day, therefore, you know, approximately 8 months out of the year, the schools are working desperately to get parents more involved in the life of the school, you know, for academic reasons and social reasons and they are really struggling with it. You know, we are trying, but I think that's probably the weak link of this program. There are newsletters and that kind of thing, but you know really engaging parents, I don't think we do a great job.

#### DR. MICHAEL GREENBERG:

You need Jamie Oliver, you know, he is a Naked Chef, who turned the british school system around and challenged them to put healthy food in the schools.

#### DR. JOHN BUSE:

Yeah, that kind of revolution is going around in the country. We started sort of planning this study doing pilot studies to see whether we really could change gym class and that kind of stuff about 4 or 5 years ago, you know, so we came up with this design and as is being designed state after state after state have banned sodas from vending machines in schools and change, you know, PE requirements, so there is a lot of effort to improve the health of children. Our hope is that this study will prove that there is really a payoff. You know, everybody thinks that sodas out of schools are a good thing, I mean it seems pretty obvious, but we don't have proof yet on a lot of these issues.

## DR. MICHAEL GREENBERG:

In your opinion, John, where are we going with diabetes research?

### DR. JOHN BUSE:

There is a lot of exciting areas. You know, we have this, literally explosion at a basic science level in the tools and understanding that we have. I mean, we've cracked the genetic code, we've got the phone book. You know, we are now understanding new levels of complexity of the genome and you know I think we are going to make a lot of progress in being able to predict future development of diabetes to develop new drugs that are specifically targeted for particular, you know, sort of genetic flavors of diabetes. The stem cell area holds a lot of promise for developing durable treatments for patients with both type 1 and type 2 diabetes. In the technical arena we've had for a number of years excellent insulin pumps. We now have pretty good glucose sensors that can measure the blood sugar every minute or two and now we are developing algorithms and computer chips that can reliably change insulin infusion rates to minimize hypoglycemia and avoid high blood sugars in patients with type 1 and type 2 diabetes, so you know, sort of a bionic pancreas. Things are moving very fast in a lot of these arenas, but at the same time I'd be stunned if people were pretty much doing what they are doing today 3 years from now. I think these bionic pancreas kind of approaches, you know, those could really be in place in the next 3-5 years. The stem cells, the real or more curative kinds of approaches, you know, I think are still 10 and 20 years or more away, but we're making a lot of progress.

## DR. MICHAEL GREENBERG:

Good, but shouldn't we still be focusing as doctors on the basic preventive care, doing more with our patients about mentioning diabetes, talking about lifestyle?



#### DR. JOHN BUSE:

Absolutely. So what I tell my patients all the time is the doctor's job is really as a coach. You know, the patient is the person who has to take care of the diabetes, so you know this is a disease where you do a lot better to spend some time talking to patients as opposed to writing prescriptions because if you have all the knowledge in the world, if you can't transmit it to the patient, they really just cannot do a good job of taking care of their diabetes and what I tell people is if you do a good job taking care of your diabetes for the next 3 years, 5 years, 10 years, there is help on the way. It's going to be a lot easier to take care of diabetes 10 years from now than it is today, so what we are going to do is avoid complications for now and it will be a lot easier later.

#### DR. MICHAEL GREENBERG:

Isn't it a tough job in today's society where the fast-food concept and kids being plugged into video games and computers is really the norm, are you fighting an uphill battle here?

#### DR. JOHN BUSE:

We are. You know, so I think as a society we are really fighting an uphill battle. I mean there are billions of dollars spent to sort of encourage overeating and underactivity. You know, to suggest to us that we really cannot miss this television show tonight and that on the weekend we really need to spend our time watching sports on television as opposed to doing it ourselves outside. Those messages are profound in their impact, but you know, as an individual doctor working with an individual patient there is a lot of very good information out there. I mean, a really interesting book that was recently published is entitled Mindless Eating and I think the author's name is Wansink, but it's a book about a variety of studies where things in our environment are cues to overeating. As an example if you go to one of these big box stores and you get your cereal in a box size that was previously only been used for a laundry detergent, you will eat 30% more cereal per serving if it comes out of that big box as opposed to a medium sized box and if you use a little tiny boxes that we used to use when we were kids, almost no adult will ever eat 3 of those little kid boxes. Males will sometimes eat two, women will almost always pick one, but even three of those boxes is less than the average person will pour out of a big box.

### DR. MICHAEL GREENBERG:

I see those cereals as being so full of sugar, I just avoid them anyway, I won't even those boxes.

### DR. JOHN BUSE:

That's a good idea, but you know if you are going to get the box, you have to get a little box.

# DR. MICHAEL GREENBERG:

Well, here is a question, okay, that I have been overseas and visited other countries, is this particularly an American problem, do the Europeans and other countries where people don't eat as much as we do are they having as much problem with diabetes?





### DR. JOHN BUSE:

They are catching up. So we led the way on delivering massive quantities of food in a seating. Other countries are catching up, it's been called the coca-colonization of the world. I think activity is also a big part of it. I was just recently in Amsterdam and you know it is stunning how few overweight people I saw.

### DR. MICHAEL GREENBERG:

Were they all riding bicycles?

### DR. JOHN BUSE:

I mean, they are definitely riding bicycles all over the place, but in parts of the world this is changing extremely rapidly, so in Vietnam, for instance, apparently 10 years ago it was all bicycles and now it's hardly a bicycle to be found, lots of motorcycles and cars and the prediction is 10 years from now, it will all be cars, so we are going through dramatic societal change in our environment, in the foods that we eat, and the kinds of activity that we have to do every day and it's having a huge impact worldwide. There are countries that have more, so in India for instance, in the cities in India it's now 12 to 15% of adults have diabetes; it is only about 9% in the US, so there are plenty of countries that are doing as bad or worse than the United States now.

## DR. MICHAEL GREENBERG:

I thought it was bad when we exported a lot of cigarettes and we smoke less now and we are exporting death.

### DR. JOHN BUSE:

Yeah, slow death.

# DR. MICHAEL GREENBERG:

Slow death, but still. All right. Well, listen, this has been fascinating. One little last question. The ADA, you know, as I am sitting here and listening to you, realizing all the things that I forgot, do they have any plans or should they have for awareness programs for physicians, I mean, I think a little book that would be great that, hey doctors take a look at this stuff and remember.

# DR. JOHN BUSE:

Yes, so one thing that we are working on now; the ADA has a lot of materials that have really been developed for specialist diabetes educators. You know, we partner with American Academy of Family Practice, the American College of Physicians, the groups that really primarily target the primary care audience, but we are talking now about developing special programs to go to specialty societies because a lot of patients with diabetes are seeing a lot of practitioners for all kinds of different things. Pharmacies are other places where we are trying to increase the diabetes awareness and the quality of diabetes information is provided, so the ADA is doing a lot of things. It's a pretty big organization that raises a fair amount of money every year, but it's just amazing, the problem is so big that we just can't deal with it all, so we are looking for partnership, if there are people listening that want to work with the ADA to develop a program here, they are to do let us know.





### DR. MICHAFI GREENBERG:

John, thanks for being our guest today and bringing us really, I was going to say a bit closer, but very much closer to the American Diabetes Association and the really good work that you are doing there.

I am Dr. Michael Greenberg and you've been listening to the Clinician's Roundtable on ReachMD XM 157, The Channel for Medical Professionals. ReachMD XM is here for you, the health professionals who care for your patients. Tell us what you want and what you need. Send your e-mail to xm@reachmd.com. We value your questions and we thank you for listening.

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