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Schools key in addressing childhood diabetes explosion

A dangerous health problem for adults is striking younger and younger victims.

Experts now predict that more than one-third of American children born in 2000 will eventually develop diabetes. But what caused this epidemic to descend into childhood? And what can be done about it?

"The Changing Shape of Childhood" was the topic of discussion at the annual meeting of the Friends of the Center for Human Nutrition.

"When I started my career and saw a child with type 2 diabetes (non-insulin dependent diabetes), we all ran in to see him or her. It was such a rare phenomenon," said keynote speaker Dr. Francine Kaufman, distinguished professor of pediatrics and communications and head of the Center for Diabetes, Endocrinology and Metabolism at Children's Hospital Los Angeles. "Then, all of a sudden in the mid-1990s, the number of children who were overweight and had type 2 diabetes exploded."

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DIABETES EXPLOSION

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The growing number of children with type 2 diabetes isn't the result of a faulty gland or hormone, Dr. Kaufman said.

"It's about an environment, an environment that has so fundamentally changed," she said, "that many schools have installed vending machines offering poor nutritional choices to raise money while cutting physical education classes at an alarming rate."

DR. FRANCINE KAUFMAN

Until recently, she said, the one shared human experience was to secure the food supply. Individuals developed refrigeration, transportation systems and additives, among other things, in order to secure and preserve food and prevent starvation.

"That can no longer be progress," she explained. "We've got to redefine progress. It's that we all have the nutrient quality food in the right amount every day and at the same time the ability to expend energy and to stay fit."

Dr. Kaufman, who was instrumental in banning the sale of soda in the Los Angeles Unified School District, said schools can play a pivotal role in promoting healthy lifestyles. Once sodas were banned in Los Angeles' schools, the district went on to develop a healthy vending policy that established strict nutritional standards for all foods, including those selected from vending machines, á la carte lines and the school store, she said.

One of her current efforts is "HEALTHY," a National Institutes of Health-funded study to prevent and treat type 2 diabetes in children.

The national study, which involves almost 7,000 children at 42 middle schools, including some in Houston and San Antonio, will determine if changes in school food services and PE classes along with activities that encourage healthy behaviors, lower risk factors for type 2 diabetes. Results are expected in 2009.

Dr. Kaufman said the changes they've made in the participating HEALTHY schools aren't minimal.

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"We have fundamentally changed the middle-school environment," she said. "There's fiber. There are fruits and vegetables. There's a restriction on fat. There's portion control and calorie control. There's taste testing."

Physical education has also been transformed. "Before implementation, kids got eight minutes of good exercise. We are now able to get 22 to 25 minutes of moderate physical activity," she said.

"We may already be a little too late for some of our children, but we've got no choice but to look at school as a place where we can help," Dr. Kaufman said. "If we don't do something about the children now, we're going to pay a whole lot more for these children in the future."

Dr. Kaufman was one of three guest speakers during the May event at Brook Hollow Country Club. The Rev. Stephen B. Swann, rector and headmaster at the Episcopal School of Dallas, and former Dallas Cowboys fullback Daryl Johnston also spoke.

Antioxidants: Chocolate's dark secret

STUDIES THAT TOUT CHOCOLATE AS A "HEALTHY" TREAT ARE HARD TO IGNORE. But, are they true? Yes – to a certain degree.

"To get the most from your chocolate, choose dark," Dr. Margo Denke said at a Younger Friends of the Center for Human Nutrition event in early 2008. "The cocoa bean from which it's made has antioxidant properties in it similar to those found in red wines."

That doesn't mean people have a go-ahead to guiltlessly devour an entire box of chocolates, though. Moderation is the key, said Dr. Denke, former professor of internal medicine at UT Southwestern, who now has a private practice in Bandera, Texas.

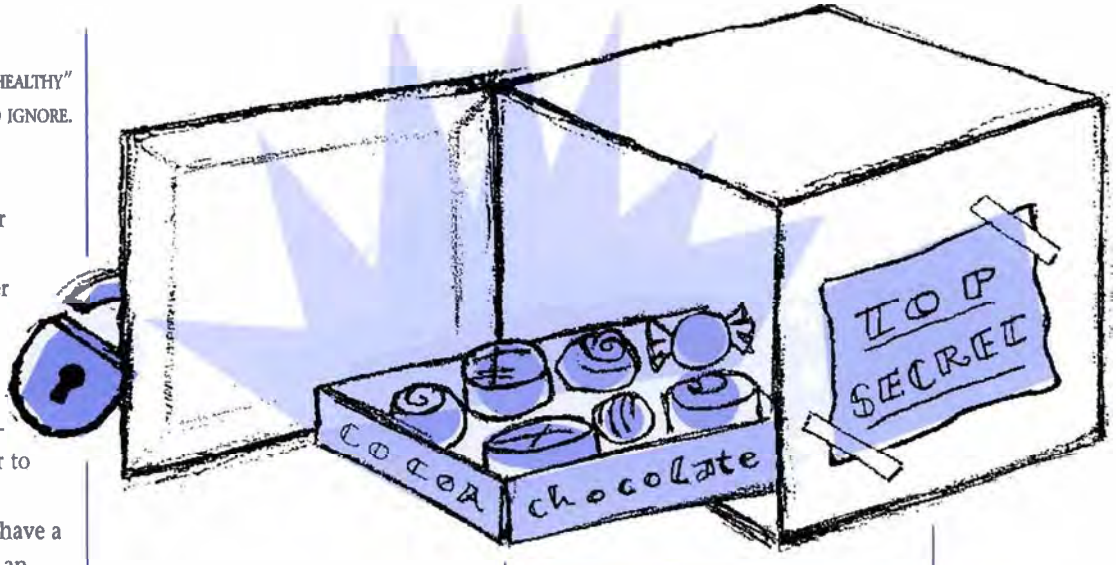
Dr. Denke joined Morgen Chocolate founder Rex Morgan and Katrina Merrem, co-founder of the award-winning NOKA Chocolate, in a panel discussion on the health benefits of chocolate. Dr. Scott Grundy, director of the Center for Human Nutrition and holder of the Distinguished Chair in Human Nutrition at UT Southwestern, moderated the event's discussion.

Dr. Denke said the health benefits of chocolate begin and end with cocoa, from which the oil is extracted to create cocoa butter, the base of what we now know as chocolate.

"Cocoa butter does not raise cholesterol levels as much as predicted because nearly half of the saturated fatty acids in cocoa butter are stearic acid, a saturated fatty acid that does not raise cholesterol levels," she said. "Cocoa butter also contains vitamin E."

With that in mind, the debate basically comes down to one solitary question: What is chocolate?

If you fall on the side of classifying only the darkest of the dark as true chocolate, then you're likely to reap the health benefits. If, however, you prefer white or milk chocolate, then you're likely missing the phytochemicals and flavonoids that give the dark stuff a nutritional edge, Dr. Denke said.



Studies have shown that flavonoids, plant-based substances also found in red wine, promote healthier hearts and control blood pressure. Flavonoids may also play a role in preventing breast and prostate cancer, according to recent studies.

Chocolate containing 70 percent or higher of cacao generally packs the most flavonoids.

Mr. Morgan pulled no punches in proclaiming his preference.

"Chocolate made with any other oil other than cocoa butter isn't chocolate," said Mr. Morgan, who devoted his portion of the evening to recounting the history of chocolate and cacao.

Ms. Merrem, who also prefers dark chocolate, said she's seeing more and more customers switch to the "dark side."

"The whole premium chocolate arena is still a tiny fraction of the market, but it has just exploded the past few years," she said. "People are becoming a little more health conscious when it comes to their indulgences."

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> — DR. MARGO DENKE

A former accountant, Ms. Merrem debunked several myths about chocolate, chiefly that it causes obesity.

"Chocolate does not cause obesity," she said. "Lack of portion control, unhealthy food choices and inactive lifestyles are the major contributors to obesity."

There's also no evidence that eating chocolate causes hyperactivity, she said.

Mr. Morgan, who was trained by a master chocolatier in Holland, said the thing to remember about chocolate is that it's something that can be enjoyed by all.

Debunking food myths and finding truth

Spinach boosts strength, Popeye will testify.

Carrots improve eyesight, Bugs Bunny certainly would tell you.

Trying to slim down? Nibble salads while others enjoy their entrees, our lunch partners counsel.

But how do people really know if longstanding claims of certain foods, often cemented in human psyches by cartoons or handed down through generations, are true or not?

UT Southwestern nutrition experts help to break down some facts from fiction.

Carrots can improve your eyesight.

NOT EXACTLY. Your parents might have given you two choices as a child: Eat your carrots or get ready to wear glasses for the rest of your life. But in truth, eating carrots won't improve eyesight, even though they are rich in Vitamin A, a nutrient that is essential for healthy eyesight and skin.

Vitamin A deficiency is known to cause blindness, but intake of carrots can't enhance eyesight in the absence of deficiency. Actually, excessive intake of vitamin A can be toxic.

– Bernadette Latson, assistant professor of clinical nutrition

Spinach can boost strength.

SOMEWHAT. When it comes to building strength, spinach just will not do. To build muscle and strength, you need protein. Protein is found in foods such as milk, cheese, yogurt, meats, eggs, nuts, seeds, beans and legumes. But eating protein alone does not guarantee strength. You also need to exercise to build muscle and strength. So add a piece of lean sirloin to your spinach.

Spinach's best qualities include being rich in potassium, folate and vitamin A – all good for your heart.

– Lona Sandon, assistant professor of clinical nutrition

Sugar causes diabetes.

DON'T CONNECT THOSE DOTS YET. Although type 2 diabetes is manifested by an increase in blood glucose or sugar, it does not occur because of just eating

sugar. Sugar provides excess calories just like any other food, which then leads to obesity and predisposes one to diabetes. If you cut sugar from your diet, but continue to eat extra calories in other foods, you may still develop diabetes.

– Dr. Manisha Chandalia, associate professor of internal medicine

you eat lettuce by itself? For instance, try counting the amount of "extras" – high-fat sauces, cheese, etc. – in your last salad or hamburger. Just remember that weight gain occurs because the amount of calories consumed is larger than the amount of calories burned.

– Lona Sandon

Lettuce helps slim a person's figure.

NOT QUITE. Lettuce does have very few calories and more of it can be eaten in place of high-calorie foods, but how often do

"Your parents might have given you two choices as a child: Eat your carrots or get ready to wear glasses for the rest of your life."

Refreezing meat after it's been thawed is safe.

FALSE. People should not refreeze meat that has been defrosted. It can be refrozen, however, if you first cook the thawed meat. A good rule of thumb is to ensure that meat stays out of the temperature danger zone, 45 to 140 degrees Fahrenheit. Multiple opportunities for this unwanted exposure may occur while meat is being frozen, thawed or refrozen, and if meat spends too much time in the temperature danger zone, it could become unsafe.

– Dr. Vickie Vaclavik, assistant professor of clinical nutrition

Need help losing weight? Dietitians aren't one-size fits all

IF YOU'VE TRIED TO LOSE WEIGHT, you know that there are many options, and each one seems to have its own book, infomercial and product line.

Registered dietitians at UT Southwestern say that a better and more effective is to follow a plan designed specifically for you by a registered dietitian. So, what should you look for in a dietitian? And how can you find one?

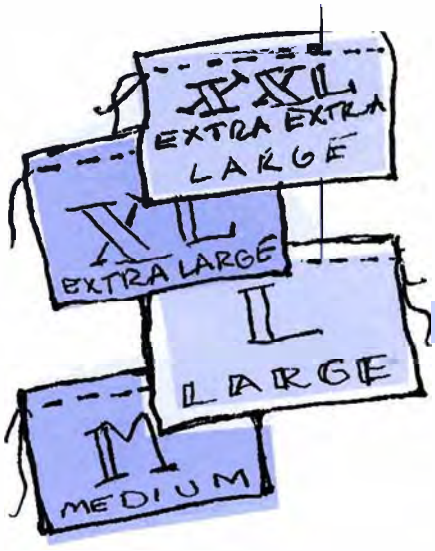
Lona Sandon, assistant professor of clinical nutrition at UT Southwestern, said the key is to look for a dietitian that specializes in the area you are looking for.

"Although all dietitians are trained to treat a broad array of health issues, dietitians – just like doctors – have specialty areas of practice as well," Ms. Sandon said.

"You may need to try multiple dietitians before finding the right one."

— Lona Sandon

"If food allergies or gluten sensitivity is your problem, you need a dietitian who works with these problems regularly. If you have diabetes, you should look for a dietitian in a diabetes center or one that has the Certified Diabetes Educator credential."



Ms. Sandon stressed that personality is another important characteristic to consider when choosing a dietitian.

"Your dietitian should be someone you feel comfortable with and motivates you to continue down a healthier path," she said. "You may need to try multiple dietitians before finding the right one."

Going green can rejuvenate menu choices, dietitians say

THE BEST WAY TO CELEBRATE ANOTHER SUMMER SEASON IS TO EAT A WELL-BALANCED DIET, with plenty of green fruits and vegetables, nutrition experts at UT Southwestern say.

And there's a veritable cornucopia of hearty green fruits and vegetables that pack many nutrients but hardly fly out of our markets' produce section.

Here's a sampling of some green foods UT Southwestern dietitians recommend:

• **Avocado** – Also known as an alligator pear, the avocado is a good source of monounsaturated fats, which help lower cholesterol, said Dr. Vickie Vaclavik, assistant professor of clinical nutrition at UT Southwestern. Avocados also are good sources of both vitamin E and lutein, a natural antioxidant that may help maintain eye health.

• **Broccolini** – A cross between broccoli and Chinese kale, broccolini is sometimes sold under the name asparation. It's packed with the cancer-fighting nutrients isothiocyanates, sulforaphane and indoles – all linked with reducing the risk of breast, prostate, cervical, lung and other cancers – and offers as much vitamin C as orange juice, said Dr. Jo Ann Carson, professor of clinical nutrition at UT Southwestern.

• **Brussels sprouts** – Part of the cabbage family, brussels sprouts are another cruciferous vegetable with cancer-fighting phytochem-icals. "They're also high in vitamin C and are a good source of folate, vitamin A and potassium," said Lona Sandon, assistant professor of clinical nutrition at UT Southwestern. "Look for small, compact, bright green sprouts for the best

flavor." The vegetable can be boiled, braised, steamed or microwaved. Just avoid overcooking, as they get mushy.

• **Kale** – A good source of vitamins K, C and beta carotene, kale is a form of cabbage in which the central leaves don't form a head. A half-cup of cooked kale packs 1.3 grams of fiber but just 20 calories, said Cindy Cunningham, assistant professor of clinical nutrition at UT Southwestern.

• **Nopales** – Popular in the Mexican diet, nopales – also known as nopalitos or cactus pads – offer numerous nutritious advantages and are a great option for those managing diabetes or high blood pressure. "Not only is it low in calories at 22 calories per cup, the vegetable is also low in sodium and high in fiber," Dr. Carson said. "In addition, a cup contains more calcium that an ounce of cheese and about half the potassium of a banana."

• **Okra** – This staple of southern cuisine is naturally low in calories and a good source of soluble fiber. It also provides some vitamin A. "It can be cooked whole until tender, then marinate it for about three hours in a small amount of vinegar in the refrigerator," said Joyce Barnett, clinical assistant professor of clinical nutrition at UT Southwestern. "Top the drained okra with chopped onions and tomatoes for an out-of-the-ordinary salad."

• **Tomatillo** – A common ingredient in southwestern or Mexican cooking, the tomatillo looks like an unripe tomato covered in a paper-like leaf. The vegetable, which is a good source of vitamin C and potassium, is used in salsa verde and can be eaten raw. "But cooking brings out its flavor," Ms. Sandon said.

Have a Question of Nutrition? ..... Ask Dr. Carson

Q: I thought we are supposed to eat five fruits and vegetables per day, but reports now say to eat more. Have the recommendations been upgraded?

A: Yes, the message used to be "5 A Day," meaning eat five servings of fruits and vegetables. Research now touts the benefits of phytochemicals in colorful fruits and vegetables, as well as lower blood pressure with higher potassium intake from fruits and vegetables. An updated message of "Fruits & Veggies: More Matters" individualizes the recommended amounts of fruits and vegetables based on your calorie needs.

Anyone who needs about 2,000 calories per day should eat 2 cups of fruit and 2 1/2 cups of vegetables. Several Web sites, including www.fruitsandveggiesmatter.gov or www.mypyramid.gov/mypyramid/index.aspx feature grids to provide recommended individual amounts.

For instance, a 70-year-old woman who gets less than 30 minutes of physical activity daily needs only about 1,600 calories. That calorie level allows for 1 1/2 cups of fruit and 2 cups of vegetables daily. On the other hand, a 40-year-old male at a healthy weight who is moderately active for 30 to 60 minutes daily needs about 2,600 calories. At that level, he should include 2 cups of fruit and 3 1/2 cups of vegetables. A 3-year-old's energy needs of 1,400 calories, meanwhile, allow for 1 1/2 cups of fruit and 1 1/2 cups of vegetables. If your weight exceeds healthy limits, you should reduce calories and portions of food to slowly reach a healthier weight.

As "5 A Day" has moved aside for "Fruits & Veggies: More Matters," we can continue to work on substituting fruits and vegetables for some of the less nutritious snacks and desserts in our diet.

Q: I heard that people who are sensitive to lactose should avoid milk and other dairy products entirely. Is this true?

A: No, lactose intolerance represents a range of responses. When you completely eliminate lactose you may further reduce your body's ability to produce lactase, the enzyme that is missing or limited. Many people who are lactose-intolerant can have up to a 1/2 cup of milk daily without symptoms. Cultured dairy products have very little lactose, such as yogurt and cheese. Even ice cream is often well-tolerated. Adjust the amount of dairy products you eat based on your symptoms.

DR. JO ANN CARSON

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Annual membership in the Friends is a tax-deductible contribution of $1,000 per individual or couple. Membership in the Younger Friends, which has activities oriented toward those 40 or younger, is $250. A new category has been added to the Younger Friends for those who are 41 to 45 years of age. That fee is $500 per year. To join the Friends of the Center for Human Nutrition, call 214-648-2344.

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